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FAPESP

CB001 - Cytotoxicity induced by *Candida albicans* and *Staphylococcus aureus*

Kassia de Carvalho DIAS[1]; Paula Aboud BARBUGLI[1]; Carlos Eduardo VERGANI[1]

[1]Department of Dental Materials and Prosthodontics, Araraquara Dental School, Univ. Estadual Paulista.

Oral microorganisms are capable of interacting and causing the development of polymicrobial biofilms. Therefore, the biofilms *Staphylococcus aureus* and *Candida albicans* can increase the frequency and severity of certain diseases, such as denture stomatitis. The present *in vitro* study assessed cell death in oral keratinocytes (NOK-si) by means of contact (24 h of incubation) with the supernatant of single and mixed biofilms of *S. aureus* and *C. albicans* with 8, 16 and 24 h of formation. Cell viability was assessed by colorimetric MTT assay. The morphology of the keratinocytes after contact with the supernatant of the various biofilms was analyzed by Scanning Electron Microscopy (SEM). Statistical analysis was performed through ANOVA followed by Tukey post hoc test, with a 5% significance level. There was a progressive decrease ($p<0.05$) in the cell viability values of the biofilm after 16 h compared to eight and 24 h. The mixed biofilms were the most cytotoxic after 16 h of formation, with cell viability rates of approximately 31.76%. The supernatant of the *S. aureus* biofilm was the least cytotoxic at all assessment times. The SEM images showed that the destruction of cell membranes was more pronounced when cells were incubated with supernatant for 16 h, with the formation of apoptotic bodies and pores in the membranes, especially when the cells were stimulated with the supernatant of mixed biofilms. The SEM findings corroborated the MTT data. The pathogenicity of the microorganisms increased with the synergism of the biofilm.

CB002 - Is the effect of TiF_4 on dentin erosion dependent on the organic content?

Mariele VERTUAN[1]; Beatriz Martines de SOUZA[1]; Marília Afonso Rabelo BUZALAF[1]; Ana Carolina MAGALHÃES[1]

[1]Department of Biological Sciences, Bauru School of Dentistry, University of São Paulo.

This study evaluated the effect of TiF_4 varnish on pre-eroded dentin in respect to wear progression, in the presence or absence of demineralized organic layer (DOL). One hundred and twenty bovine dentin samples were pre-eroded (0.1% citric acid, 30 min). Thereafter, half of the samples were subjected to the DOL removal (collagenase, 5 days). Samples with and without the DOL were treated according to the treatment groups (n=15 with DOL and 15 without DOL/group): TiF_4 varnish (2.45% F), NaF varnish (2.45% F), placebo varnish (without fluoride) and control (no treatment). The samples were then submitted to a pH cycling for 7 days: 0.1% citric acid (4x90 s/day) and remineralization in artificial saliva at the intervals. The baseline profiles, the erosion profile, the DOL profile and final profile were superposed for the calculation of the wear. Data were compared using two-way ANOVA followed by the Bonferroni test ($p<0.05$). In respect to erosion progression prevention, both fluoride varnishes were effective, regardless of the condition (presence or absence of DOL) when compared to placebo varnish and control groups, but the TiF_4 varnish (with DOL: -4.84±1.0 µm/ without DOL: -0.76±0.86 µm) was more effective than NaF varnish (with DOL: 1.00±0.64 µm/ without DOL: 0.79±0.75 µm). However, the effect of TiF_4 was significantly reduced in the absence of DOL compared to the presence of DOL ($p<0.05$). It can be concluded that the TiF_4 varnish reduces progression of dentin erosion, regardless of the condition of the eroded dentin, but its effect is more pronounced in the presence of DOL.

CB003 - Dynamics of microbial population in mixed-species cariogenic biofilms

Midian Clara CASTILLO[1]; Tatiana Fernanda NOVAIS[1]; Robert G. QUIVEY[2]; Marlise Inês KLEIN[1]

[1]Department of Dental Materials and Prosthodontics, Araraquara Dental School, Univ. Estadual Paulista.
[2]Center for Oral Biology, University of Rochester.

Sucrose and starch consumed in the modern diet influence the composition and structure of the extracellular matrix (ECM) of biofilms formed by *Streptococcus mutans*, increasing the cariogenicity. The present study aimed to evaluate how the modulation of ECM components can affect the dynamics of microbial population in mixed-species biofilms. Mixed-species biofilms containing *S. mutans* UA159 (parental strain and knockout mutant strains), *Streptococcus gordonii* DL-1 and *Actinomyces naeslundii* ATCC 12104 were created to analyze the microbial population via colony forming units (CFU) at ages of 29, 43, 53, 67, 91 and 115 h. The knockout mutants of lytTS genes (associated with eDNA), operon dltABCD (metabolism of lipoteichoic acid or LTA) and the gene gtfB (insoluble exopolysaccharides) were used to modulate the presence of eDNA, LTA, and insoluble exopolysaccharides in the ECM. The biofilms were formed onto hydroxyapatite discs with salivary pellicle. The culture medium contained saliva with 0.1% sucrose, and was alternated with 0.5% sucrose+1% starch to simulate a cariogenic challenge. These biofilms were incubated (37°C / 5% CO_2 until processing time at distinct biofilm ages. The pH of spent media was checked throughout the experiment. The pH values of spent media were more acidic when they contained higher concentration of carbohydrates for metabolization by biofilms formed with parental and mutant strains ($p<0.05$, one way ANOVA and Tukey test). All three species were detected at all ages for biofilms formed with parental and mutant strains, except at age 115 h, when *A. naeslundii* was not detected. From 29 to 53 h, *S. gordonii* was the prevalent species. However, at 67 h a shift occurred with an increase of *S. mutans* while a decrease of *A. naeslundii* and *S. gordonii* ensued. Thus, at the early stages of mixed-species biofilm development *S. mutans* was not the predominant species, but became a major inhabitant of biofilms at later ages, regardless of ECM components modulation.

CB004 - Photoinactivation of *C. albicans* biofilms mediated by curcumin

Vinicius Tatsuyuji SAKIMA[1]; Ana Laura Mira ORTEGA[1]; Gabriela Cristina ZANATTA[1]; Geisiane Helena Gomes BUENO[1], Ana Cláudia PAVARINA[1], Ewerton Garcia de Oliveira MIMA[1]

[1]Department of Dental Materials and Prosthodontics, Araraquara Dental School, Paulista State University.

The resistance of biofilms to conventional antimicrobials has motivated the search for new treatments. The purpose

of this study was to evaluate the Photodynamic Therapy (PDT) in inactivating biofilms of *Candida albicans* (Ca) with and without methicillin-resistant *Staphylococcus aureus* (MRSA) using curcumin (CUR) as photosensitizer associated with a blue LED light source with a wavelength of 455 nm and light intensity of 33.58 mW/cm^2. Ca standard strain (ATCC 90028) was grown alone or with MRSA (ATCC 33591) for the formation of biofilms during 48 h at 37°C. After incubation, the biofilms were washed and subjected to PDT. For this, 150-µL aliquots of CUR at 1,200 µM were added on biofilms. After 40 min of incubation, biofilms were illuminated with the LED light for 30 min (43.2 J/cm^2, C+L+ group). Additional samples were treated only with CUR (C+L-), light (C-L+) or received no treatment (C-L-, control). The viability of the biofilms was analyzed by quantification of colonies (CFU/mL) of each species in specific culture media. Experiments were performed in triplicate on three separate occasions. Data were analyzed by ANOVA/Welch and post-hoc (α=0.05). For Ca mono-species biofilm, PDT promoted a significant ($p<=0.043$) reduction of 2.26 $\log_{10}$ compared to the C-L- group. For the multi-species biofilm submitted to PDT, a significant ($p<0.001$) reduction of 1.39 $\log_{10}$ for SARM and 2.06 $\log_{10}$ for Ca was observed compared to control groups (C-L-). For SARM, a significant difference ($p=0.043$) was also observed between C+L+ and C+L- groups. No difference was observed between C-L-, C+L- and C-L+ groups. PDT mediated by CUR was effective in reducing the viability of Ca biofilms with or without MRSA.

CB005 - PDT and Curcumin on *C. albicans* with and without *S. mutans* biofilm

Jeffersson Krishan Trigo GUTIERREZ[1]; Gabriela Cristina ZANATTA[1]; Maria Isabella Cuba BALLASTEGUI[1]; Janaina Habib JORGE[1]; Carlos Eduardo VERGANI[1]; Ewerton Garcia de Oliveira MIMA[1]

[1]Department of Dental Materials and Prosthodontics, Araraquara Dental School, Univ. Estadual Paulista

Oral microorganisms have the capacity to adhere to the surfaces of oral tissue and/or inert surfaces such as oral prostheses, living in form of simple or multispecies biofilms and may develop diseases such as denture stomatitis. This study evaluated the microbial inactivation by Photodynamic Therapy (PDT) with curcumin (CUR) as photosensitizer in biofilm of *Candida albicans* (Ca) with or without *Streptococcus mutans* (Sm). A standard suspension of Ca (ATCC 90028) with and without Sm (UA159 ATCC 700610) was used for biofilm production. Each suspension was transferred to wells of a microtiter plate, which was incubated for 90 min at 37ºC (adhesion phase). Experiments with Sm were performed in 5% CO_2 incubator. Wells were washed for removing non-adherent cells and BHI broth was added. Plates were incubated at 37ºC for 48 h. After this period, biofilm was washed, incubated with 1200 µM CUR for 40 min and illuminated for 40 min (57.6 J/cm2) (C+L+). Additional samples were treated only with CUR (C+L-) or light (C-L+). Control group was not exposed to CUR or light (C-L-). After treatments, biofilms were disrupted from the bottom of plates, serial tenfold dilutions were plated (25 µL) on ASD and AMS for quantification of colonies of Ca and Sm, respectively. Data [$\log_{10}$(UFC/mL)] were analyzed by ANOVA/ Welch and Tukey /Games-Howell (α=0.05). Reduction of Ca in simple biofilm in C+L+ group was 1.71 $\log_{10}$ in relation to the control (C-L-). It was also verified a significant difference between groups C-L+ and C+L- ($p=0.037$). The reduction obtained in C+L+ group was of 2.35 and 2.89 $\log_{10}$ for Sm and Ca, respectively, in relation to their respective controls (C-L-). There was no significant difference between groups C-L-, C-L+ and C+L- for both species ($p>0.005$) in multispecies biofilm. It is concluded that PDT mediated by CUR decreased the viability of the microorganisms both in simple biofilms of Ca and multi-species biofilm of Ca and Sm.

CB006 - The Airway after distraction osteogenesis in treacher Collins syndrome

Renan Jhordan Mettelziefen dos INOCENTES[1], Guilherme Gonçalves de ESPÍNDOLA[1], Alexandre de Almeida RIBEIRO[2], Michele Alves GARCIA[2], Roberta Martinelli CARVALHO[2], Ivy Kiemle Trindade SUEDAM[1,2]

[1]Department of Biological Sciences, Bauru School of Dentistry, University of São Paulo.
[2]Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.

Treacher Collins syndrome is a congenital craniofacial anomaly characterized by mandibular retrognathia and micrognathia. Respiratory complaints, commonly observed in these individuals, can occur due the reduction of the internal nasal and pharyngeal dimensions, the last one associated to retrognathia. The objective of this work was to assess, by means of 3D cone beam computed tomography, the impact of mandibular distraction on the nasal and pharyngeal dimensions of a young adult with Treacher-Collins syndrome: E.F.L.S., male, 19 years of age, diagnosed with Treacher Collins syndrome associated with severe mandibular hypoplasia, also complaining of snoring and breathing pauses during sleep. Using Dolphin Imaging software 11.8, nasopharyngeal volume (V) and the minimal pharyngeal cross-sectional area (CSA) were measured, before and after the activation of bilateral osteogenic distractor. The severity of the horizontal maxillomandibular discrepancy (ANB angle) and the position of the maxilla and mandible in relation to the cranial base (SNA and SNB angles) were evaluated. The V and the CSA values, in the pre- and post-distraction period (percentage of increase) corresponded 31,175.2 to 52,476.2 cm^3 (168.32%) and 97.8 and 281.3 mm^2 (187%), respectively. On both study periods, CSA was located in the oropharyngeal level. The SNA, SNB and ANB angle values, in the pre-distraction period, corresponded to 80.4º, 67.4º and 13.0º, respectively, whereas in the post-distraction period, the values were 80.6º, 77.2º and 3.4º, confirming the obtained mandibular advancement of 19 mm. The nasopharyngeal volume and pharyngeal minimal cross-sectional areas were quite small in the pre-distraction period and increased considerably in the post-distraction period, thus suggesting: 1) high risk of pharyngeal collapse during sleep before treatment, and 2) distraction osteogenesis procedure proved to be an excellent treatment option for the correction of mandibular hypoplasia, and consequently, obstructive sleep apnea.

CB007 - Effect of oral mouthrinses on microcosm biofilm

Aline Silva BRAGA[1]; Juliana Gonçalves PIRES[1]; Ana Carolina MAGALHÃES[1]

[1]Department of Biological Sciences, Bauru School of Dentistry, University of São Paulo.

There are different oral mouthrinses containing potential antimicrobial agents in the market, which have been indicated for patients with periodontal disease, but little is known about their effect on the cariogenic biofilm. Therefore, the objective of this study was to evaluate the effect of these commercial mouthrinses on microbial viability using a model of cariogenic microcosm biofilm. For the formation of a microscosm biofilm, saliva was collected from 2 healthy subjects and then diluted (70% saliva and 30% glycerol) and mixed with Mc Bain saliva (1:50) containing 0.2% sucrose. Bovine enamel specimens (4 mm x 4 mm) were exposed to human saliva/Mc Bain saliva for 14 days, for the formation of biofilm, and treated daily (1x60s/day) with the following commercial mouthrinses: Periogard, Noplak Max, Oral-B Complete, Listerine, Malvatricin Plus and Cepacol Advanced Plus. Live and dead bacteria in the biofilm were observed by fluorescence using confocal microscope (n=3, biological triplicate). The data were submitted to ANOVA/ Tukey ($p<0.05$). The % of dead cells ranged from 50% (Periogard, chlorhexidine) to 75% (Malvatricin, Malva extract, menthol, xylitol, triclosan, fluoride and zinc chloride). All mouthrinses significantly differed from the control - no treatment ($p<0.0001$). Listerine® (essential oils) and Malvatricin® showed the best antimicrobial effect on cariogenic microcosm biofilm. However, these data should be confirmed with other assays and confronted with the effect on enamel demineralization.

CB008 - CCR2 and CCR5 role in macrophage migration along alveolar bone repair

Angélica Cristina FONSECA[1]; Cláudia Cristina BIGUETTI[1]; Priscila Maria COLAVITE[1]; Carolina Favaro FRANCISCONI[1]; Andreia Espíndola VIEIRA[1]; Gustavo Pompermaier GARLET[1]

[1]Department of Biological Sciences, Bauru School of Dentistry, University of São Paulo.

Macrophages play important roles in tissue repair, and their chemotaxis to injury sites is supposed to be dependent of CCR2 and CCR5 receptors. Consequently, the blockade or absence of such receptors could interfere with the macrophages recruitment and influence the outcome of damaged tissues repair. The aim of this study was to investigate the role of the CCR2 and CCR5 receptors in the inflammatory cell migration and its subsequent impact on the alveolar bone repair process, through microtomographic (MicroCT), histomorphometry and immunohistochemical analysis of C57BL/6 WT, CCR2KO and CCR5KO mice 0, 7 and 14 days after the extraction of the right upper incisor. The immunohistochemical analysis at 7 days demonstrated a decrease ($p<0.05$) of F4/80+ and CCR2+ cells in CCR5KO animals, as well as decrease ($p<0.05$) of F4/80+ and CCR5+ cells in CCR2KO. Such alterations in the cell migration pattern support the hypothesis that F4/80+ cells present a double positivity CCR2 and CCR5 receptors, and that CCR5 receptor would be the responsible for the remaining F4/80+ cell migration in CCR2KO mice. The microtomographic analysis in CCR2KO and CCR5KO mice showed an increase ($p<0.05$) in the bone volumetric mineral density compared to WT, with increase of bone tissue formation in CCR2KO mice at 21 days compared to WT ($p<0.05$), demonstrating that CCR2 and CCR5 also impact the outcome of alveolar bone repair, which was confirmed by histomorphometry analysis that demonstrated lower density of newly formed bone tissue at 14 days ($p<0.05$) in WT mice. Therefore, the results show a cooperative role of CCR2 and CCR5 in the alveolar bone repair process, involving initially the control of macrophage migration and subsequently the bone formation.

CB009 - Low-level lasertherapy on 3D cell culture of gingival fibroblasts

Lais Medeiros CARDOSO[1]; Taisa Nogueira PANSANI[1]; Diana Gabriela SOARES[1]; Josimeri HEBLING[2]; Carlos Alberto de Souza COSTA[1]; Fernanda Gonçalves BASSO[1]

[1]Department of Physiology and Pathology, Araraquara Dental School, Univ. Estadual Paulista.
[2]Department of Pediatric Dentistry, Araraquara Dental School, Univ. Estadual Paulista.

Several studies evaluated the effect of low-level lasertherapy (LLLT) on different cell types. However, so far, these results were obtained from bidimensional monolayer cell culture models, which have limitations in terms of cell morphology and phenotype expression. Therefore, for better *in vitro* evaluation of the effects of LLLT, this study was performed with a 3D cell culture model, where gingival fibroblasts were seeded in collagen matrix. Methods: Gingival fibroblasts were isolated from a healthy patient by enzymatic digestion and were seeded in a collagen type I matrix in association with culture medium (DMEM) supplemented with 10% fetal bovine serum (FBS). After 5 days, a serum-free DMEM was added to the matrices with cells that were subjected or not to 3 consecutive irradiations at each 24 h of LLLT by means of the LaserTABLE diode device (780 nm, 25 mW) at 0.5, 1.5, and 3 J/cm^2 (40, 120 and 240 s, respectively). Twenty-four h after the last irradiation, cell viability and morphology as well as gene expression of growth factors were assessed. Data were statistically analyzed by ANOVA and Tukey tests (cell viabiliy) or Kruskall-Walis and Mann-Whitney tests (gene expression) ($\alpha=0.05$). Histological evaluation of matrices demonstrated uniform distribution and morphology of gingival fibroblasts within the collagen matrix. Results: LLLT at 3 J/cm^2 increased gingival fibroblast viability, while enhanced gene expression of collagen type I (hCOL-I) and epidermal growth factor (hEGF) was observed for 0.5 J/cm^2, for the evaluated period. Conclusion: LLLT promoted biostimulation of gingival fibroblasts seeded in a 3D cell culture model, demonstrating LLLT could penetrate the collagen matrix. Therefore, this model provides more reliable morphologic and phenotypic characteristics and can be applied for phototherapy studies.

CB010 - Photodynamic therapy mediated by phthalocyanine on multi-species mixed biofilm

Jeffersson Krishan Trigo GUTIERREZ[1]; Bruna Camila ROSADO[1]; Paula Aboud BARBUGLI[1]; Ana Claudia PAVARINA[1]; Ewerton Garcia de Oliveira MIMA[1]

[1]Department of Dental Materials and Prosthodontics, Araraquara Dental School, Univ. Estadual Paulista.

The resistance of microorganisms in biofilms to conventional antimicrobials has led to the search for alternative therapeutic modalities. A previous study demonstrated that photodynamic therapy (PDT) mediated by chloro-aluminum-phthalocyanine in nanoemulsion (Pc-Ne) reduced the metabolism of multi-species biofilm of *Candida albicans* (Ca), *Candida glabrata* (Cg) and *Streptococcus mutans* (Sm). Thus, this study evaluated the survival of this biofilm after PDT. Standardized suspensions (106-107 CFU/mL) of Ca (ATCC 90028), Cg (2001) and Sm (ATCC 25175) were transferred to 96 wells flat bottom microtiter, which was incubated in an orbital shaking at 75 rpm for 90 min at 37ºC. All the experiments using Sm were performed in candle jar. Then, the samples were washed and incubated with RPMI broth at 37ºC in an orbital shaking. After 48 h, the biofilms were washed and submitted to PDT through incubation with Pc-Ne (31.8 µM) for 30 min and irradiation with LED light for 47 min (660nm; 100J/cm2). Additional samples were treated only with LED or Pc-Ne, while the control group received no treatment (n=9). Then, the biofilm was disrupted and aliquots of each sample were transferred to specific culture media and incubated for 48 h for quantification of colonies. The values of $\log_{10}$(CFU/mL) were analyzed by ANOVA/Welch and Tukey/Games-Howell (α=0.05). It was observed no significant difference ($p>0.05$) among all groups evaluated for the three microorganisms. It was concluded that PDT mediated by Pc-Ne did not affect the survival of multi-species biofilm.

CB011 - Toxicity of *Candida albicans* and *Staphylococcus aureus* supernatant

Kassia de Carvalho DIAS[1]; Paula Aboud BARBUGLI[1]; Carlos Eduardo VERGANI[1]

[1]Department of Dental Materials and Prosthodontics, Araraquara Dental School, Univ. Estadual Paulista.

The aim of this study was to investigate the induction of cell death promoted by the supernatant of single and mixed biofilms of methicillin-sensitive Staphylococcus aureus (MSSA) and *Candida albicans* with 08, 16 and 24 h of formation in a culture of oral keratinocytes (NOK-si). The CFU/mL values were calculated to quantify the number of microbial cells. The damage caused to the cell culture by the supernatant of the microorganisms was assessed by measuring the release of the LDH enzyme, as this cytosolic enzyme is released when membrane integrity is affected. The concentration of the LDH enzyme was determined after four, 12 and 24 h of contact with the biofilm supernatant. Statistical analysis was performed using ANOVA followed by Tukey, with a 5% significance level. Assays were performed in triplicate. When *C. albicans* was cultivated with MSSA there was an increase ($p<0.05$) in CFU/mL values for the biofilm with eight and 16 h of formation. There was no statistically significant difference between the CFU/mL values for the *C. albicans* and MSSA biofilms after 24 h of formation both in single and mixed cultures. There was a progressive increase ($p<0.05$) in the CFU/mL values of the biofilm between eight and 16 h for both simple and mixed biofilms. The same increase was not observed between the values at 16 h and those at 24 h. The MSSA experimental group caused the least cell damage, with a statistically significant difference between the *C. albicans* and mixed groups. The supernatant of the mixed biofilm with 16 h of formation and 24 h of incubation caused the greatest cell damage. The supernatants of biofilms with eight, 16 and 24 h of formation were harmful to the oral epithelial cells, and the supernatant of the MSSA biofilm was less cytotoxic. The synergism between the species of *C. albicans* and MSSA was more harmful to the oral keratinocytes.

CB012 - Ipsilateral supplementary lateral incisors: a rare case report

Matheus Lotto de Almeida SOUZA[1]; Victor de Moraes CRUZ[1]; Eduardo Ferro de GRAVA[1]; Farooque Jamaluddin AHMED[1]; Rogério Leone BUCHAIM[1]; Jesus Carlos ANDREO[1]; Antonio de Castro RODRIGUES[1]; André Luis SHINOHARA[1]

[1]Department of Biological Sciences, Discipline of Anatomy, School of Dentistry of Bauru, University of São Paulo.

Supernumerary teeth are one of the dental anomalies that occur due to teeth development disorders. It can be seen in many forms and contents. Supernumerary teeth occur in both deciduous and permanent dentitions, imposing occlusion and aesthetic problems. Morphologically the supernumerary teeth present various forms, varying between supplementary, conical and tuberculous forms. The supplementary, as the name suggests, are similar to the normal prototype. In this particular case, the purpose of this work is to report a rare case of additional supernumerary teeth in an adult patient. Case report: a 32 year-old Caucasian male was referred by an orthodontist to a Specialized Dental Care Center (CEO) in Macatuba-SP. Intraoral examination showed the presence of additional permanent ipsilateral lateral incisors. The patient was unaware of the additional teeth, because of its similarity with its permanent teeth. Additional lateral incisors had similar morphology to his normal permanent lateral incisors. The panoramic radiography revealed intact crown and root without any morphological or pathological deformity. After the extraction of these teeth, the patient was referred back to his orthodontist for the most appropriate treatment. In this case, the orthodontic intervention was the choice to close the space occupied by the supernumerary teeth. With this study, we conclude that many cases of supernumerary teeth were reported by several authors, aiding in understanding about its different morphologies and prevalence. This case report described a rare case of additional permanent ipsilateral lateral incisors, which were extracted due to orthodontics purpose, with success on the treatment.

CB013 - Photodynamic effect on total biomass of *C. albicans* biofilms

Vinicius Tatsuyuji SAKIMA[1]; Ana Laura Mira ORTEGA[1]; Gabriela Cristina ZANATTA[1]; Geisiane Helena Gomes BUENO[1], Carlos Eduardo VERGANI[1], Ewerton Garcia de Oliveira MIMA[1]

[1]Department of Dental Materials and Prosthodontics, Araraquara Dental School, Paulista State University.

Oral candidosis is the most common fungal infection in humans, whose main etiological factor is *Candida albicans* (Ca). This infection is associated with other microorganisms forming a multi-species biofilm. The conventional treatment of candidosis is the use of topical or systemic antifungal agents, whose widespread use has led to the development of resistant strains. A promising alternative for microbial inactivation is antimicrobial Photodynamic Therapy (PDT), which associates a photosensitizer with a light source of suitable wavelength. The aim of this study was to evaluate the total biomass of Ca biofilms with or without methicillin-resistant *Staphylococcus aureus* (MRSA) after Photodynamic Therapy (PDT) mediated by curcumin (CUR). Ca standard strain (ATCC 90028) was grown alone or with MRSA (ATCC 33591) for the formation of biofilms during 48 h at 37°C. After incubation, the biofilms were washed and subjected to PDT. For this, 150-µL aliquots of 1,200 µM CUR were added on biofilms. After 40 min of incubation, biofilms were illuminated by a source of blue LED light with a wavelength of 455 nm and light intensity of 33.58 mW/cm^2 for 30 min (43.2J/cm^2, C+L+ group). Additional samples were treated only with CUR (C+L-), light (C-L+) or received no treatment (C-L-, control). Total biomass of biofilms was analyzed by 1% Crystal Violet Staining. Experiments were performed in triplicate on three separate occasions. Data were analyzed by ANOVA/Welch when the data were normal and heteroscedastic, or Kruskal-Wallis when the data distribution was not normal (α=0.05). No significant difference was observed for the monospecies of Ca biofilm (ρ=0.312, Kruskal-Wallis), as well as for the multi-species MRSA and Ca biofilm (ρ=0.210, ANOVA/Welch) between the groups. PDT mediated by CUR was not effective in disrupting the total biomass of Ca and Ca+MRSA biofilms.

CB014 - βTCP in the treatment of cranial defect and maxillary sinus lifting

Ana Carolina Cestari BIGHETTI[1]; Tania Mary CESTARI[1]; Ricardo Vinícius Nunes ARANTES[1]; Paula Sanches dos SANTOS[1]; Gerson Francisco de ASSIS[1]; Gustavo Pompermaier GARLET[1]; Rumio TAGA[1]

[1]Department of Biological Sciences, Bauru School of Dentistry, University of São Paulo

Many materials have been developed as substitutes for autografts in the treatment of craniomaxillofacial bone defects. As the bone healing rate varies according to the bone region, the use of appropriate preclinical model represents a necessary step in the development and evaluation of new materials for human applications. In the present work, the repair of bone defects using the new ceramic calcium phosphate-based (βTCP) in two preclinical situations in rabbits was evaluated and compared to deproteinized bovine bone (Bio-Oss®). First, in the treatment of cranial defects (CD), two full thickness trephine defects of 8-mm diameter were made in the parietal bones, and 100 mm^3 βTCP placed randomly in one defect and BioOss in the other defect. Second, in the bilateral maxillary sinus lifting (MSL) randomly one side was filled with 200 mm^3 of βTCP and the other side with BioOss®. After 30 and 60 days, the total volume of the CDs and the sinus lifts, and the percentage of biomaterials and bone tissue formed were evaluated by microtomography and histomorphometry. All data were analyzed by ANOVA and Tukey test ($p<0.05$). In CD, at 30 days, an intense foreign body reaction composed mainly by macrophages and foreign body giant cells and some lymphocytes was observed at the surface of βTCP. At 60 days, the foreign body reaction diminished and βTCP particles partially absorbed were surrounded by bone and/or connective tissues. The bone formation was significantly smaller in βTCP compared to BioOss® (18% vs. 23%). In the MSL, at 30 days, less foreign body reaction, intense degradation of βTCP particles and replacement by bone and medullar tissues were observed. At 60 days, the bone formation was higher in MSL treated with βTCP compared to BioOss® (35% vs. 26%). These results show the importance of preclinical studies in animals using materials with surgical techniques similar to those performed in humans and favorable indication of this new ceramic for MSL.

CB015 - Fluoride changes cell membrane protein expression in epithelial cells

Juliana Sanches TREVIZOL[1]; Mariana Rodrigues SANTESSO[1]; Aline de Lima LEITE[1]; Vinicius Taioqui PELÁ[1]; Rodrigo Cardoso de OLIVEIRA[1]; Flavia Mauad LEVY[1]; Marília Afonso Rabelo BUZALAF[1]

[1]Department of Biological Sciences, Bauru School of Dentistry, University of São Paulo

This study evaluated the effect of different concentrations of fluoride (F) on membrane protein expression in mouse epithelial cells (M-1; ATCC CRL-2038). Cells were exposed to F for 24 h and divided into 3 groups: control, 10^{-5} M (F1) and 10^{-3} M (F2). The membrane proteins were extracted using the Mem-Per eukaryotic membrane protein extraction kit (Thermo Scientific). The fractions containing hydrophobic proteins were collected and purified using spin columns and 50 µg of protein from each group were digested with trypsin Gold. Resultant peptides were analyzed in the system UPLC nanoACQUITY. Difference in expression among the groups was determined using PLGS, and the lists containing the proteins were submitted to analysis by Gene Ontology, a Cytoscape's plugin. Proteomic analysis identified a total of 356 proteins. Comparative analysis between F1 and control showed 42 and 58 proteins down- and up-regulated, respectively, in F1. The comparison between F2 and control revealed 39 and 73 down- and up-regulated proteins, respectively. The numbers of exclusive proteins in control, F1 and F2 were 175, 12 and 28. Gene Ontology (GO) analysis showed that most of proteins with altered expression were related to the "Mitochondrion" with a 45.2% frequency. However, 63 proteins were related to the "Organelle Membrane" term, 3.4%, corresponding to organelle outer membrane, 3.4% nuclear membrane and 17% mitochondrial inner membrane terms. Exposure to both F concentrations increased expression of different isoforms of tubulin, 14-3-3 annexin, as well as α-actin. In conclusion, fluoride changes cell membrane protein expression in M-1 cells.

CB016 - Metformin and orthodontic tooth movement in type-2 diabetic rats

Luan Pereira da MACENA[1]; Ever Elias MENA-LAURA[1]; Tania Mary CESTARI[1]; Daniela Santos PEREIRA[1]; Rumio TAGA[1]; Gustavo Pompermaier GARLET[1]; Gerson Francisco de ASSIS[1]

[1]Department of Biological Sciences, Bauru School of Dentistry, University of São Paulo.

Patients with diabetes mellitus type 2 (DM2) have been clinically associated with osteoporosis, fragility to fractures and bone loss. It has been suggested that metformin, an antidiabetic drug, is able to counteract the negative effects caused by T2DM in bone metabolism. In this study the pattern of tooth movement in T2DM rats treated with metformin during orthodontic forces application was evaluated by computed microtomography. Sixty Wistar rats were divided into: a normoglycemic group without treatment (STNG) and two DM2 groups induced by high fat diet and 20 mg/kg of streptozotocin, subdivided in the untreated (STDM2) and treated with 150 mg/kg of metformin (TMDM2). After 7 days of treatment, the 1st molar (M1) received an orthodontic force of 50 g. After 0, 3, 7 and 14 days the maxillae were scanned in a microtomograph (Skyscan1176), then M1 linear movements, M1 inclination angle, and the interradicular bone density (BV / TV) were evaluated. The data were submitted to the two-way ANOVA and Tukey test. All M1 moved mesially. In the STDM2, the movement was in average 201 µm, followed by TMDM2 (139 µm) and STNG (84 µm). Periodontal ligament (PL) thickness was 70 µm at 0 h in all groups. At 7 days, PL thickness increased in the tension side (LPT 127 µm) and reduced in the pressure side (LPP 32 µm). At 14 days, LP-thickness in the ST-NG (LPT = 97 µm and LPP = 78 µm), and in the TMDM2 (LPT = 139 µm; LPP = 78 µm) were similar to the 0 h, while in the STDM2 the thickness was 219 µm in LPT and 52 µm in LPP. The M1 inclination and rotation angles did not change in the STNG and TMDM2 but, in the STDM2 a mesial inclination of 9º and axial rotation of 3º were observed. The interradicular BV/TV showed a small reduction in all groups during tooth movement. These results suggest that daily treatment with metformin avoids loss of the integrity in the periodontal structures and the occurrence of unwanted tooth movements in T2DM rats.

CB017 - Action of Bonefill® on bone neoformation in alcoholized rats

Marcelo Garcia ZILIO[1]; Daniela Vieira BUCHAIM[1]; Rogério Leone BUCHAIM[2]; Tânia Mary CESTARI[2]; Karina Torres POMINI[2]; Iris Jasmim dos Santos GERMAN[2]

[1]Human Morphophysiology, Faculty of Medicine, University of Marília.
[2]Department of Biological Sciences, Bauru School of Dentistry, University of São Paulo.

The increasing use of ethanol in beverages considered of social consumption increased the number of patients who ingest alcohol and exhibit bone loss, requiring medical and dental treatment. This study aimed to analyze histomorphologically the action of Bonefill® in critical defects in rat calvaria. Forty male Wistar rats were used (Rattus norvegicus), with 60 days of age. The rats were randomly separated into Control Group (CG; n=20): which received water as liquid diet; and Experimental Group (EG; n=20): these rats consumed 25% ethanol. CG was subdivided into WCG (Water Clot Group), corresponding to the right calvaria defect and WBG (Water Biomaterial Group), left side defect of the calvaria. EG was subdivided into ECG (Ethanol Clot Group) and EBG (Ethanol Biomaterial Group), following the same pattern of the defect mentioned above. A circle osteotomy of 5 mm in diameter was performed in the right and left parietal bone. The bone defects in WCG and ECG were filled with blood clot and the defects in WBG and EBG were filled with inorganic bovine bone Bonefill®. Five animals from each group were euthanized at periods of 10, 20, 40 and 60 days after surgery. The histological analysis showed that at 10 days, in WBG and EBG the particles of bone graft were surrounded by granulation tissue and inflammatory cells; it also showed a small immature bone formation mainly at the margins of the defects. At 20 days it was observed in WBG and EBG some graft particles partially surrounded by new bone. The periods of 40 and 60 days showed areas of bone formation in the margins at a more advanced stage and around some particles. It was concluded that the Bonefill® has osteoconductive properties and the alcohol diet did not achieve its adverse effects on bone formation.

CB018 - Effect of *Qualea grandiflora Mart*. extract on NIH3T3 fibroblasts

Mariana Rodrigues SANTESSO[1]; Amanda Gabrieli MAFFEI[1]; Cintia Kazuko TOKUHARA[1]; Anne Lígia DOKKEDAL[2]; Rodrigo Cardoso de OLIVEIRA[1]

[1]Department of Biological Sciences, Bauru School of Dentistry, University of São Paulo.
[2]Department of Biological Sciences, Univ. Estadual Paulista.

Qualea grandiflora Mart. is known to have many medicinal properties and has been used in popular culture as anti-inflammatory agent. This study aimed to assess the cytotoxicity of the hydroalcoholic extract of *Qualea grandiflora Mart*. leaves on NIH3T3 mouse fibroblasts, as well as its inhibitory effect on matrix metalloproteinases (MMPs), which are molecules involved in physiological and pathological processes, such as inflammation. For the cytotoxicity experiments, NIH3T3 cells were plated and treated with different concentrations of crude hydroalcoholic extract of *Qualea grandiflora* (1,000 µg/mL; 100 µg /mL, 10 µg/mL, 1 µg/mL and 0.1 µg/mL). After periods of 24, 48, 72 and 96 h of treatment, cell viability was measured using the MTT reduction test and incorporation of the crystal violet. Zymography assay was employed to evaluate the effect of *Qualea grandiflora* on the enzymatic activity of MMP-2 and MMP-9. In the MTT and Violet Crystal tests, statistically significant differences were verified between groups with the lowest and highest extract concentration (1,000 µg/mL and 100 µg/mL), suggesting higher cell viability in the lower concentrations of the extract. In the zymography assay, we observed that, except for the positive control group, all showed a decrease in the activity of MMPs, except the concentration of 1 µg/mL, which showed high activity of MMP-2 and 9. It was concluded that the extract of *Qualea grandiflora Mart*. leaves can modulate the viability of NIH3T3 cells, and higher extract concentrations promote reduction of cell viability. The effect on MMPs observed for some concentrations of the extract can target future studies about this plant and its inhibitory action on MMPs.

CB019 - Phagocytic ability of human macrophages against alkaline-stressed *E. faecalis* strains

Rafael Carneiro ORTIZ[1]; José Burgos PONCE[2]; Raquel Zanin MIDENA[3]; Flaviana Bombarda de ANDRADE[3]; Camila de Oliveira RODINI[1]; Vanessa Soares LARA[2]

[1]Department of Biological Sciences, Bauru School of Dentistry, University of São Paulo.
[2]Department of Stomatology, Bauru School of Dentistry, University of São Paulo.
[3]Department of Operative Dentistry, Endodontics and Dental Materials, Bauru School of Dentistry, University of São Paulo.

Enterococcus faecalis (*E. faecalis*) is a microorganism found in persistent endodontic lesions, with greater resistance than other bacteria to Calcium Hydroxide (CH), an intracanal dressing that inhibits most microorganisms, during root-canal treatment. The aim of this study was to evaluate the phagocytic ability of human macrophages (MO) against three strains of *E. faecalis*: two root-canal isolates and one urine isolate, previously submitted to alkaline-stress. MO were obtained by culture of peripheral blood monocytes from 15 volunteers, in 24-well plates containing sterile spherical glass coverslips. Before the phagocytosis assay, bacteria were submitted or not (control) to alkaline stress in culture medium buffered to pH 9.5 for 4 h at 37°C. Subsequently, bacteria were added to the wells containing MO adhered to the coverslips, for 30 min at 1:1 ratio of cell/bacteria. Then, the coverslips were fixed and stained with acridine orange. The fluorescence of remaining extracellular bacteria was quenched by crystal violet. The quantitative analysis was performed using a fluorescence microscope with an objective of 100x to count the total number of MO with internalized bacteria and also considering the number of internalized bacteria per cell (<5 and ≥5), from 20 random fields, in 15 independent experiments. Phagocytosis of alkaline-stressed bacteria tended to decrease when compared with the control group. Regardless of the strain, the number of MO that showed <5 internalized bacteria per cell was higher than those with ≥5 internalized bacteria. Our study suggests that *E. faecalis* strains stressed with alkaline medication could impair an efficient phagocytosis by host macrophages.

CB020 - Modification of pellicle with cystatin reduces enamel erosion

Vinícius Taioqui PELÁ[1]; Aline Lima LEITE[1]; Aliny BISSAIA[1]; Flávia Maud LEVY[1]; John Mike EDWARDSON[2]; Flávio Henrique da SILVA[3]; Marília Afonso Rabelo BUZALAF[1]

[1]Department of Biological Sciences, Bauru School of Dentistry, University of São Paulo.
[2]Department of Pharmacology, University of Cambridge.
[3]Department of Genetics and Evolution, Federal University of São Carlos.

Cystatin-B was identified as an acid-resistant protein in the acquired enamel pellicle; it could, therefore, protect the teeth against erosion. However, its cost is high. The present study evaluated the effect of pellicle modification, by incorporation of cystatin-B or canecystatin-5, on the protection against initial enamel erosion *in vitro*. Seventy five bovine enamel specimens (4x4 mm) were divided into 5 groups: 1) deionized water, 2) 0.5% mucin + 0.27% casein solution, 3) 0.025 µg/µL cystatin-B solution, 4) 0.025 µg/µL canecystatin-5 solution, and 5) 0.025 µg/µL canecystatin-5 solution applied before the formation of the pellicle. Stimulated saliva was collected from three volunteers and used to form an acquired enamel pellicle on the specimens for 2 h. Specimens (groups 1-4) were exposed to the protein solutions with stirring at 30°C for 2 h. For group 5, blocks were exposed to canecystatin-5 solution before the pellicle was formed. All specimens were then incubated in 0.65% citric acid (pH 3.4) for 1 min at 30°C. Treatment was done once/day for 3 days. Surface hardness was analyzed at baseline and after days 1 and 3 and percentage of surface hardness change (%SHC) was calculated. Data were analyzed by ANOVA and Tukey's test ($p<0.05$). At day 1, treatment with cystatin B (35.1±9.9%) and canecystatin-5 (35.2±6.6%) before pellicle formation significantly reduced % SHC compared with control (46.9±6.7%). At day 3, all treatments with cystatin (54.5±8.6, 55.5±10.7 and 53.1±9.3% for cystatin-B, canecystatin-5 and canecystatin-5 before pellicle formation, respectively) significantly reduced % SHC compared with control (67.6 canecystatin-59.4%). In addition, treatment with canecystatin-5 before pellicle formation significantly reduced % SHC compared with the combination mucin/casein (64.4±9.4%) Thus, canecystatin-5 seems to be able to protect against erosion.

CB021 - EGCG action in the evolution of ligature-induced periodontitis in rat

Daniela Santos PEREIRA[1]; Tania Mary CESTARI[1]; Ever Elias Mena LAURA[1]; Rumio TAGA[1]; Gerson Francisco de ASSIS[1]

[1]Department of Biological Sciences, Bauru School of Dentistry, University of São Paulo.

The tissue destruction observed during development of periodontal disease has been attributed to exacerbated inflammatory process and unbalance response between production of reactive oxygen species and antioxidant defense capacity. Epigallocatechin-3-gallate (EGCG) has potential antioxidant and anti-inflammatory action, being a possible treatment in diseases with excessive osteoclast activity and bone destruction. The aim of this study was to verify morphometrically in computerized microtomography and histological images whether daily administration of EGCG inhibits/decreases alveolar bone loss in ligature-induced periodontitis in rats. The lower right first molar of 40 rats was tied with 3.0 thread surgical suture. Animals were divided into untreated group (GST) and EGCG treated group (GTEGCG), which received 100 mg/kg of EGCG by gavage daily. In periods of 0, 7, 14 and 21 days (n=5 animals/period/group), digital images were obtained in microtomography and subjected to analysis of periodontal bone level (PBL) and BV/TV inter-radicular. In the sagittal slides of M1 stained by hematoxylin-eosin the PBL volumetric points and inflammatory process as well as the number of osteoclasts/cm^2 was analyzed. Data were submitted to two-way ANOVA and Tukey test ($p<0.05$). In general, PBL was lower in GTEGCG (average 0.979 mm) compared to GST (average 1.172). Regarding bone density BV/TV in GTEGCG was higher (68%) compared to GST (62.06%). The percentage of inflammation and the number of osteoclasts were lower in GTEGCG, with a peak at 14 days (3.4% inflammatory process and 32 osteoclasts/cm^2) compared to GST, which peaked at 7 days (mean 9.6% of inflammation and 87 osteoclasts/cm^2). In the model used, daily treatment with EGCG decreases inflammation and alveolar bone loss, suggesting a beneficial effect of EGCG on reducing development of periodontal disease.

CB022 - Inhibition of cariogenic biofilm by different therapeutic agents

Elkin Jahir Florez SALAMANCA[1]; Guilherme Roncari ROCHA[1]; Ana Letícia de BARROS[1]; Marlise Inêz KLEIN[1]

[1]Department of Dental Materials and Prosthodontics, Araraquara Dental School, Paulista State University.

Caries is a multifactorial disease in which microorganisms play an important role. They need the resources from the diet to grow and synthesize exopolysaccharides (EPS), which are the main components of the extracellular matrix, responsible for the 3D structure and formation of acidic environments leading to localized demineralization of the enamel. Thus, the aim of this study was to determine *in vitro* the effect of farnesol and myricetin on hypercariogenic biofilms formed by *Streptococcus mutans* and *Candida albicans*. *In vitro* biofilms were formed onto saliva-coated hydroxyapatite discs and culture medium in TYE with 1% sucrose, 37°C and 5% CO_2. Topical treatments were applied twice per day for 1 min: Vehicle control – 15% ethanol; 2 mM Myricetin; 4mM Farnesol; Myricetin + Farnesol; 250 ppm Fluoride; Myricetin + Farnesol + Fluoride (MF250); and Chlorhexidine (CHX). The effectiveness of treatments was evaluated after 67 h. Biofilms were processed and subjected to biochemical assays (quantification of water soluble and insoluble EPS), to microbial culture (colony forming units - CFU) and to biofilm biomass quantification. The data were submitted to analysis of variance (ANOVA), with the significance level of 0.05. Biomass and *S. mutans* and *C. albicans* CFU quantities were decreased after CHX treatment (vs. all other treatments; $p<0.05$), demonstrating its effectiveness. Lower amounts of soluble EPS were detected in biofilms treated with CHX (vs. all other treatments, $p<0.05$; except for MF250, which behaved similarly) and with MF250 (vs. vehicle, fluoride and myricetin, $p<0.05$). In addition, the lowest amounts of insoluble EPS were detected in biofilms treated with CHX (vs. all treatments, $p<0.05$, except for MF250 and vehicle). Therefore, treatment with CHX demonstrated greater effectiveness, but the combination therapy MF250 also influenced negatively characteristics of biofilms associated to pathogenicity.

CB023 - Comparison of cardiovascular effects of epinephrine and felypressin

Gabriela de Moraes OLIVEIRA[1]; Camila de Assis FLEURY[1]; Carlos Ferreira SANTOS[1]; Flávio Augusto Cardoso de FARIA[1]

[1]Department of Biological Sciences, Bauru School of Dentistry, University of São Paulo.

The objective of this work was to evaluate changes in blood pressure (BP) and heart rate (HR) of male Wistar rats after injections of epinephrine (Epi) and felypressin (Fel) by intravenous route (IV) or by infiltration in upper vestibular incisors area (UVI). A catheter was implanted into the carotid artery of anaesthetized rats and connected to an invasive BP recording transducer (ADInstruments Pty Ltd.). Saline physiological solution (SF) and Epi or Fel in doses equivalent to those present in 2, 8 and 32 cartridges of local anesthetic (ED) were infiltrated in animal's UVI or injected by IV route. After UVI, epinephrine did not promote any significant BP elevation when compared with SF (SF: 0.942 mmHg; Epi: 1.4, 1.4 and 2.2 mmHg, after 2, 8 and 32 ED, respectively); with 8 ED it promoted significant increase in HR (Epi: 212.44 bpm; SF: 198.82 bpm, $p<0,05$). Fel in 8 and 32 ED caused significant elevation in BP (SF: 2.07 mmHg; Fel: 8.84 and 18.03 mmHg after 8 and 32 ED, respectively, $p<0.05$), but it did not promote any significant increase in HR. Epi and Fel showed marked hypertensive effects by IV route, being Epi actions significantly greater than those of Fel (Epi: 13.2 mmHg, 26.91 mmHg and 63.98 mmHg; Fel: 23.47 mmHg, 40.17 mmHg and 40.71 mmHg after 2, 8 and 32 ED, respectively, $p <0.05$). The increase in HR was outstanding with epinephrine, even at 2 ED; (Epi: 299.57 bpm; Fel: 178.27 bpm); a small bradycardia occurred with IV Fel. Our results indicated that Fel, while increased BP by UVI with 8 and 32 DE, did not promote tachycardia with any ED. These results also indicate that Fel is an interesting vasoconstrictor for patients complaining about tachycardia when submitted to local dental anaesthesia and possibly to patients with arrhythmias since it does not interfere with HR. In accidental intravascular injections, Fel also would cause lower BP's elevation than Epi, without promoting HR changes. Therefore, Fel may be classified as a safe vasoconstrictor in dental anaesthesia, even for patients with some cardiac disease.

CB024 - Naproxen with or without esomeprazole after third molar extraction

Giovana Maria WECKWERTH[1]; Luis Fernando SIMONETI[1]; Paulo ZUPELARI-GONÇALVES[1]; Adriana Maria CALVO[1]; Daniel Thomas BROZOSKI[1]; Thiago José DIONÍSIO[1]; José Roberto Pereira LAURIS[2]; Flávio Augusto Cardoso de FARIA[1]; Carlos Ferreira SANTOS[1]

[1]Department of Biological Sciences, Bauru School of Dentistry, University of São Paulo.
[2]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.

Nonsteroidal anti-inflammatory drugs (NSAIDs) are able to manage postoperative pain and inflammation in patients after oral surgery, but they are associated with gastrointestinal problems. Naproxen was introduced in combination with esomeprazole, a stomach proton pump inhibitor, in an effort to assuage these side effects. This double-blinded, randomized and crossover study, evaluate the acute postoperative pain management, swelling and trismus in 46 volunteers undergoing extractions of the two lower third molars, in similar positions, at two different appointments who consumed a tablet of either NE (500 mg naproxen + 20 mg esomeprazole) or only naproxen (N; 500 mg) every 12 h for 4 days after. The following parameters were analyzed: subjective pain intensity by visual analog scale (VAS 0-100mm); pre and postoperative mouth opening; onset and duration of surgery; incidence, type and severity of adverse reactions; total amount of rescue medication (acetaminophen) consumed; and postoperative swelling. Shapiro-Wilk normality, paired Student's *t* (normally distributed), and Mann-Whitney *U* tests (non-normally distributed) were performed. Statistical significance was 0.05. It was observed that female volunteers reported significantly more pain for 1 to 4 h after surgery when consumed NE compared to pure naproxen, and also used their first rescue medication significantly earlier (3.7 h and 6.7 h, respectively, $p = 0.03$). No significant differences were found in males between N and NE. No differences were observed in the control of swelling, trismus and other parameters $P>0.05$. In conclusion, pure naproxen improved the acute postoperative pain management when compared to the NE in women, although pain was considered mild in all patients after the use of both drugs with pain scores average well below 40 mm in VAS.

CB025 - Effect of plant extracts on microcosm biofilm – a pilot study

Juliana Gonçalves PIRES[1]; Aline Silva BRAGA[1]; Ana Carolina MAGALHÃES[1]

[1]Department of Biological Sciences, Bauru School of Dentistry, University of São Paulo.

Phytotherapy in cariology has been developed as an alternative to conventional antimicrobial agents for the control of dental biofilm. *Myracrodruon urundeuva* (M.u) and *Qualea grandiflora* (Q.g) are examples of studied plants. Therefore, this pilot study evaluated the effect of both plants on microbial viability using a microcosm biofilm model. For the formation of microcosm biofilm, saliva from 2 healthy individuals was collected, which was diluted (70% saliva and 30% glycerol) and, subsequently, mixed with Mc Bain artificial saliva (1:50). Bovine enamel specimens were exposed to human saliva/Mc Bain supplemented with 0.2% sucrose for the biofilm formation, which were treated daily (1x60s/day) with solutions containing 0.1; 1.0; 10; 100; 1000 µg/mL of M.u and Q.g hydroalcoholic extracts for 14 days (biological duplicate, n=3). Cell viability was assessed by MTT assay, and the absorbance at 540 nm was measured using a microplate reader. Data were analyzed using Kruskal-Wallis test followed by Dunn ($p<0.05$). The microbial viability for M.u extract at the dilutions of 1000 µg/mL (minimum-maximum absorbance values: 0.4330-1.088) and 0.1 µg/mL (0.5590-0.7740) and for the extract Q.g at the dilution of 0.1 µg/mL (0.4220-1.030) were less efficient when compared to the positive control- 0.2% chlorhexidine (0.1990-0.5810). Other M.u dilutions of 100 µg/mL (0.3800-0.6430), 10 µg/mL (0.3570-0.9340) and 1 µg/mL (0.3300-0.6400) and Q.g dilutions of 1000 µg/mL (0.4860-0.7130), 100 µg/mL (0.5260-0.8720), 10 µg/mL (0.4590-0.6760) and 1 µg/mL (0.4060-0.5800) showed no significant differences when compared to the positive and negative controls - no treatment (0.4090-0.8100). This pilot study suggests that the tested plants extracts are not capable of reducing the microbial viability using this experimental model.

CB026 - Antimicrobial activity of phytotherapics associated with adhesive

Nara Ligia Martins ALMEIDA[1]; Rafaela Alves da Silva ALAVARCE[1]; Luiz Leonardo SALDANHA[2]; Eliane Ferraz da COSTA[1]; José Roberto Pereira LAURIS[3]; Vinícius Carvalho PORTO4; Anne Lígia DOKKEDAL[2]; Vanessa Soares LARA[1]

[1]Department of Stomatology, Discipline of Pathology, Bauru School of Dentistry, University of São Paulo.
[2]Department of Biological Sciences, School of Biological Sciences, Univ. Estadual Paulista.
[3]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.
[4]Department of Prosthodontics and Periodontology, Bauru School of Dentistry, University of São Paulo.

The aim of this study was to evaluate, *in vitro*, whether the incorporation of hydroalcoholic extracts of *Equisetum giganteum* (Eg) and *Punica granatum* (Pg) to a denture adhesive influences the development *Candida albicans* biofilm on the surface a polymerized acrylic resin. After identification of compounds of the extracts by HPLC-PAD, the fraction and the concentration were selected through minimum inhibitory concentration (MIC). Biofilms were induced for 3, 6 or 12 h on the surface of acrylic resin specimens, previously subjected to treatment with the adhesive associated with the phytotherapic agent (AD/Eg or AD/Pg). As controls, samples were treated with adhesive (AD), or adhesive/nystatin association (AD/Nt) or did not receive treatment (PBS). The antimicrobial activity was evaluated by quantifying the biofilm by colony forming units per milliliter (CFU/mL), and by reduction percentage of fungal metabolic activity using colorimetric assay – XTT. The results were expressed as mean ± standard deviation, and subjected to Kruskal-Wallis test (CFU/mL) and Mann-Whitney; and 2-way ANOVA followed by Tukey's HSD post-hoc test (XTT) and Dunnett test, with significance when $p<0.05$. It was possible to identify compounds derived from kaempferol and quercetin in *E. giganteum* and ellagitannins derivatives, as punicalin in *P. granatum*. The combination of both herbal medicines to the adhesive (AD/Eg or AD/Pg) significantly reduced the biofilm on the surface of the resin when compared to the AD group. Accordingly, there was an increase in the percentage of reduction of the metabolic activity of biofilm at all periods in the presence of herbal medicines. Finally, we suggest that the combination of these herbal medicines to denture adhesive may be a temporary, viable and innovative alternative to assist in the treatment and/or prevention of denture stomatitis, if the maintenance of the inherent properties of this adhesive is proven after further studies.

CB027 - Effect of bisphosphonates on epithelial cells seeded onto titanium

Taisa Nogueira PANSANI[1]; Fernanda Gonçalves BASSO[1]; Diana Gabriela SOARES[1]; Josimeri HEBLING[2]; Carlos Alberto de Souza COSTA[1]

[1]Department of Physiology and Pathology, Araraquara Dental School, Univ. Estadual Paulista.
[2]Department of Pediatric Dentistry, Araraquara Dental School, Univ. Estadual Paulista.

The installation of dental implants in patients under bisphosphonate therapy is controversial since such treatment has been related to implant failure and occurrence of osteonecrosis. It seems that different types of bisphosphonates and their toxic effects can interfere with the formation of a biological sealing by oral mucosa cells. Therefore, this study aimed to investigate the effects of two widely used bisphosphonates, Sodium Alendronate (SA) and Zoledronic Acid (ZA), on the adhesion and metabolism of epithelial cells seeded onto titanium (Ti) surface. Methods: Titanium discs were placed in wells of 24-well plates and cells were seeded onto these discs using culture medium (DMEM) supplemented with 10% fetal bovine serum (FBS). After 24 h, DMEM was aspirated and bisphosphonates at 0 (control), 0.5; 1; and 5 µM (in serum-free DMEM) were applied to the cells. After 24- and 48-h incubation, cell viability, adhesion and synthesis of epidermal growth factor (EGF) were assessed. Data were analyzed by Kruskal-Wallis and Mann-Whitney tests ($\alpha=0.05$). Results: Decreased cell viability was observed in those cells exposed to SA and ZA, considering all concentrations applied for 24 and 48 h. Reduced number of cells attached to Ti surface was determined when SA (5 µM) and ZA (0.5; 1; and 5 µM) were applied on the cells at 24- and for all treated groups at 48-h periods. EGF synthesis was not affected at 24 h, while significant decrease was observed for all treatments at 48 h. Conclusion: Both bisphosphonates may negatively interfere with the metabolism and adhesion of epithelial cells to titanium surface, which can hamper the formation of an efficient biological sealing for patients subjected to bisphosphonates therapy.

F001 - How to prevent orofacial congenital anomalies

Adnaiane Kelly Moraes SOARES[1], Bruna Danielle Menezes DIAS[1], Daniella da Silva Oliveira Nunes de AGUIAR[1]; Marcos Paulo Nunes BARRETO[1], Inger Teixeira de Campos TUNAS[1]

[1]Department of Social Dentistry, School of Dentistry, Federal University of Rio de Janeiro.

Orofacial congenital anomalies are the result of failures in the fusion of facial processes during embryonic period and are among the most commonly found in humans. The most common of these is the cleft lip with or without the presence of cleft palate. Men are more affected by cleft lip and palate while cleft palates are more common in women. In addition, the unilateral cracks occur twice on the left side compared to the right and are nine times more common than bilateral. They have a multifactorial origin, and genetic - monogenic, chromosomal, contiguous genes, mitochondrial and multifactorial - environmental, nutritional - vitamin B12 and folic acid deficiency - social -low socioeconomic level -, mother diagnosed with pre-gestational diabetes mellitus, the use of anticonvulsants, drugs and pesticides. The objective of this study was to prepare a literature review of great clinical importance to the quality of life, highlighting how to prevent orofacial congenital anomalies. In this review, we carried out a survey in the PubMed-MEDLINE, CAPES Portal and SciELO, using the key words: orofacial congenital anomalies; cleft lip; cleft palate. Thirty articles were selected. In this work, were included national and international articles in portuguese and english, published in the last decade and with comprehensive approach on the issue. Articles published before the last decade and whose contents had a very narrow theme were excluded. It was concluded that multiple factors may determine the birth of a baby with orofacial anomaly. Having and maintaining maternal health, especially during the first pregnancy months is crucial for the appropriate fetal development and, therefore, the primary care becomes essential in the preventive process. Furthermore, it was found that the lack of genetic counseling contributes to the development of these anomalies.

F002 - Orthognathic surgery report in patient with cleft lip and palate

Marina Prado Monson Santana TAKAHASHi[1]; Renato Yassutaka Faria YAEDU[1,2]; Marina de Almeida Barbosa MELLO[1,2]

[1]Department of Stomatology, Bauru School of Dentistry, University of São Paulo.
[2]Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.

Cleft lip and palate is described as malformation that involves the face and oral cavity. It has multifactorial etiology, and occurs during the fourth and twelfth week of intrauterine life. The Hospital for Rehabilitation of Craniofacial Anomalies/University of São Paulo (HRAC/USP) provides treatment to patients with a multidisciplinary team, following a protocol of care that aims to complete rehabilitation of the patient, thus requiring many years from early childhood until skeletal maturity. The primary surgeries (cheiloplasty and palatoplasty) may have a restrictive effect on maxillary growth, causing a maxillomandibular discrepancy resulting in malocclusion Angle class III. The aim of this study is to report a case of orthognathic surgery in a patient with cleft lip and palate for the treatment of malocclusion class III. Female patient, 19 years old, with complaining main chin too large and sunken maxilla. After orthodontic completed for surgery, began the planning with facial analysis, dental casts, facial arch, occlusal records, photographs, mounting semi-adjustable articulator, CT cone beam digital surgical planning, dental cast surgery and a surgical guide. Osteotomy Lefort I was used to advance 5 mm maxilla and bilateral sagittal split osteotomy of the mandible was used to decrease of 1.7 mm. The fixation was performed with plates and screws system 2.0, and positional bicortical screws in the mandible.

F003 - Subjective facial analysis of individuals with orofacial cleft

Rodrigo Almeida Nunes TEIXEIRA[1]; Diogo Fernandes SANTOS[1]; Ayla Michelle Andrade VIANA[1]; Rosany Larissa Brito DE OLIVEIRA[1]; Luiz Carlos Ferreira da SILVA[1]

[1]Department of Dentistry, Center of Biological Sciences and Health, Federal University of Sergipe.

Orofacial cleft (OC) is the most prevalent craniofacial deformity. Affects the lips, nose, alveolar and palate region, with aesthetic and functionalprejudice. Then, this study aimed to verify what are the main perceptible facial alterations of the individuals with OC. This is a descriptive and observational study, carried out in Sociedade Especializada em Atendimento ao Fissurado do Estado de Sergipe (SEAFESE), located in São José Hospital, Aracaju, SE, Brazil. To this, it was selected 41 individuals with OC in orthodontic treatment and 41 without OC for the control group to answer a questionnaire about self-evaluation. Illiterates, individuals with syndromes, with previous orthodontic treatment and without perceptual-cognitive conditions to answer the questionnaire, were excluded from the study. For each individual, a consent term, identification paper, Mini-Mental of State Examination, an Evaluation Scale with Body Satisfaction were distributed, and a standardized photograph in the front view it was taken. The 82 photographs were placed in an album at random and analyzed, through a questionnaire, by a maxillofacial surgeon, a plastic surgeon, an orthodontist and a layman. In the self-evaluation, the individuals with OC showed values higher than the control group. However, when the evaluation was made by outsiders, they were unanimous in better evaluate the control group than the group of individuals with OC. We can conclude that the main facial alterations in individuals with OC were the nose, mouth and lips, however these people have a self-acceptance and a self-evaluation appropriate, when compared to the control group.

F004 - Behavior analysis of surface treated implants in a cleft palate area

Camila Evangelista da Silva PERFEITO[1]; Ana Lúcia Pompeia Fraga de ALMEIDA[2]; Karin Hermana NEPPELENBROEK[1]; Simone SOARES[2]

[1]Department of Prosthodontics, Bauru School of Dentistry, University of São Paulo.
[2]Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.

The purpose of this study was to evaluate the osseointegration average time in a cleft palate area that received an autogenous iliac crest bone graft, divided

into two studied groups, also promoting a comparison between them. Two Cone Morse surface treated implants were installed (Group N and Group S) and evaluated immediately with Ostell (values in ISQ) to verify primary stability (T0). After a cycle that varied from 1 to 4 months, the uncovering procedure was performed and once more Ostell has been used to observe the implants' stability (T1). At this moment, prosthetic pillars have been installed, torque was performed as the manufacturer's orientation, and the provisional crowns prepared. Variance analysis to two criteria was applied (ANOVA) followed by Tukey's test, factor group and factor sense. There was no statistically significant difference between them in general average, independent from group or sense (T0=57 ISQ and T1=62 ISQ). Data obtained through Ostell were submitted to descriptive statistical analysis and evaluated in senses mesiodistal (MD) and vestibulolingual (VL) through Tukey's test. In T0, Group N revealed values in MD sense 59.79 ISQ (8.76), while Group S showed 57.23 ISQ (11.11); in VL sense: Group N 59.89 ISQ (6.98) and Group S 53.63 ISQ (10.13). In T1, Group N obtained values in MD sense 61.59 ISQ (7.87) while Group S showed 61.56 ISQ (6.11); in VL sense: Group N 60.33 ISQ (6.99) and Group S 65.26 ISQ (5.95). Within this study's limits, we concluded that it is possible, after a 30-day period, uncover the surface treated implants in a cleft palate area, which has received an iliac crest bone alveolar graft, installing prosthetic pillars, conditioning gingival tissue and preparing provisional crowns. Furthermore, it enables, after a 30-day period and the implant uncovering to begin the completion of the prosthetic work.

F005 - 3D evaluation of surgical techniques in neonates with orofacial cleft

Gabriela RANDO[1]; Bianca Zeponi Fernandes de MELLO[2]; Eloá Cristina Passucci AMBROSIO[2]; Cleide Felício de Carvalho CARRARA[3]; Maria Aparecida de Andrade Moreira MACHADO[2]; Thais Marchini de OLIVEIRA[2]

[1]Bauru School of Dentistry, University of Sao Paulo.
[2]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.
[3]Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.

The purpose of this study was to evaluate the longitudinal changes in dental arches dimensions by means of three-dimensional digital models of neonates with cleft lip and palate after performing two different techniques of primary surgeries. The sample consisted of 114 digital models of 57 neonates from 3 to 36 months old , with complete cleft lip and unilateral palate being evaluated in two phases, pre-cheiloplasty and 1 year after palatoplasty, divided in two groups: Group I - 26 neonates that received the lip-repair surgery at 3 months old applying the Millard technique and total palate at 12 months old, using the von Langenback (VL) technique; Group II - 31 neonates who received the lip closure at 3 months old by Millard technique, correction of nasal wing and anterior palatoplasty. The posterior palatosplasty was performed at 12 months old by VL technique. The evaluation was made using digital templates for each child. The models were scanned by the 3D scanner 3Shape's and the measurements of the dental arches were performed by Appliance Designer 3Shape. In this study were analyzed: Anterior region of fissure (AF), anterior-posterior length of the dental arch (AP), intercanine (IC) and intertuberosity distances (IT). There was no statistically significant difference in pre-cheiloplasty phase between groups. In 1 year after palatoplasty phase there was no statistically significant difference for the AP length, between the groups, with higher values for group I. This study suggests that the effects caused by different surgical techniques may have change on growth and development of neonates' dental arches with cleft lip and palate.

F006 - Length analysis of upper incisors in CLP through the use of CBCT

Aura Sofia Caceres MANFIO[1]; Luciane Macedo de MENEZES[2]; Susana Maria Deon RIZZATTO[2]; Fabiane AZEREDO[2]

[1]Orthodontics Department, Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.
[2]Orthodontics Department, College of Dentistry, Pontifical Catholic University of Rio Grande do Sul.

The aim of this work is to measure tooth lengths of fully developed permanent upper incisors in patients with cleft lip and palate (CLP) and verify whether there is a statistically significant difference between the cleft and non-cleft sides of CLP, and also compare these results with the measurement of incisors of patients without clefts (NC). The study sample comprised 36 patients with nonsyndromic CLP (118 teeth) and 49 patients without clefts (196 teeth). Crown height, root length and total length of teeth were measured in Cone Beam Computed Tomography (CBCT). For the statistical analysis of the results, the paired t-test was applied to compare the teeth of the cleft and non-cleft sides of the CLP group and to compare the teeth of the right and left sides of the NC group. In order to compare the values obtained in the non-cleft side of the CLP group with the NC group and the values of the cleft side of the CLP group with the NC group, was used the statistical analysis of mixed models. There was no statistically significant difference between incisors and their antimeres in patients without clefts ($p>0.05$). However, this comparison to CLP patients revealed that for the cleft side the total length of the incisors was reduced by 5.79% ($p\leq0.05$) for central incisors and 21.82% ($p\leq.05$) for lateral incisors. Compared to the patients without cleft, the upper central incisors of patients with cleft had their total lengths reduced by 3.88% ($p\leq0.05$) for the non-cleft side and 9.29% ($p\leq0.05$) for the cleft side. The upper lateral incisors were reduced by 8.52% ($p\leq0.05$) for non-cleft side and 26.36% ($p\leq0.05$) for the cleft side. It was concluded that the upper permanent incisors in CLP patients were underdeveloped. The length reduction was higher in teeth adjacent to the cleft; the lateral incisors were more affected than the central incisors.

F007 - Compensatory treatment of pattern III in cleft lip and palate

Aura Sofia Caceres MANFIO[1]; Anderson FARIAS[1]; Isabela Simões HOLZ[1]; Adriano Porto PEIXOTO[1]; Ana Lúcia Pompéia Fraga de ALMEIDA[1]; Daniela Gamba GARIB[1]; Tiago Turri de Castro RIBEIRO[1]

[1]Orthodontics Department, Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.

The aim of this work is to report a clinical case of a male patient, 14 years old, with a complete unilateral cleft lip and palate, previously submitted to the primary surgeries (cheiloplasty and palatoplasty) and treated at the Orthodontics Department of the Hospital for Rehabilitation

of Craniofacial Anomalies (HRAC-USP). The facial and radiographic analysis revealed a skeletal pattern of Class III with deficiency in the sagittal growth of the maxilla, concave profile and asymmetrical face with mandibular shift to the left. In the panoramic radiograph was observed the presence of all permanent teeth, the alveolar defect and a supernumerary tooth in the cleft area. The clinical analysis revealed: crowding in the upper anterior arch, significant extrusion of lower incisors, exaggerated curve of Spee and upper and lower midlines shifted to the left. Furthermore, in centric relation it was observed: anterior bite edge to edge, bilateral posterior open bite, for the right side the molar relation was of ¼ Class III and the canine relation was of Class I and for the left side the molar relation was ½ Class II and the canine relation was 3/4 Class II. It was indicated a compensatory treatment for the skeletal pattern of Class III, associated with alveolar bone graft and extraction of the supernumerary tooth in the cleft region. The obtained results included: relative intrusion of the lower incisors with the aid of an intrusion arch, alignment and leveling of the arches, correction of the midlines shifts, protrusion of the upper incisors, retroinclination of the lower incisors and closure of the posterior open bite. The case was concluded with a canine relation of Class I (in both sides), the molar relation for the left side was of Class I and for the right side of Class III. The treatment was extremely satisfactory, with pleasing aesthetics and occlusion; there were no marked facial changes. Therefore, the proposed objectives and the patient's expectations were achieved.

F008 - Rapid expansion and maxillary protraction in cleft lip and palate

Gabriela Leticia Clavisio SIQUEIRA[1]; Daniela Costa SALZEDAS[1]; Adriano Wilber Azevedo BRUST[1]; Renata SATHLER[1]; Araci Malagodi de ALMEIDA[1]; Gleisieli Carla Petelinkar Baessa CARDOSO[1]; Daniela Gamba GARIB[1,2]; Terumi Okada OZAWA[1]

[1]Orthdontics Department, Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.
[2]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.

The complete unilateral cleft lip and palate (UCLP) patients may present maxillary atresia. One of the alternatives for the treatment of patients classified as Goslon yardstick 3 (G3) and Goslon yardstick 4 (G4) is rapid maxillary expansion (RME) associated with maxillary protraction (MP). The objective this study was to evaluate the effectiveness and stability of RME and MP in UCLP patients. Dentalcasts of 34 patients G3 and G4 treated with RME and MP were evaluated. The dental casts were made before the RME (T1) and immediately after the use of facemask was suspended (T2). In order to verify the stability of the treatment, dental casts of 17 patients were evaluated one year after the treatment was finished (T3). For the control group, dental casts of 20 untreated patients G3 and G4 were evaluated. The dental casts were classified according to Goslon yardstick. The results were: in T2, 85.7% of study group patients initially G3 and 70% of patients initially G4 obtained improvement of occlusal index. In T3, the majority of patients G3 and G4 continued at the same index at the end of treatment. At the final evaluation of control group patients initially classified as G3, 55.6% continued at the initial index and 44.4% worsened the index. In the patients initially G4, 100% continued at the initial index. The conclusion is that the immediate result of RME and MP was satisfactory; however, when assessing the control treatment, it was observed instability or worsening of the results. Even so, the final results of study group were more favorable when compared with control group.

F009 - Oral hygiene procedures in the postoperative period at HRAC/USP

Grazielle Schmitd de ASSIS[1]; Gisele da Silva DALBEN[1]; Renata de Almeida PERNAMBUCO[1]

[1]Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.

Individuals with cleft lip and palate present poorer oral hygiene, higher caries and gingivitis indices and longer period of oral clearance compared to individuals without clefts. Also, because of the need of weight gain for surgeries and also for cultural and psychosocial reasons, children with cleft lip and palate have early and frequent contact with cariogenic foods. The presence of sutures in the lip, alveolar ridge and/or palate, combined with the postoperative edema, may impair the toothbrushing, especially during the first days after surgery. Considering these risk factors, this paper will describe the simplest and most effective toothbrushing techniques that may be used after surgeries for cleft lip and palate rehabilitation. The presentation will describe customized toothbrushing techniques according to the type of surgery, including upper or lower cheiloplasty, columella lengthening, oronasal fistula closure, buccal sulcus deepening, surgical maxillary expansion, alveolar bone graft, orthognathic surgery, distraction osteogenesis and macrostomia correction. Individuals should be encouraged to perform careful oral hygiene after surgeries, using adequate techniques according to the type of surgery. This procedure aims to avoid the accumulation of bacteria on the teeth, oral mucosa and sutures, reduce the malodor and mainly promote the welfare.

F010 - Functional rehabilitation through orthognathic surgery in patients with cleft lip and palate

Mateus José da SILVA[1]; José Carlos da Cunha BASTOS JUNIOR[2]; Claudia Resende LEAL[2]

[1]Bauru School of Dentistry, University of São Paulo.
[2]Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.

Patients with congenital alveolar cleft, often caused by the initial surgeries such as lip and palate closure, present a fibrous scarring in the region of the operated defect, thus making this scar a mechanical obstacle to normal development of the maxilla, which is aggravated by the bone defect in the region of the cleft. The great majority of patients with congenital alveolar cleft present an Angle class 3 skeletal developmental pattern, due to poor maxillary development, and not to the exacerbated growth of the mandible. The dental surgeon plays a key role in the rehabilitation of the patient with congenital alveolar cleft. Besides the challenge of the esthetic rehabilitation, another huge obstacle is to functionally rehabilitate this patient; mainly the re-establishment of satisfactory occlusion should be achieved. The maxillomandibular discrepancy results in the presence of a negative horizontal overpass, where compensatory orthodontic treatments are often not effective for the correction of malocclusion, thus the role of the orthognathic surgery is to obtain the repositioning

of the maxillary and mandibular segments so that the patient achieves an acceptable occlusion. The clinical case reported here presents the treatment evolution of a patient with unilateral alveolar cleft, 23 years of age, male, whose negative horizontal overpass was greater than the acceptable limits of orthodontic movement for the accomplishment of compensatory orthodontics. Thus, it was decided to perform the orthodontic preparation to later perform the orthognathic surgery. Surgery was performed, advancing the maxilla and retracting the mandible, after a detailed planning of the case. There was then a perfect fit of the segments, thus establishing a satisfactory occlusion in the patient. Regular follow-ups were done with the patients, and after the discharge of the diet, a great stability was verified, besides a huge patient's satisfaction, both esthetic and functional.

F011 - Differentiated anchorage for unilateral maxillary expansion in UCLP

Ingrid Ivanna Huayta AGUIRRE[1]; Adriano Porto PEIXOTO[1]; Thaís Lucarelo LAMONATO[1]; Demi Lisbôa Dahás JORGE[1]; Rogerio Almeida PENHAVEL[1]; Tiago Turri de Castro RIBEIRO[1]

[1]Department of Orthodontics, Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.

Patients with unilateral complete cleft lip and palate (UCLP) submitted to closure of the lip and palate surgery present maxillary dental arch constriction as a remarkable characteristic throughout the development, often more pronounced on the smaller segment (cleft). The rapid maxillary expansion in these patients, prior to the alveolar bone graft, has the function to return the maxilla to an optimal shape. However, in order to obtain an adequate expansion of the contracted side, frequently there is an overcorrection of the opposite side, increasing considerably period of treatment with the inherent risks and costs. It will be described a differential anchoring technique intended to reduce the overcorrection side effect of the largest segment (not cleft) and enhance the expansive effect on the smaller side instead. Patient AG, 12 years old, right UCLP, operated lip and palate at 3rd and 12th month respectively, tooth agenesis of right maxillary lateral incisor, maxillary transverse contraction, unilateral crossbite on the right side and top relation in the left side, considerable upper midline deviation to the right, poor overbite. Complete sagittal molar relationship CLII on the right side and ½ CLII by the left side. Left maxillary lateral incisor was extracted and upper fixed device was installed without inclusion of left maxillary premolars and canine. The sequence of arcs continued until leveling 019"x.0,25" steel. At this stage, a expander "Butterfly expander" was installed. The left side leveling arch was segmented from distal of left maxillary central incisor to distal of right maxillary first molar. The device was activated 8 mm and the smaller side was expanded up to the correction of transverse relation. The anchorage side (largest segment) suffered no side effects. Anchoring proposal was efficient to enhance the desired effects, minimize side effects and optimize this stage of the long rehabilitation process of patients with lip and palate cleft.

F012 - Use of foraminal locator in the difficulty of apical view

Isabella Graziani Jorge OLIVEIRA[1]; Tulio Lorenzo Olano DEXTRE[1]; José Francisco Mateo CASTILLO[1]; Lidiane de Castro PINTO[1]; Celso Kenji NISHIYAMA[1]; Lucimara Teixeira das NEVES[1]

[1]Department of Endodontics, Hospital for Rehabilitation Craniofacial Anomalies, University of São Paulo.

Rehabilitation of patients with cleft lip and palate involves lip or palate surgery and occasionally orthognathic surgery (6 to 48%). Those cases frequently require endodontic treatment prior to prosthetic rehabilitation. In order to succeed, it is essential to have a correct odontometry during root canal therapy. Odontometry determines the extension and conformation of root canals, enabling adequate disinfection of the zone, apart from ensuring the integrity of periapical tissues. Traditional odontometry lies on radiographic methods, which present difficulties when analyzing overlapping and distorted images, resulting in interpretation failures and compromising the whole treatment. Have into consideration a clinical case; the project scope is to clarify the importance of electronic foramen locator when the radiographic analysis is compromised by the presence of plaques and metal screws due to previous orthognathic surgery. Individual regularly enrolled at HRAC/USP, with cleft lip and palate, was subjected to radical endodontic treatment of tooth 16 (pulp necrosis) and presented metal structures due to previous orthognathic surgery, hampering analysis through radiographic methods. In order to enable proper treatment, electronic foramen locator was used to obtain correct working length. After this, we performed biomechanical preparation of root canals and intracanal medication placement for 30 days. Then gutta-percha and endodontic sealer Ah Plus where used, followed by 6 months of preservation. In summary, the electronic foramen locator support appears to be imperative when the radiographic method is inconclusive, once it helps to find the correct apical foramen location and it favors the prognosis.

F013 - Cleft lip and palate and peculiarities during endodontic therapy

Jayne Barbosa dos SANTOS[1]; Jose Francisco Mateo CASTILLO[1]; Tulio Lorenzo Olano DEXTRE[1]; Lucimara Teixeira das NEVES[2]; Celso Kenji NISHIYAMA[1]; Lidiane de Castro PINTO[1]

[1]Área of Endodontics, Dental Sector, Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.
[2]Department of Biological Sciences, Bauru School of Dentistry and Postgraduate Program of the Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.

Cleft lip and palate are defects due to interference in embryonic development and in these individuals is often observed higher incidence of dental anomalies, particularly in the teeth adjacent to the area of the cleft. The objective of this work is to present a case through the peculiarities of endodontic treatment in patients with cleft lip and palate, compared to the presence of dental anomalies Endodontic therapy was performed in the individual tooth 21 of a female patient, 17 years old, with bilateral cleft lip and palate, registered at HRAC/USP. After the completion of the cold sensitivity test and cavity test with negative responses confirming the necrotic condition of the pulp, the therapy of choice was

the radical endodontic treatment. Clinically, there was little remaining dental radiographic examination and it was found pulp calculating the coronal portion, tearing the apical and the presence of the tooth 23 included, located on the lingual tooth 21. After anesthesia coronary opening was performed, absolute isolation together the tooth 11 with gingival barrier on the palate and sealing with cyanoacrylate the proximal walls. The root canal was located only after removal of the pulp and calculation performed biomechanical preparation (of Oregon modified technique) and irrigation with sodium hypochlorite 2.5%. Given the length (22 mm), it was made the apical stop (LK35), backward scheduling (LK60), intracanal medication with Calen PMCC and temporary sealing with glass ionomer cement. After 30 days, it was closed off by the canal lateral condensation technique with AH Plus. At 6 month-follow-up, it was observed the tooth restored, asymptomatic and aspects of normality; assuming successful treatment. Thus, it is seen that the endodontic treatment of complex cases even when made following the biological and technical principles, provides functional rehabilitation and treatment success.

F014 - Three-dimensional position of implants in patients with cleft

Maria Giulia Rezende PUCCIARELLI[1]; Adolfo Coelho de Oliveira LOPES[2]; Simone SOARES[2]; José Fernando Scarelli LOPES[1]

[1]Department of Prosthodontics, Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.
[1]Department of Prosthodontics, Bauru School of Dentistry, University of São Paulo.

The professionals involved in multidisciplinary treatment of patients with cleft lip and palate are constantly challenged to indicate implants can generate intangible expectations in patients. The aim of this study was to from a search on search platforms PubMed and LILACS, establish parameters, list the three-dimensional position of the implants in the area of the cleft and create a GUIDE for indication of this treatment modality for patients with this craniofacial anomaly. This relation was studied and to obtain favorable outcome sought in the literature evaluated normative values that allow health in peri-implant region and especially the formation of papillae in the proximal regions involved, which determines the aesthetically succeeded. The three-dimensional position of the implants, already well known and studied, involves the apical-coronal planes, mesiodistal and buccolingual. The region, committed by the cleft, is a bone deficiency area and requires prior assessment and precise and careful to perform the prosthetic rehabilitation with implants. Based on the literature review, clinical cases were presented showing the rehabilitation with prosthesis on implants in the cleft region, respecting the proper three-dimensional position and following the proposed guide. It was concluded that the distance between the point of contact and the bone crest must be ≤5 mm, so there papilla formation; the distance between adjacent crowns of the teeth should be on average 6 to 7 mm; and the distance between the roots of the teeth adjacent to the implant should be 1.5 to 2 mm. Following the guide suggested is possible to achieve aesthetic and functional satisfactory results.

F015 - Alveolar graft using rhBMP-2: a case report

Mariana Vieira PASKAKULIS[1]; José Carlos da Cunha BASTOS JUNIOR[1]; Claudia Resende LEAL[1]

[1]Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.

Cleft lip and palate are congenital malformations that affect the humans with a relatively high frequency, compromising the affected subject aesthetic, functionally and psychologically, what makes the rehabilitation treatment very embracing. As some clefts have a discontinuity of the bone tissue, they must be repaired using alveolar grafts with the intention of stabilization of the maxillar arch, closure of oronasal fistulas, provide support to the alar base, dental irruption and orthodontic movement execution and improve the nasal symmetry. Nowadays, the graft procedure considered the golden standard is the autogenous bone graft, ideally from the iliac crest, the actual protocol of the Craniofacial Anomalies Rehabilitation Hospital of the University of São Paulo (HRAC-USP). However, there is morbidity related to its harvesting, what motivates the search for alternative materials. One of them is the recombinant human bone morphogenetic protein 2 (rhBMP-2), which has the property of induction of bone formation. Thereby, the aim of this paper is report a case of alveolar graft surgery performed with rhBMP-2. The surgical technique to preparing the receptor site is the same performed for the iliac crest graft and the preparation of the material is performed according to the manufacturer's instructions. It presents advantages like: absence of donor area, less surgical morbidity, and shorter hospitalization period. Other characteristics observed are exacerbated postoperative edema and few pain symptomatology. The rhBMP-2 has been shown effective when compared to autogenous iliac crest bone graft and, although it is a relatively new material, it seems to be a viable alternative for its substitution.

F016 - Hyperplastic dental anomalies in people with cleft lip and palate

Mariela PERALTA-MAMANI[1]; Angel TERRERO-PÉREZ[1]; Izabel Maria Marcho de CARVALHO[1]; Carlos Alberto Carvalho PIRES[1]; Bruna Stuchi CENTURION[1]; Otávio PAGIN[1]

[1]Oral Diagnosis Section, Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.

Cleft lip and palate is one of the most frequent congenital anomalies in humans, with a relation of 1:700 live births individuals. Generally, when the cleft involves the alveolar ridge can be found dental anomalies, especially in teeth close to the alveolar cleft area and may be featured as hyperplastic, hypoplastic or heterotopic, where its expression appears to be correlated with the cleft severity. Thus, the aim of this study is to describe hyperplastic dental anomalies by the comparison between exams of digital panoramic radiographs and computed tomography cone beam (CBCT) in cleft lip and palate individuals. This study was conducted in thirty individuals of different ages and both sexes, with complete bilateral cleft lip and palate nonsyndromic, who were referred to the Oral Diagnosis Section at the Hospital for Rehabilitation of Craniofacial Anomalies-USP for CBCT scanning for various purposes, the most common orthognathic surgery. Were evaluated 760 teeth in total, it was found 43 teeth (5.66%) in the digital panoramic radiograph and 108 teeth (14.21%) that

showed this condition by CBCT. According to the Z test was no significant difference between examinations in cases of taurodontism, pulp nodule and pulpal sclerosis. The degree of concordance reached between the two types of exams for different conditions was: hypercementosis (86.67%), taurodontism (63.33%), fusion of roots (80%), pulp nodules (36.67%), pulpal sclerosis (63.33%), pulp calcification (83.33%) and supernumerary root (96.67%). Therefore, this study provides information in order to improve the diagnosis of hyperplastic dental anomalies through imaging exams that are very important for the planning of cases during the rehabilitation process of these individuals.

F017 - Effects of maxillary expansion on lower arch of patients with clefts

Olga Benário Vieira MARANHÃO[1]; Vivian Helena de ASSIS[1]; Arthur César de Medeiros ALVES[2]; Louise Resti CALIL[2]; Daniela Gamba GARIB[2]

[1]Division of Dentistry, Department of Orthodontics, Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.
[2]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.

The aim of this study was to evaluate and compare the mandibular dental arch changes after slow and rapid maxillary expansions in patients with complete bilateral cleft lip and palate (CBCLP). A sample of 46 patients with CBCLP was divided into two study groups. One group was submitted to rapid maxillary expansion using Hyrax (n=21) and the other one underwent slow maxillary expansion using Quad-helix (n=25). Digital dental models of mandibular dental arch were obtained for each patient at two different times, T1, immediately pre-expansion, and, T2, six months post-expansion, at the period of appliance removal. Orthoanalyzer® software was used to measure the transverse dimensions, the arch length and the arch perimeter. Intergroup and interphase comparisons were performed using Student's t-test and paired t-test, respectively. The results showed that the slow maxillary expansion group had a significant increase in the inter-first permanent molars distance, while a significant increase was observed in the inter-second deciduous molars distance for the rapid maxillary expansion group. The arch length and the arch perimeter remained stable in both groups. In conclusion, clinically insignificant spontaneous changes were observed on the posterior region of mandibular dental arch of patients with complete bilateral cleft lip and palate, six months after either rapid or slow maxillary expansion. This finding suggests necessity of orthodontic intervention on constricted and crowded mandibular dental arch, even after slow or rapid maxillary expansion.

F018 - Facial profile evaluation in patients with Richieri-Costa-Pereira Syndrome

Rayane de Oliveira PINTO[1]; Terumi Okada OZAWA[1]; Ary dos Santos PINTO[2], Tiago Turri de Castro RIBEIRO[1]; Adriano Porto PEIXOTO[1]

[1]Department of Orthodontics, Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.
[2]Department of Orthodontics, Araraquara Dental Shcool, Univ. Estadual Paulista.

The aim of this paper is to describe the cephalometric characteristics of individuals with Richieri-Costa-Pereira Syndrome (RCPS), compared with a control Class I group of patients, matched for gender and age. The RCPS is a rare autosomal recessive disorder that primarily affects the face, axial skeleton, and larynx. The main clinical signs are short stature, mandibular cleft and limb anomalies, and Robin sequence (RS), which comprises a triad of retrognathia, glossoptosis, and cleft palate. Respiratory and feeding problems are frequent in the neonatal period, mainly caused by the micrognathia and glossoptosis. Thus, several protocols for early treatment have been suggested, based on the severity of respiratory problems, including postural treatment, nasopharyngeal intubation, glossopexy, distraction osteogenesis, and tracheostomy. The functional disorders, especially respiratory problems, are progressively improved with age as a consequence of mandibular growth, which increases the size of the airway, even though the mandible remains reduced. In addition to the aforementioned clinical signs, individuals may exhibit alterations in the head and neck (retromicrognathia, low-set and prominent ears, prominent nose, microstomia, high-arched palate, cleft palate, bifid uvula, cleft mandibular alveolus, congenitally missing mandibular central incisors, and hypoplastic mandible).

F019 - Implant/orthognatic surgery interrelationship in cleft patients

Victor Fabrizio Cabrera PAZMINO[1]; José Fernando Scarelli LOPES[1]; Monica Moraes Waldemarin LOPES[1]; João Henrique Nogueira PINTO[1]; Simone SOARES[1,2]

[1]Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.
[2]Department of Prosthodontics, Bauru School of Dentistry, University of São Paulo.

A 43-year-old woman with a unilateral cleft lip and palate, presenting a totally edentulous maxilla and mandible with marked maxillomandibular discrepancy, attended the Prosthodontics section of the Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo for treatment. She could not close her mouth and was dissatisfied with her complete dentures. Treatment planning comprised placement of six implants in the maxilla, four in the mandible followed by prostheses installation and orthognathic surgery. The mandibular full arch prosthesis guided the occlusion for orthognathic positioning of the maxilla. The maxillary complete prosthesis was designed to assist the orthognathic surgery with a provisional prosthesis (no metal framework), allowing reverse treatment planning. Maxillary and mandibular realignment was performed. Three months later, a relapse in the position of the maxilla was observed, which was offset with a new maxillary prosthesis. The treatment has enabled patients to perform the basic functions of mastication and phonation and mostly allowed

their social inclusion, bringing psychic benefits.

F020 - Apical plug with MTA in tooth root laceration and a large foramen

Thamires Campos GOMES[1]; José Francisco MATEO-CASTILHO[1]; Tulio Lorenzo OLANO-DEXTRE[1]; Lidiane de Castro PINTO[1]; Lucimara Teixeira das NEVES[2]; Celso Kenji NISHIYAMA[1]

[1]Endodontics Area, Dental Sector, Rehabilitation of Craniofacial Anomalies Hospital, University of São Paulo.
[2]Department of Biological Sciences, Bauru School of Dentistry and Postgraduate Program of the Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.

The teeth adjacent to the cleft in individuals with cleft lip and palate have a higher incidence of dental anomalies, especially root lacerations that interfere with endodontic therapy. Aim: To report, step by step, the endodontic treatment in a tooth with large apical foramen and root laceration, using the MTA plug. Case Report: individual male, 16 years old, with bilateral cleft lip and palate, registered at HRAC/USP, indicated for review of the tooth 21, adjacent to the cleft. A radical endodontic treatment was planned, since the answer to the sensitivity test was negative. Radiographically, there was no bone thinning, but it was detected root laceration in the apical portion and wide apical foramen. It was performed coronary opening, absolute isolation, mechanical preparation (Telescoping Technique) with Milton solution irrigation and odontometry (23.5 mm). The apical stop was established with Lima K80, considering the impossibility higher magnification for the presence of disruption and scaling concluded with the Lima K120. Intracanal medication (Calen PMCC) and then temporary sealing glass ionomer cement were inserted. After 58 days, the tooth was found with no suspicious signs and symptoms, dry canal and odorless; the preparation of the apical plug with MTA was carried on and filling with the technique of lateral condensation and AH Plus. Clinical controls by radiographic exams performed at 6 months, 1 and 2 years reported bone integrity and absence of symptoms, demonstrating that the endodontic conduit implemented in the teeth adjacent to the cleft area requires precautions and the use of the buffer with MTA allows the shutter within the limits biological inducing apical and periapical repair after endodontic treatment and enabling the tooth functionality.

E001 - Endodontic and surgical approach for the treatment of radicular cyst

Aline Martins Licheski do BOMFIM[1]; Carolina Ferrairo DANIELETTO[2]; João Matheus Scherbaum EIDT[2]; Liogi IWAKI FILHO[2]; Nair Narumi Orita PAVAN[3]; Angelo Jose PAVAN[2]; Andressa Gimenes NAREZI[1]; Marcos Sergio ENDO[3]

[1]Department of Dentistry, State University of Maringá.
[2]Area of Maxillo-Facial Tramautology and Surgery, Department of Dentistry, State University of Maringá.
[3]Area of Endodontics, Department of Dentistry, State University of Maringá.

The radicular cyst is considered an inflammatory lesion, whose pathogenesis is the infection of the root canal, progressing to pulp necrosis and the formation of a chronic periapex lesion. This inflammatory stimulation from infectious content contributes to the proliferation of epithelial cells. In cases of extensive lesions, treatment of radicular cysts includes an association between conservative endodontic approach to surgery. The purpose of this case report is to describe the stages of diagnosis, treatment and follow on a condition of radicular cyst large extent, in the anterior maxilla. The patient attended the Dental Clinic, and the patient was asymptomatic, with facial asymmetry and swelling in the investigated region. Radiographically it was well-defined radiolucent image surrounding the apexes of the teeth 21, 22, 23 and 24. After obtaining a diagnosis by clinical, radiographic and tomographic, treatment plan consisted primarily of endodontic retreatment session only tooth 21 using mechanized systems (Mtwo) and irrigation with 2% chlorhexidine gel associated with saline. Then marsupialization surgical procedure was performed in order to reduce the intracystic pressure, and therefore the size of the lesion. In follow-up after 30, 60 and 210 days, there was a reduction of the cyst, the patient is asymptomatic and there was no sign of recurrence. After eight months, enucleation and bovine bone graft were performed. It concluded that endodontic retreatment, marsupialization and enucleation showed how effective treatment methods in the removal of the radicular cyst, promoting bone repair.

E002 - Apigenin and tt-farnesol: bactericidal action on Enterococcus faecalis

Dâmilie Catharine Monteiro GARDIM[1]; Jefferson José de Carvalho MARION[2]; Alessandro Diogo DE-CARLI[3]; Diego Luiz SORGATTO[1]; Rafael Aiello BONFIM[3]; Paulo Zárate PEREIRA[3]; Thais Mageste DUQUE[4]; Danilo Mathias Zanello GUERISOLI[2]

[1]School of Dentistry, Federal University of Mato Grosso do Sul.
[2]Department of Endodontics, School of Dentistry, Federal University of Mato Grosso do Sul.
[3]Department of Public Health, School of Dentistry, Federal University of Mato Grosso do Sul.
[4]Department of Restorative Dentistry, Piracicaba Dental School, University of Campinas.

In endodontics, the effective disinfection of the root canal system is still one of the most important stages of treatment. Some microorganisms, including the *Enterococcus faecalis* (EF), are resistant to disinfectants and intracanal medications. The tt-farnesol and apigenin are bioactive compounds found in propolis, which are attributed to them antimicrobial, antifungal and antioxidant effectiveness. The objective of the present study was to evaluate *in vitro* the minimum bactericidal concentrations (MBC) antibacterial action of tt-farnesol and apigenin *Enterococcus faecalis* strains (EF). The antibacterial activity was realized in triplicate using 96-well plates. Serial diluting was performed so that the concentration was in the range of 1400 and 5,4 µg/ml for the tt-farnesol and 1750 and 60 µg/ml for the apigenin. The solvent was composed by dimethylsulfoxide (DMSO), 90% alcohol and distilled water. After the substance tested dilutions, *Enterococus faecalis* strains were added at 10^5 CFU/ml concentration and measured by the spectrophotometer absorbance at 660 nm. After 48 hours, aliquots from each well were plated in petri dishes containing BHI agar. Bacterial growth was observed by counting the colony forming units (CFU) and MBC was defined as the lowest concentration of apigenin and tt-farnesol that prevented visible growth in culture medium. In the results of the tested substances, only the tt-farnesol, from the concentration of 350 µg/ml, had significant antibacterial activity against *Enterococcus faecalis*, causing 99.9% of the elimination of these bacteria. However, apigenin did not inhibit the growth and proliferation of a microorganism in any of the dilutions made. In conclusion, the results showed that the tt-farnesol was effective in reducing Enterococcus faecalis on MBC of 350 µg/mL (0.035 mg/mL), while apigenin showed no antibacterial action against tested microorganisms.

E003 - Dental avulsion: a decade of clinical and imaging control

Gláucia Beatriz GONÇALVES[1]; Aline Lie ISHIDA[1]; Marcos Sergio ENDO[1]; Renata Hernandes TORIN[1]; Lilian Cristina Vessoni IWAKI[1]; Izabela Volpato MARQUES[1]; Nair Narumi Orita PAVAN[1]

[1]Department of Dentistry, State University of Maringá.

Recently the dentoalveolar injury prevalence has increased and could be larger than the incidence of caries and periodontal disease, which have prevention measures. Thus, in some countries all these injuries may present as a public health problem. Among the injuries, dental avulsion is considered one of the most serious, because is the total tooth displacement out of alveolus causing disruption of the gingival epithelium, damage to the periodontal ligament, cementum injury and alveolar bone, as well as damage to the pulp dental. Therefore, the aim of this study is to report a case of dental avulsion with clinical and image control, with 13 years of image, and analyze the clinical approach adopted, comparing it to the treatments described in the literature. In 2003, male patient, 11, suffered tooth avulsion 11 after being hit by a car, was treated at the hospital where the tooth was reimplanted. We referred the patient to the emergency in the dental clinic of UEM, where was splinted, after was to the C.E.M.Trau-Odonto UEM project, at the sensitivity test was diagnosed pulp necrosis. Therefore, we did the endodontic treatment in the 11 tooth, was used intracanal medication to $Ca(OH)_2$ and channel shutter. Currently, the clinical examination the tooth presents asymptomatic while using computed tomography scans that root has resorption in the apical third. Concluded that the traumatized tooth has a function without mobility along with a control period, and this demonstrated the importance of a correct clinical approach.

E004 - Treatment of periapical cyst through intracanal medication

Gustavo Barteli ESTEVES[1]; Fernanda Campos CANCELLI[1]; Larissa Alencar de OLIVEIRA[1]; Carla Thaís Rosada PERUCHI[1]; Márcia Esmeralda Bis Franzoni ARRUDA[1]; Thais Mageste DUQUE[1]

[1]Faculty Ingá - Uningá.

Chronic periapical cyst is an injury resulting from a tooth with necrotic pulp. The exact manner of their formation is still unknown, and the stimulation of remaining localized epithelial cells in the periapex is one of the factors. The then endodontic therapy proservation is a treatment option for the cysts. However, surgical treatments can also be performed. In this case report, male patient sought asymptomatic sought routine dental care and was radiographically detected the presence of extensive circumscribed apical periodontitis. Thus, it was held 2 intracanal medication switching calcium hydroxide base associated with propylene glycol. At the 1-year follow-up it was observed evolution of repair with bone formation in the periapical region and decrease in the diameter of the lesion. The diagnosis was chronic periapical cyst. The proposed conventional endodontic treatment was medically exchange intra channel calcium hydroxide base associated with propylene glycol. In proservation 1 year was observed evolution of repair with bone formation in the periapical region and decrease in the diameter of the lesion. So we can conclude that the approach recommended conservatively through endodontic treatment was adopted as a first option, in order to preserve the tooth involved. Success in treatment of periapical cysts large extent can be achieved through a correct and thorough diagnosis and treatment planning. In addition, the endodontic treatment of cysts by intracanal medication switching, it is an option that favors the repair.

E005 - Patency and foraminal expansion: morphological evaluation by SEM

Izabela Volpato MARQUES[1]; Nair Narumi Orita PAVAN[1]; Frederico Canato MARTINHO[2]; Vivian Sayuri KITAYAMA[1]; Carlos Alberto Herrero de MORAIS[1]; Marcos Sergio ENDO[1]

[1]Department of Dentistry, State University of Maringá.
[2]Department of Restorative Dentistry, State University of São Paulo.

The aim was to evaluate the morphology of the apical foramen, after root canals instrumentation, comparing manual and rotary techniques, both with patency and foramen enlargement. Selected 20 single rooted premolars that were divided in manual (n=10) and rotary (n=10). Initially, the images of foramen were obtained by scanning electron microscopy (SEM x50, 15 kv). Both groups had the cervical third pre-enlarged. Then, was performed the apical patency, and it were registered the anatomical initial file (AIF) and real work length each tooth. During apical preparation in group 1 (G1), it was employed manual technique to the limit of the apical foramen and the final file was equivalent to four files above the AIF. In group 2 (G2) were using the rotary system Easy Endo Slim® with the sequence of Pro Design® files: 20.03, 15.05, 22.04, 25.04, 20.06 and 20.07, instrumented 1 mm beyond the apex. The final file was recorded using manual files. After preparation, the apical area of the samples was analyzed in SEM, in order to assess alterations in foramen configuration. Then, these images were visualized in the software Image Manager (Leica IM50) in order to measure the area of the foramen. Results shown that in G1, the average of the areas were 0.069 mm², and 0.186 mm², before and after the instrumentation respectively. G2 samples showed an area of 0.061 mm², and 0.17 mm², before and after respectively. For both groups, there was statistical difference in foramen area before and after preparation (Wilcoxon test, p=0.005). No statistical difference was observed when comparing the results of post-instrumentation in G1 and G2 (Independent t-Student test, p=0.31). Most of cases showed regular foramen enlargement after both groups, however, there were changes in the morphology of the apical foramen comparing manual and rotary instrumentation.

E006 - Evaluation of techniques for confection of apical plug with Portland cement

Leandro Henrique Galeti LIMA[1]; Alfredo Franco QUEIROZ[1]; Kelly Rodrigues da SILVA[1]; Carlos Alberto Herrero de MORAIS[1]; Nair Narumi Orita PAVAN[1]; Marcos Sergio ENDO[1]

[1]Department of Dentistry, State University of Maringá.

Teeth with open apex make difficult the biomechanical preparation and the creation of an adequate apical stop. One alternative is to induce apexification seal the open apical foramen with an apical plug. Different techniques can be taken for insertion and condensation of this material. The objective of this study was to evaluate radiographically the making of the apical plug by means of different techniques of insertion of Portland cement (PC). Forty single rooted premolars extracted, instrumented and enlarged coronary and apical to the K file #140 were used. The teeth were divided into 4 groups of 10 specimens each, according to the technique of insertion of the cement for making the apical plug: Group I gutta-percha cone, Group II MTA applicator, Group III Lentulo drill and Group IV system of large bore needle. The quality of radiographic filling of the apical plug made with PC and inserted with different techniques was analyzed. Data were tabulated and subjected to nonparametric statistical tests (Kruskal Wallis) with individual comparisons between groups (Student Newman Keuls) ($p<0.05$). Group I had the highest success rate (80%) compared to other groups, but only statistically significant difference when compared to Group IV. No significant difference between the other groups. The technique of insertion of the cement with the gutta-percha cone was superior to the technique with the needle system and has a tendency to be better than other techniques.

E007 - Internal and external resorption: diagnosis, treatment and follow-up

Siliani de ALBUQUERQUE[1]; Camila Stadinisk GONÇALVES[1]; Carlos Alberto Herrero de MORAIS[1]; Frederico Canato MARTINHO[2]; Nair Narumi Orita PAVAN[1]; Marcos Sérgio ENDO[1]

[1]Department of Dentistry, State University of Maringá.
[2]Department of Restorative Dentistry, São José dos Campos Dental School, Univ. Estadual Paulista.

Inflammatory resorption may be associated with dental infection and/or trauma and, if left untreated it can cause irreversible damage to both the internal and external surface of the dental root. The aim of this study was to discuss, through a review of the literature, the

clinical and therapeutic of characteristics of internal and external resorption as well as presenting two illustrative case of 24-month follow-up. A patient 67 years, male, complained about palpation pain in the periapical region of tooth 11. The radiographic examination showed the presence of apical periodontitis (11), and a diagnosis of internal resorption in tooth 21. The confirmation of the external and internal resorption was made by cone - beam computed tomography since the diagnosis is difficult by conventional radiography examination alone. Endodontic treatment was performed in both teeth according to their specificities. Postoperative control (3, 6, 12, 18 and, 24-month) of the teeth showed no signs of symptoms. Periapical repair occurred in element (11) and the internal resorption (21) was stopped. Both pathological conditions of root resorption, internal and external, in the same patient, were repaired due to endodontic treatment. The periapical healing (11) and internal stabilization of resorption (21) was confirmed by periapical radiographs. After 24 months, the teeth showed no painful symptoms and functioned properly. Therefore an accurate and early diagnosis of internal and external resorption process is very important and the cone-beam computed tomography was an important ally in identifying the extension and location.

E008 - Morphometric analysis of gingival epithelium after cyanoacrylate use

Thais Caroline TINO[1]; Alfredo Franco QUEIROZ[1]; Maria Raquel Marçal NATALI[2]; Frederico Canato MARTINHO[3]; Nair Narumi Orita PAVAN[1]; Marcos Sergio ENDO[1]

[1]Department of Dentistry, State University of Maringá.
[2]Department of Basic Morphological Sciences, State University of Maringá.
[3]Department of Restorative Dentistry, School of Dentistry of São José dos Campos, State University Paulista.

Considering the informal use of ethyl-cyanoacrylate (Super Bonder®) in Dentistry as auxiliary rubber dam isolation, the aim of this study was to investigate possible tissue alterations caused by this adhesive on the attached gingiva simulating real working times during endodontic sessions. Ethyl-cyanoacrylate gel was applied on the edge of the rubber dam, fixing it on the attached gingiva of dogs. Different exposure periods to the adhesive were tested at four quadrants (1, 1.5 and 2 hours), other than the control group. The gingiva covered by the ethyl-cyanoacrylate was incised and fixed in Bouin solution. Fragments were histologically processed in order to obtain slices of 5 µm, died with Hematoxilin-Eosin. Morphometric analysis was carried out by measuring the epithelium of the attached gingiva in 560 samples. Data were submitted to factorial analysis of variance (ANOVA) and Tukey test (α = 5%). The morphologic pattern of the gingiva, free of inflammation, was maintained in all groups, although the epithelium exposed to ethyl-cyanoacrylate for 2 hours was significantly thicker (44.000±16.23) than the control group (36.389±16.33), and the groups exposed for 1 hour (25.863±8.45) and 1.5 hours (38.075±14.88). It was concluded that these different averages from the thickness of the epithelium obtained after application of adhesive, no alterations were observed on the morphological pattern of samples.

E009 - Influence of endodontic treatment on chronic periodontal disease

Dâmilie Catharine Monteiro GARDIM[1]; Jefferson José de Carvalho MARION[2]; Thais Mageste DUQUE[3]; Danilo Mathias Zanello GUERISOLI[2]; Brenda Paula Figueiredo de Almeida GOMES[3]

[1]School of Dentistry, Federal University of Mato Grosso do Sul.
[2]Department of Endodontics, School of Dentistry, Federal University of Mato Grosso do Sul.
[3]Department of Restorative Dentistry, Piracicaba Dental School, University of Campinas.

The pulp and the periodontal are two structures anatomically distinct, however functionally interrelated, and lateral canals, dentinal tubules and apical foramen the most common means of communication between these two tissues. Changes in the pulp can cause periodontal changes. However, there is less agreement that the opposite occurs. The aim of this study was to report the interrelation between clinical periodontal and endodontic disease and show that the combination of the two process can promote repair. A patient aged 31 years, sought endodontic treatment for periodontal indications. She was under periodontal therapy more than 1 year, and even then, the tooth 36 showed no improvement in clinical periodontal parameters, with grade 3 mobility and probing depth of 10 mm. In the pulp-sensitized test, the response was positive and the patient reported continuous intense sensitivity. Endodontic treatment was performed and the patient remained under periodontal maintenance therapy. After 1 year, the patient had not painful and there was improvement in probing depth (8 mm) and mobility (grade 1). Thus, we suggest that the endodontic treatment may influence the outcome of periodontal therapy in teeth with periodontal involvement and pulp sensitivity when both therapies are associated.

E010-Dental replantation after avulsion: case report.

Fernanda Campos CANCELLI[1]; Gustavo Barteli ESTEVES[1]; Larissa Alencar de OLIVEIRA[1]; Carla Thais Rosada PERUCHI[1]; Márcia Esmeralda Bis Franzoni ARRUDA[1]; Thais Mageste DUQUE[1]

[1]Faculty Ingá, Uningá.

The dental trauma can cause a major impact on quality of life, not only in physical appearance but also in the emotional and psychological aspect of adults and children, with the etiology of accidents, physical aggression and extreme sports. This study aims to present through a case, the importance of diagnosis and treatment of an avulsed permanent tooth. The patient sought endodontic treatment after a trauma and total displacement of the incisors out of the socket. During the consultation, the tooth was replanted and conventional endodontic treatment was performed by exchanging P.A. Calcium Hydroxide paste After 30 days, the patient returned asymptomatic and without any visible change clinically or radiographically. We conclude that: The amount of time that the tooth stays out of the socket; the type of storage; time for endodontic therapy and intracanal medication are important factors in the success of dental reimplantation.

E011 - Irrigating solutions in the pulp revascularization

Gláucia Beatriz GONÇALVES[1], Marcos Sergio ENDO[1], Letícia Citelli CONTI[1], Izabela Volpato MARQUES[1], Nair Narumi Orita PAVAN[1]

[1]Department of Dentistry, State University of Maringá.

The conventional endodontic procedures for teeth with pulp necrosis and incomplete root formation is apexification or the making of an MTA apical plug, however undesirable consequences may arise through these methods, endangering the longevity of the dental element. Recently the pulp revascularization has emerged as a promising alternative treatment in which promotes apical closure, completion of root development and new formation of tissue inside the root canal. In this treatment type, the use of mechanical instrumentation should be minimum or discarded, making decontamination by chemicals, the primary step. Thus, the purpose of this literature review was to address what irrigating solutions that are being used in passive decontamination, and its properties and clinical implications. The irrigating solutions used have shown favorable results. But so far many researches and case reports have been described with various proposals for protocols, using different irrigating solutions in various concentrations. However, there is an established protocol and considered ideal toward which irrigator has all the favorable characteristics. Based on this review, it is concluded that the most used irrigating solutions is sodium hypochlorite and chlorhexidine, however, further studies are needed to clarify uncertainties, to acquire a better knowledge of the effects generated by irrigators and finally standardize the best protocol and the best irrigating solution for pulp revascularization.

E012 - Periodontal repair evaluation after endodontic therapy

Gustavo Barteli ESTEVES[1]; Larissa Alencar de OLIVEIRA[1]; Fernanda Campos CANCELLI[1]; Carla Thaís Rosada PERUCHI[1]; Márcia Esmeralda Bis Franzoni ARRUDA[1]; Thais Mageste DUQUE[1]

[1]Faculty Ingá – Uningá.

Lateral canals, dentinal tubules and root apex represent the communication between the pulp and periodontium. They create easy access between the two tissues, thus allowing the passage of bacteria and by-products from one tissue to another. Pulpal changes can cause periodontal changes. However, a contrary situation is not yet fully understood. The aim of this study was to report a case showing the possible interrelationship between the pulp and periodontal disease. Also show that some root canal treatments can be performed by periodontal. A patient sought endodontic treatment after periodontal indication. She was in periodontal therapy for more than 1 year, and even then, the tooth showed no improvement in clinical periodontal parameters, presenting mobility grade 3 and 9 mm probe depth. In the pulp sensitivity test, the response was continuous positive and the patient reported intense sensitivity. The patient accomplished the endodontic treatment, and then she remained in a periodontal maintenance therapy. After 1 year, the patient had no pain symptoms and an improvement in probing depth (7 mm) and mobility (grade 1). Thus, we suggest that the endodontic treatment can influence the outcome of periodontal therapy in teeth with periodontal involvement and positive pulp response when both therapies are associated. Thus, it is a complementary approach of periodontal therapy.

E013 - Reintervention: isolated bacteria and their antibiotic susceptibility

Izabela Volpato MARQUES[1]; Nair Narumi Orita PAVAN[1]; Frederico Canato MARTINHO[2]; Brenda Paula Figueiredo de Almeida GOMES[3]; Glaucia Beatriz GONÇALVES[1]; Marcos Sergio ENDO[1]

[1]Department of Dentistry, State University of Maringá.
[2]Department of Restorative Dentistry, State University of São Paulo.
[3]Department of Restorative Dentistry, Piracicaba Dental School, State University of Campinas.

Bacteria associated with failure endodontic treatment are capable of acquiring and expressing resistance against antimicrobial agents usually used to treat infections, which makes necessary, in some cases, laboratory tests in order to detect the resistance or antimicrobial susceptibility of these microorganisms. The objective of this study was to evaluate the antimicrobial susceptibility of *Enterococcus* faecalis, *Enterococcus* faecium, *Actinomyces viscosus* and *Staphylococcus aureus* strains isolated from root canals of teeth with failure endodontic treatment. *Enterococcus faecalis* (n=3), *Enterococcus faecium* (n=3), Actinomyces viscosus (n=3) and Staphylococcus aureus (n=3) clinical strains collected in vivo from root-filled canals with failure endodontic treatment had been their antimicrobial susceptibility tested by the E-test method in duplicate using the antibiotics: Amoxicillin (AC), Rifampicin (RI), Moxifloxacin (MX), Vancomycin (VA), Tetracycline (TC), Ciprofloxacin (CI), Chloramphenicol (CL), Benzylpenicillin (PG), Amoxicillin + clavulanic acid (XL), Doxycycline (DC), Erythromycin (EM) and Azithromycin (AZ). All the clinical strains tested were susceptible to AC, XL, PG, DC, MX, TC and VA. All the isolated *S. aureus* strains were susceptible to the 12 tested antibiotics. *E. faecalis*, *E. fa*ecium and *A. viscosus* strains showed intermediary susceptibility pattern against EM. Some *E. faecalis* and *E. fa*ecium strains were resistant against AZ and RI. Clinical strains isolated from radicular canals of teeth with failure endodontic treatment showed different antimicrobial susceptibility profiles, and none of *E. faecalis* or *E. faecium* strains appeared to be susceptible to AZ or EM.

E014 - Drilling resolution root in third cervical after 12 years

Larissa Alencar de OLIVEIRA[1]; Fernanda Campos CANCELLI[1]; Gustavo Barteli ESTEVES[1]; Edlene Moreira BENEDITO[1]; Helio Katsuia ONODA[1]; Marcia Esmeralda Bis Franzoni ARRUDA[1]; Thais Mageste DUQUE[1]; Carla Thais Rosada PERUCHI[1].

[1]Faculty Ingá – Uningá.

Root perforations are artificial openings, which result in the communication between the pulp cavity with the periodontal tissues that can be caused by iatrogenic, resorption process or caries. Successful treatment will depend on the size, location and time that there was the drilling. At present time, the most common material used for the sealing of perforations has been the MTA (Mineral Trioxide Aggregate) to be biocompatible and allow cementum formation providing conditions for organization of tooth supporting tissues. It is reported that if the clinical resolution of a case of drilling a dental element in the cervical third happened 12 years ago: C.

Patient V., 74, male, sought dental care at the clinic of the Faculty Inga complaining of pain and swelling in the anterior palate. Upon clinical examination, there was chronic abscess, confirmed by the presence and tracking of the fistula. Radiographic initial examination indicated attempting to previous endodontic treatment without success due to drilling on the mesial, the cervical level of the element 11 and the presence of gutta-hangers in the periodontium. It was proposed to the patient a non-surgical intervention, with the removal of gutta-percha periodontal via root perforation, initially removed with a Hedströen file # 60. The radiograph to confirm that the entire filling material had been removed showed gutta-percha fragment is disengaged and the rest remained isolated on the patient periodontium, which was removed with a K file File # 15 twisted-shaped hook and after attempts was reached success by removing all the etiology of the abscess. Proceeded to seal the perforation with MTA and endodontic treatment of tooth 11. Can conclude the effectiveness of MTA as filling material in the case presented by the repair drilling cervical, level even after the elapsed time of 12 years. After one month the tooth was kept its functionality in the oral cavity.

E015 - Copaiba oil action on Enterococcus faecalis: an in vitro study

Monique Gabrielly BAIS[1]; Caroline Lopes Pereira VALÕES[1]; Larissa Stelita Canhin STELUTI[1]; Graziela Garrido Mori PANUCCI[1]; Suzilene Zamineli de LIMA[1]

[1]University of West São Paulo.

The elimination of bacteria within the root canal, especially *Enterococcus faecalis*, is essential for endodontic success. Copaiba oil has antimicrobial activity and its use can be suggested as intracanal medication. This study evaluated the antimicrobial power of the copaiba oil on *Enterococcus faecalis.* Eighteen extracted single-rooted bovine teeth were used. After coronary section and biomechanical preparation, the teeth were sterilized. Next, they were infected with 20uL of *Enterococcus faecalis* suspension and kept at 37ºC for 21 days. Subsequently, the teeth were divided into 3 groups: Group I - saline solution; Group II - 2% chlorhexidine and group III - copaiba oil. After coronal sealing, they were placed in vials containing 5ml of BHI and maintained at 37ºC for 1 and 3 days. After that, dentin was collected at two depths (200 to 400 µm), diluted and plated on petri dishes. The count of colony forming units (CFUs) were performed by an examiner and the values obtained were compared statistically using the Kruskal-Wallis test ($p<0.05$). It was observed in group I, lots of CFUs, regardless of depth and analyzed time; the same was observed in the group III. In group II, in three days, no UFC was found. There was no difference between groups of saline solution and copaiba oil for elimination of *Enterococcus faecalis*, and chlorhexidine showed to be effective for this function.

E016 - Effects of different irrigation protocols on biofilm

Victor de Moraes CRUZ[1]; Samuel Lucas FERNANDES[2]; Rodrigo Ricci VIVAN[3], Flaviana Bombarda ANDRADE[3], Marcos Vinicius SÓ[3], Marco Antônio Hungaro DUARTE[3]

[1]Bauru School of Dentistry, University of São Paulo.
[2]Mineirense School of Dentistry.
[3]Department of Operative Dentristry, Endodontics and Dental Materials, Bauru School of Dentistry, University of São Paulo.

Bacterial biofilm is one of the main factors of endodontic failure. This study examined the effect of different irrigation protocols, or combined with ultrasonic agitation to remove the biofilm. Cem bovine roots with prepared channels were included in forms containing silicone, with a trephine, dentin disks were removed from the root wall. These discs were sterilized and with Hawley plate were taken mouth to biofilm formation. After induction of the biofilm, the discs were repositioned at the root. The teeth were divided into 10 groups of 10 teeth, depending on the irrigation protocol: G1-control (saline); G2-NaOCl + saline; G3-EDTA + NaOCl; G4-NaOCl + Qmix; G5-+ NaOCl peracetic acid; G6-control (saline) + PUI; G7-NaOCl + saline + PUI; G8-NaOCl + EDTA + PUI; G9-NaOCl + + Qmix PUI; G10-NaOCl + peracetic acid + PUI. Ultrasonic agitation was made in 3 sequences of 20 seconds both primary irrigator (NaOCl or Saline) as the Final irrigator. After irrigation protocols, the blocks were stained with Live and dead taken in the confocal microscope. With the Bio Image L program measured the biovolume and the percentage of micro-organisms living and dead. Statistical analysis was performed using Kruskal-Wallis and Dunn's test ($p<0.05$). Among the solutions used, regardless of the PUI, saline was the one with the most biovolume and viability differentiating statistically ($p<0.05$). Among others, the Qmix showed lower biovolume, differentiating of EDTA and NaOCl ($p<0.05$). The Peracetic Acid showed a lower biovolume when compared to NaOCl ($p<0.05$). A lower biovolume and viability ($p<0.05$) when compared to the effect was independent of the PUI of the solutions was observed. It was concluded that protocols employing Qmix favored better against biofilms. The PUI favored better reduction in all protocols.

E017 - *Ex-vivo* evaluation of endotoxin reduction with Mtwo® rotary system

Yasmin Firmino de SOUZA[1]; Ariane Cassia Salustiano MARINHO[2]; Brenda Paula Figueiredo de Almeida GOMES[2]; Frederico Canato MARTINHO[3]; Nair Narumi Orita PAVAN[4]; Marcos Sergio ENDO[4]

[1]Department of Dentistry, State University of Maringá.
[2]Department of Restorative Dentistry, Endodontics Area, Faculty of Dentistry of Piracicaba, State University of Campinas.
[3]Department of Restorative Dentistry, Endodontics Area, State University of São Paulo.
[4]Department of Dentistry, State University of Maringá.

Gram-negative bacteria play an important role in primary endodontic infections, and have as a component of their cell wall endotoxins, which are responsible for a series of reactions, for example, the periapical bone resorption. So, the success of endodontic treatment is determined by proper preparation, cleaning, disinfection and obturation of the entire root canal system, and special attention has been given to the complete removal of endotoxin from root canals. This study evaluated *in vitro* the relation between the final apical diameter (FAD) and levels of endotoxins after instrumentation of root canals with different

sequences of Mtwo® rotary files. Sixty teeth contaminated with *E. coli* LPS were used. They were randomly divided into six experimental groups according to clinical employed following: GI - (FAD #25/.06) (n=10); GII - (FAD #30/.05) (n=10); GIII - (FAD #35/.04) (n=10); GIV - (FAD # 40/.04) (n=10); GV - (FAD #25/.07) (n=10) and GVI - negative control (n=10). After instrumentation, samples were taken of root canals using cones sterile/ apyrogenic paper and the endotoxin concentrations were measured by turbidimetric test (Pyrogent-5000®) via the LAL technique. The gradual removal of endotoxin levels of root canals was observed as the show increased FAD in different clinical sequences: GI (324.28 EU/mL) <; GII (337.92 EU/mL) <; GIII (363.21 EU/mL) <; GIV (374 EU/mL) <; GV (379.87 EU/mL). There was a statistically significant difference when comparing GI to GIII, GIV and GV ($p<0.05$). Based on these results, we concluded that the use of large-caliber rotary files (≥ #35/.04), provided greater magnification of dentin walls infected, and higher rates of removal of endotoxins from the root canals.

E018 - Endodontic therapy in a maxillary second premolar with three roots

Airton Oliveira SANTOS JUNIOR[1]; Tulio Lorenzo OLANO-DEXTRE[1]; José Francisco MATEO-CASTILLO[1]; Lucimara Teixeira das NEVES[1]; Lidiane de Castro PINTO[1]; Celso Kenji NISHIYAMA[1]

[1]Department of Endodontics, Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.

Rigorous knowledge of tooth anatomy and its variations are essential to the success of endodontic treatment, since the number of roots and root canals may vary in some teeth; can the lack of observation of these cause treatment failure. The upper second premolar usually has a single root and a chance to present three roots is minimal, however, must be taken into account during the clinical and radiographic evaluations of these teeth. The objective of this report is to describe the endodontic treatment of the upper left second premolar with three roots and three root canals. A male individual, of 24 years old, with bilateral cleft lip and palate, attended the Endodontic sector of Hospital of Rehabilitation of Craniofacial Anomalies of the University of São Paulo (HRAC-USP) for the evaluation of the tooth 25, where the endodontic treatment was performed in the city of origin. The clinical examination showed no symptoms, the radiographic examination was observed the presence of a third mesiobuccal root with untreated canal. We opted for the treatment of this root only seen the favorable pretreatment conditions. It was performed access and removal of the gutta-percha from the pulp chamber to the third canal localization. After determining the working length was performed manually instrumentation with Oregon modified technique, and Milton solution irrigation. Executed conditioning with 17% EDTA, the canal received the intracanal dressing with calcium hydroxide and was sealed with glass ionomer cement for 30 days. In the second appointment, the canal was obturated with gutta-percha and AH Plus sealer with lateral condensation technique. We can conclude that the presence of three roots and three root canals on the upper second premolars increases the difficulty of endodontic treatment; so that treatment is possible, it is essential knowledge of internal anatomy and radiographic critical interpretation.

E019 - Antibiotic prescription during root canal

Amanda Caselato Andolfatto SOUZA[1]; Marcos Rodolfo BOLFONI[2]; Fernanda Geraldo PAPPEN[2]; Tatiana PEREIRA-CENCI[2]; Rogério Castilho JACINTO[1]

[1]Department of Endodontics, Araçatuba Dental School, Univ. Estadual Campinas.
[2]Graduate Program in Dentistry, School of Dentistry, Federal University of Pelotas.

The aim of this study was to investigate antibiotics prescription habits reported by Brazilian Endodontists in specific clinical situations. An on-line questionnaire was sent to Brazilian endodontists via e-mail. A total of 615 questionnaires were answered. Data were analyzed descriptively. The majority of the respondents reported to prescribe antibiotics for 7 days (67.5%). First choice antibiotic was amoxicillin (81.5%), followed by amoxicillin and clavulanic acid combination (30.7%). For patients allergic to penicillin, 33.0% prescribed clindamycin and 29.2% azithromycin. Half of the professionals do not use loading dose and 36% use with twice the regular concentration, one hour before treatment. For acute apical abscesses (AAA) with intra and extra oral diffuse swelling, fever and trismus, 90.1% prescribed antibiotics, 71.5% prescribed antibiotics when intraoral swelling and pain and 88.1% prescribed antibiotics for cases without extraoral AAA swelling. In cases of pulp necrosis, chronic apical periodontitis, and sinus tract, antibiotics were prescribed by 11.5%. In pulp necrosis, swelling and pain with AAA, 52.8% prescribed antibiotics. In case of root-end surgery, 45.0% of respondents prescribe antibiotics. The first choice antibiotics varied in accordance to the professional age ($p<0.001$) and time elapsed since the completion of Endodontics graduation course ($p=0.001$). Although part of the endodontists reported a conscious conduct in the use of antibiotics, overprescription could be observed in situations where antibiotics are not necessary, while duration of prescriptions was beyond necessary. Thus, there is a need of professional awareness, as excessive and incorrect prescriptions might contribute to increasing microbial resistance.

E020 - Investigation of emergency procedure of lays before dental avulsion

Bruna Angélica de Souza VIANA[1]; Alfredo Franco QUEIROZ[1]; Angelo José PAVAN[1]; Vivian Sayuri KITAYAMA[1]; Nair Narumi Orita PAVAN[1]; Marcos Sergio ENDO[1]

[1]Department of Dentistry, State University of Maringá.

The prognosis of dental avulsion depends on appropriate conduct, which may be subject to the lay people who are involved at the time of the accident. The aim of this study was to evaluate the degree of knowledge of visitors of the Dynamic Interdisciplinary Museum (Maringá - PR, Brazil), in relation to first aid before dental avulsion. A questionnaire with multiple choice questions was applied. Data were tabulated and submitted to statistical analysis (Chi-square, $p<0.05$). Permission was obtained from the Ethics Committee (217/2006) in research for this work, and the participants agreed through a free and informed consent. Of the 220 questionnaires, 63.6% were female. More than half (66%) of respondents had never heard about dental trauma. The immediate reimplantation was suggested by only 12% of the respondents. It was observed that the form of transport and the extra-alveolar period detected were wrapped in paper (42%)

and more than 2 hours (41.4%), respectively. Correlation was observed between the highest level of education and correct response (p=0.027). Therefore, these data reinforce the need to enter the relevant information to the community on the front line to emergency dental avulsion, through educational campaigns aimed at the general public and minimizing negative consequences.

E021 - Cell survival and proliferation of *E. faecalis* at alkaline pH

Camila Ambrósio DIAS[1]; Rogério de Castilho JACINTO[1]; Tiago Pereira ROSA[2]; Brenda Paula Figueiredo de Almeida GOMES[2]

[1]Department of Restorative Dentistry, Araçatuba School of Dentistry, Univ. Estadual Paulista.
[2]Department of Restorative Dentistry, Piracicaba Dental School, University of Campinas.

Enterococcus faecalis has proven resistant to alkaline pH of antimicrobials used in endodontic treatment. Their arrangement in biofilm on dentin of the root canal, apical cementum, gutta-percha and sealers is pointed out as a reason the persistence of this microorganism in treated root canals. The aim of this study was to analyze cell survival and expression of FtsZ, a cell division gene in mature biofilms of *E. faecalis* subject to different concentrations of alkaline pH. Biofilms of *E. faecalis* (72h) were inoculated in media at pH 7, 10, 11, and 12 for 1 week (168 h). At 24, 48, 72, 120 and 168 h, the cell viability was assessed by confocal microscopy and FtsZ expression was analyzed by quantitative chain reaction polymerase (qPCR). There was an uneven distribution of *E. faecalis* biofilms cells. At pH 7, throughout the experiment most of the cells remained alive. At pH 10, there was no statistical difference in the number of living and dead cells after 5 days incubation. At pH 11, more dead cells formed biovolume at any time point. PH 12, there was a significant decrease in biovolume. Therefore, at pH 7 and pH 10, the FtsZ expression of the gene in *E. faecalis* biofilm remained unchanged. Cell amplification was not observed for the pH 11 and pH 12, at any point of time. The alkaline environment affects both the biofilm structure and viability of the biofilm cells and both depend on the concentration and time. Furthermore, the transcription of the gene FtsZ remained unchanged at pH7 and pH10.

E022 - Bioceramic and epoxy sealers evaluation in subcutaneous of rats

Carlos Roberto Emerenciano BUENO[1]; Diego VALENTIM[1]; Vanessa Abreu Sanches MARQUES[1]; Francine BENETTI[1]; Luciano Tavares Angelo CINTRA[1]; Rogério Castilho JACINTO[1]; Eloi DEZAN-JUNIOR[1]

[1]Department of Restorative Dentistry, Araçatuba Dental School, Univ. Estadual Paulista.

The obturation of root canal system aims to fill empty spaces, promoting hermetic sealing. Also, should provide conditions for repair process, stimulating the occurrence of biomineralization. Once the endodontic sealer is in direct contact with periapical tissue, it should be biocompatible. The aim of this study was to evaluate the tissue response and mineralization ability of endodontic sealers in the rat subcutaneous tissue to implanted polyethylene tubes filled with Smartpaste Bio, Acroseal and Sealapex. Forty Wistar rats were assigned to one of four groups according to periods of time (n=10 animals/group) and received subcutaneous implants containing the sealers to be tested and empty tube as control. After 7, 15, 30 and 60 days the animals were euthanized and the polyethylene tubes removed with the surrounding tissues. Inflammatory infiltrate and thickness of fibrous capsule were histologically evaluated. Mineralization was analysed with Von Kossa staining and polarized light. Data were tabulated and subject to Kruskal- Wallis and Dunn's test ($p<0.05$). All tested materials induced moderate inflammatory reaction in the initial periods. Smartpaste Bio induced the mildest inflammatory reactions in 15 days ($p<0.05$). No difference was observed among groups in 30 and 60 days. Von Kossa positive and birefringent structures to polarized light revealed a larger mineralization area in Sealapex followed by Smartpaste Bio. Acroseal induced mild tissue reaction but it did not present signs of mineralization. At the end of the experiment, all tested sealers presented biocompatibility. With exception of Acroseal, all endodontic sealers induced biomineralization.

E023 - Diagnostic ability of a CBCT to assess vertical root fractures

Cassia Almeida FIORENTINI[1]; Ariane Cassia Salustiano MARINHO[2]; Brenda Paula Figueiredo de Almeida GOMES[2]; Frederico Canato MARTINHO[2]; Nair Narumi Orita PAVAN[1]; Marcos Sergio ENDO[1]

[1]Department of Dentistry, University State Maringá.
[2]Department of Dentistry Restorative, Piracicaba Dentistry Faculty, State University of Campinas.

Vertical root fractures (VRFs) are a challenge for endodontists when early detected, and can be confused with a failure of endodontic treatment and even periodontal disease. This paper reports two cases of root filled teeth, percussion pain, and recurrence of pain symptoms after completion of endodontic retreatment. With the conventional radiographic examination it was not possible to observe any fracture line and vertical bone loss. The diagnosis was persistent infection and as first choice it was opted for endodontic retreatment. At first, both cases responded positively to the treatment, however, after 8 months (case A) and 12 months (case B), patients complained about pain when chewing. Cone-beam computed tomography (CBCT) was used as a complementary examination with the suspicion of a possible root fracture. During exploratory surgery it was confirmed the presence of root fracture and indication of tooth extraction in two teeth. In some cases only signs and symptoms are not enough for the diagnosis of VRF. When clinical and radiographic findings fail in diagnosis, the CBCT associated with exploratory surgery is an excellent choice for VRFs detection in endodontically treated teeth.

E024 - Effect of time on EDTA on smear layer removal of the root canal

Fernanda Conti BLASIZZA[1], Fábio Pereira LINHARES-DE-CASTRO[2]; Marco Antonio Hungaro DUARTE[3]; Jussaro Alves DUQUE[3]; Sérgio Luiz PINHEIRO[4]; Carlos Eduardo da Silveira BUENO[2]; Samuel Lucas FERNANDES[5]

[1]Department of Endodontics, Paulista Association of Dental Surgeons, Bauru/SP.
[2]Department of Endodontics, São Leopoldo Mandic Faculty of Dentistry.
[3]Department of Operative Dentistry, Endodontics and Dental Materials, Bauru School of Dentistry, University of São Paulo.
[4]Department of Dentistry, Pontifical Catholic University, Campinas.
[5]Department of Endodontics, Mineirense College, FAMA.

The aim of this study was to assess the effect of time of the ethylenediaminetetraacetic acid (EDTA) in removing the smear layer of the root canal. A total of 30 bovine inferior incisors that were transversely sectioned and instrumented; smear layer was added in the root dentin surface and divided into 3 groups according to the following final irrigation protocols: Group I: Conventional irrigation with NaOCl; Group II: conventional irrigation with NaOCl+EDTA for 20 seconds; Group III: Conventional irrigation with NaOCl+EDTA for 60 seconds. Samples were analyzed by SEM at 500X increase. The images were measured by three blinded evaluators and classified in scores from 1 to 5. The results were analyzed by Pearson correlation test and ANOVA nonparametric Kruskal-Wallis and Dunn's tests were used for the comparisons. Irrigated samples only with Sodium Hypochlorite (Groups 1) had higher scores when compared with other groups. Groups 2 and 3, irrigated with 17% EDTA and had lower scores, however, there was no statistically significant difference between them. It was concluded that irrigation with 17% EDTA for 20 seconds promoted effective removal of smear layer.

E025 -Influence of pressure and patency file in the occurrence of emphysema

Fernando Érnica GARCIA[1], Jorenberg Roberto de OLIVEIRA[1]; Fábio Pereira Linhares de CASTRO[1]

[1]Department of Dentistry, North Paulista University Center.

Emphysema consists of a surgical accident where an irrigating solution overflows to the periapical region of a dental element. The objective of this experiment is to evaluate the relationship between the caliber of patency file and irrigating solution injection pressure on the occurrence of periapical extravasation of it. For this pilot study was used 3 single-rooted teeth instrumented with Reciproc R25 file 1 mm below the apex. Each tooth has its patency performed with a file type K diameter and they number was 15, 20 and 25 respectively. Then the teeth were mounted system where the apex of the elements was in close contact with a cotton portion. Each element was flushed with 3 ml of water solution with colorant in the times of 30, 60 and 90 seconds in order to demonstrate the extravasation of the liquid. At the time of 30 seconds was extravasation in the three elements. 60 and 90 seconds there was extravasation in debrided tooth with file # 25. Eventually the methodology will be applied in the experimental groups to confirm the hypothesis that leakage of irrigating solution is related to the diameter of the instrumentation apical foramen and the applied injection pressure.

E026 - Dental bleaching induces cell proliferation and apoptosis in the pulp

Francine BENETTI[1]; Luciana Louzada FERREIRA[1]; Edilson ERVOLINO[2]; André Luiz Fraga BRISO[1]; Gustavo Sivieri de ARAÚJO[1]; Eloi DEZAN-JÚNIOR[1]; João Eduardo GOMES-FILHO[1]; Luciano Tavares Angelo CINTRA[1]

[1]Department of Restorative Dentistry, Araçatuba Dental School, Univ. Estadual Paulista.
[2]Department of Basic Science, Araçatuba Dental School, Univ. Estadual Paulista.

The inflammatory response of the pulp, after dental bleaching with hydrogen peroxide (H_2O_2), depends on the balance between proliferation and cell death. This study evaluated in vivo the inflammatory response, the level of cell proliferation and apoptosis, and the presence of necrosis after dental bleaching with two concentrations of H_2O_2. Wistar rats were divided into Control (placebo gel), BLUE (20% H_2O_2, 1x50 min), and MAXX (35% H_2O_2, 3x15 min) groups. After 2 and 30 days, the rats were killed (n=10) and the jaws processed for histological and immunohistochemical analysis of PCNA and Caspase-3-cleaved. The data was analyzed using the Mann-Whitney or the ANOVA test ($p<0.05$). At 2 days, the MAXX group showed necrosis and the BLUE group showed moderate inflammation on the occlusal third of the crown ($p<0.05$). At 30 days, tertiary dentin was formed and there was no inflammation. After 2 days, the level of cell proliferation was higher in the middle third of the crown and in the cervical of the BLUE and MAXX group, respectively ($p<0.05$). The level of proliferation had decreased at day 30. Apoptosis was present after 2 days, particularly in the cervical third of the crown in the bleached groups ($p<0.05$) and had decreased at day 30 in the BLUE group only ($p<0.05$). A higher concentration of H_2O_2 caused necrosis in the pulp after 2 days and prolonged apoptosis; lower concentrations resulted in moderate inflammation, cell proliferation, and apoptosis, but decreased in severity at day 30.

E027 - Ultrasonic activation enhances the antimicrobial action of AH Plus

Gislene Cristina VERTUAN[1]; Murilo Priori ALCALDE[1]; Bruno Cavalini CAVENAGO[1]; Clóvis Monteiro BRAMANTE[1]; Ivaldo Gomes de MORAES[1]; Flaviana Bombarda de ANDRADE[1]; Marco Antônio Húngaro DUARTE[1]; Rodrigo Ricci VIVAN[1]

[1]Department of Operative Dentistry, Endodontics and Dental Materials, Bauru School of Dentistry, University of São Paulo.

The ultrasonic device has been widely used for activation of irrigating solution, intracanal medication and endodontic sealer. Its use in the root canal filling shows a significant improvement in the quality. However, there is no study at this moment showing the influence of ultrasonic activation effect on intratubular antimicrobial in endodontic sealer. The aim of this study was to evaluate intratubular antimicrobial effect of the AH Plus sealer when ultrasonic activation was performed during obturation against *Enterococcus faecalis*. The antimicrobial evaluation used 30 bovine incisors cut into cylinders with 6 mm in thickness were used. The root canals diameter was standardize with a K file #80 and then contaminated with *Enterococcus faecalis* (ATCC 29212) for 4 days. After this period the samples were divided into 3 groups (n=10). Group 1: the ultrasonic activation on the sealer was performed and filled with single cone technique; Group 2: the sealer was not ultrasonic activated; Group 3 the canals were not

obturated (control group). The roots were sectioned in the buccal-lingual direction and stained with LIVE/DEAD stain to assess the bacterial viability by confocal scanning laser microscopy. For analysis of ultrasonic activation of the sealer on the filling quality of the canals and isthmuses, a non-parametric Mann-Whitney test ($p<0.05$) was used. For the analysis of the intra-dentin antimicrobial action, a Kruskal-Wallis non-parametric and Dunn's test was used ($p<0.05$). The agitation of AH Plus enhance the intratubular antimicrobial action of the AH Plus sealer against *Enterococcus faecalis*.

E028 - Regression of periapical lesion with ectopic fistula – 13 years of follow-up

Henrique Augusto BANCI[1], Hugo Alberto VIDOTTI[1], Cleide Der Torossian Torres NEVES[1], Cynthia Der Torossian Torres Neves ALVES[1], Lucas Orbolato CHALUB[1], Celso Sawaya NEVES[1]

[1]Faculty of Dentistry of Presidente Prudente, The University of Western São Paulo.

To report the diagnosis, treatment and the 13 years follow-up of periapical lesion with unusual ectopic fistula. A healthy, 40-year-old male patient, searched for treatment at the dental office due to a fistula on the facial alveolar mucosa on the apical region of the left mandibular first premolar that, according to the patient, has been presented for many years. There was no pain symptom. The radiographic exam showed satisfactory endodontic treatment of the left mandibular first premolar. There was an extensive radiolucent area from the distal area of the mandibular left first premolar root to the mesial of the left lateral incisor root. In order to secure an accurate diagnosis, a gutta-percha cone was introduced into the fistulous channel to perform an investigative radiography. It was observed that the origin of the lesion was on the left lateral mandibular incisor apical region (ectopic fistula). The left mandibular lateral incisor and left canine did not respond to cold pulp testing, indicating necrosis. The endodontic treatment of these teeth was performed. The neutralization of the root canal was performed with 2.5% sodium hypochlorite and dressing with paramonochlorophenol. On the following session, irrigation was performed with 1% sodium hypochlorite. The following dressings (seven changes carried out within 11 months) were calcium hydroxide associated with camphor paramonochlorophenol. It was observed the regression of the lesion. Thus, the filling of root canals with gutta-percha and Sealapex (Keer) was performed. The clinical and radiographic control after 13 years shows the repair of periapical lesion and the absence of pain symptoms. The diagnosis of the ectopic fistula was essential for the success of the treatment plan, evidenced by the healthy condition observed in 13 years of control.

E029 - Evaluation of the precision of four foraminal electronic locators

Isis Almela Endo HOSHINO[1]; Ricardo Perez MARTINEZ[1]; Taylane Soffener Berlanga de ARAUJO[1]; Fabio Pereira LINHARES-DE-CASTRO[1]

[1]Department of Dentistry, North Paulista University Center.

Working length determination is an important step in the endodontic treatment. It's measurement using electronic apex locators has proven accurate, showing the real anatomical position of the apical foramen. The aim of this study was a *in vitro* evaluation of the accuracy of four electronic apex location devices Root ZX II (Morita), Endus (Gnatus), Apex Locator (New Ys-Rz-B) and NovApex (Forum) on the lengths 0 and 1 from the apex foramen. To achieve this, 15 single-rooted premolar teeth were selected. The reasons for extraction are not related to this paper. With the help of a caliper rule, teeth were measured and transected at 16 mm from the apex. Measurement of the canal length was confirmed by insertion of a size k#15 inside the canal until its tip was visible by an odontology surgical microscope. After file was removed, its length was registered using an endodontic rule. Next, teeth were measured electronically with the four devices until the locators reach marks 0.0 and 1.0 on each device display. The positions of the size were recorded using digital radiography. Values obtained were compared electronically with the tooth length and radiography. Results showed, without tolerance limit, the systems presented in length 0mm an accuracy of 99,99% for Root ZX II, Endus and Apex Locator and 93.33% for NovApex and in length 1mm short the apex foramen 99.99% Root ZX II, Endus and NovApex and 73,33% Apex Locator. It is possible the conclusion that all the tested electronic devices tested, were able to measure the tooth length.

E030 - Dental avulsion and factors related to outcomes

Izabella Giannasi FARAH[1]; Luiz Fernando Leopoldino PROCIDONIO[1]; Aline Lie ISHIDA[1]; Alfredo Franco QUEIROZ[1]; Nair Narumi Orita PAVAN[1]; Marcos Sergio ENDO[1]

[1]Department of Dentistry, Area Endodontics, State University of Maringá.

Dental avulsion and factors related to outcomes Epidemiologic studies of dentoalveolar traumatism are important to obtain better conditions for prevention, direction and specific treatment for each type of injury. Identify the clinical and epidemiological characteristics from patients who have suffered avulsion of permanent teeth and get attended at extension project CEMTrau. Samples from files of 117 patients who have suffered avulsion teeth from January 2000 to December 2013 were used. Prevalence of males (69%) and the most affected age group was between 6-17 years (63%) and the main factor of occurrence, bicycle accidents (39%). Greater frequency of only one element (65%), and the maxillary central incisors were the most affected (69%). Mostly founded on dry storage condition (22%), extraoral time of 1-4 hours (11%) and replanted (54%). The awareness of the public and professionals about these factors most prevalent in tooth avulsion and knowledge of treatment protocols are necessary to reduce the occurrence of cases and successful treatment.

E031 - Acute apical periodontitis of non-endodontic origin - case report

Jéssica de Almeida COELHO[1]; Tulio Lorenzo OLANO-DEXTRE[1]; José Francisco MATEO-CASTILLO[1]; Lucimara Teixeira NEVES[1]; Lidiane de Castro PINTO[1]; Celso Kenji NISHIYAMA[1]

[1]Department of Endodontics, Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.

Acute apical periodontitis is an inflammation of pericemental area or apical periodontal membrane, and consequently of the adjacent supporting bone. When it is of non-endodontic origin, it can be caused by trauma, periodontal procedures, premature contacts

and orthodontic movement. Characterized by increased vascular permeability that leads to hydrostatic pressure tissue alterations resulting in compression of nerve fibers and consequently pain. The objective of this study was to elucidate the origin of an acute apical periodontitis condition and its resolution, which occurred without the need for endodontic intervention. Female individual with Stickler syndrome and post-foramen cleft, carrier of fixed orthodontic appliances on the upper and lower arches was referred to the Endodontics Department with complaints of pain when chewing and percussion in the tooth 46. In clinical and radiographic examination, it was observed a thickening of the periodontal ligament, in pulp susceptibility test, tooth responded slightly and it was determined as inconclusive, because patient had low pain threshold. In occlusal analysis, it was verified premature contact of tooth 46 with its antagonist. Proposed treatment was occlusal relief of tooth 46 and new clinical and radiographic control after fixed appliance removal. In proservation, the percussion test had normal response and radiographically was it verified the decreasing the thickening of the periodontal ligament. Thus, it can be concluded that acute apical periodontitis was caused by the premature contact of the tooth 46 with the orthodontic force employed, being an inflammation of non-endodontic origin and therefore with resolution in the removal of the cause.

E032 - Efficacy and biocompatibility of two dental bleaching gels

Juliana Maria de Araújo LOPES[1]; Francine BENETTI[1]; Luciana Louzada FERREIRA[1]; João Eduardo GOMES-FILHO[1]; Edilson ERVOLINO[2]; Marjorie de Oliveira GALLINARI[1]; Vanessa RAHAL[1]; André Luiz Fraga BRISO[1]; Luciano Tavares Angelo CINTRA[1]

[1]Department of Restorative Dentistry, Araçatuba Dental School, Univ. Estadual Paulista.
[2]Department of Basic Science, Araçatuba Dental School, Univ. Estadual Paulista.

Hydrogen peroxide (H_2O_2) penetrates into the dental hard tissues causing color alteration but also alterations in pulpal tissues. Hard-tissue penetration, color alteration and the pulp response alterations were evaluated for two in-office bleaching protocols with H_2O_2. For trans-enamel/dentin penetration and color alteration, discs of bovine teeth were attached to an artificial pulp chamber and bleached according to the groups: BLU (20% H_2O_2 - 1x50 min, Whiteness HP Blue); MAX (35% H_2O_2 - 3x15 min, Whiteness HP Maxx); Control (1x50 min, placebo). Trans-enamel/dentin penetration was quantified based on the reaction of H_2O_2 with leucocrystal violet and the color analyzed by CIELab System. Twenty Wistar rats were divided into two groups (BLU and MAX) and their maxillary right molars were treated according to the same protocols of the in vitro study; the maxillary left molars were used as controls. After 2 days, the animals were killed and their maxillae were examined by light microscopy. The inflammation of pulp tissue was scored according to the inflammatory infiltrate (1, absent; 2, mild; 3, moderate; 4, severe/necrosis). Data were analyzed by statistical tests (α=0.05). MAX showed higher trans-enamel/dentinal penetration of H_2O_2 ($p<0.05$). The color alteration was similar for both groups ($p>0.05$), and different when compared to Control group ($p<0.05$). MAX showed severe inflammation in the upper thirds of the coronal pulp, and BLU showed moderate inflammation ($p<0.05$). In-office bleaching protocols using lower concentrations of hydrogen peroxide should be preferred due to their reduced trans-enamel/dentinal penetration since they cause less pulp damage and provide same bleaching efficiency.

E033 - Effectiveness of two final irrigation methods in the removal of debris

Juliano da Maia Silva CACHAPUZ[1]; Jussaro Alves DUQUE[1]; Marco Antonio Hungaro DUARTE[1]; Lyz Cristina Furquim CANALI[1]; Ricardo Affonso BERNARDES[1]; Rafaela Fernandes ZANCAN[1]; Clovis Monteiro BRAMANTE[1]

[1]Department of Operative Dentistry, Endodontics and Dental Materials, Bauru School of Dentistry, University of São Paulo.
[2]Brazilian Association of Dentristry, Taguatinga/DF.

The chemical-mechanical preparation aims the cleanless of inorganic and organic content of the root canal system. However, this cleaning is diffculted by the presence of areas of anatomical complexity such as isthmus, due to the limitations of the solutions irrigation of penetrating in these areas. However, the objective of the present in vitro study was to compare the efficiency in the removal of debris at the isthmus between conventional irrigation with needles and Easy Clean (Easy dentistry equipment, Belo Horizonte, MG, Brazil) in continuous rotation movement. Twenty mesial roots of mandibular molars were entered into with epoxy resin using a metal muffle. The blocks (tooth + resin) were sectioned at 2, 4 and 6 mm from the apex, instrumented and divided into 2 groups (n=10) according to the protocol of final irrigation: conventional irrigation with needle (3x20 s without agitation) and Easy Clean 25.04 continuous rotation (3x20s of agitation). Images were performed with scanning electron microscopy (SEM) after instrumentation and after the 1st, 2nd and 3rd agitation of the irrigating solution and evaluated the quantity of remaining debris through the software Image J (National Same patterns of Health, USA). The data obtained were statistically analyzed and compared using the Mann-Whitney test for the comparison between the groups and the Friedman and Dunn's tests for the intragroup comparisons. The results showed that neither of the two methods was able to completely eliminate the debris of the isthmus. However, the Easy Clean was more effective than the conventional irrigation in 3 levels analyzed ($p<0.05$). In addition, a decrease in the percentage of debris remaining was observed when the number of agitations was increasing in both groups. It was concluded that the Easy Clean promoted better cleaning of the region of isthmus than conventional irrigation. The achievement of 3 agitations of 20 seconds of agitation of the irrigante solution is needed for better cleaning of this area.

E034 - Chronic periapical abscess: diagnosis, treatment and repair. Case report.

Laís Helena TOMAZETTI[1]; Roberto Brandão GARCIA[1]

[1]Department of Operative Dentistry, Endodontics and Dental Materials, Bauru School of Dentistry, University of São Paulo.

To demonstrate the efficacy of antisepsis endodontic procedures, mechanical chemical preparation (MCP) and intra-canal medication (ICM), repair of chronic periapical lesions. It was performed necropulpectomy the procedure in dental element 36, with a diagnosis of chronic periapical abscess in a patient with 18 years of age. In the clinical,

early history, there were reports of swelling, intense pain symptoms and the appearance of fistula in the region of teeth 36 and 37. When necropulpectomy was implemented, the swelling and pain were not present. The MCP was performed using the rotary instrumentation technique, irrigation with 2.5% sodium hypochlorite and ICM with calcium hydroxide slurry and camphor paramonochlorophenol, with the propylene glycol vehicle. After 30 days, the patient returned asymptomatic and the root canals were filled. At 60 days the patient was examined, demonstrating satisfactory clinical status and radiographic image compatible with the repair process in progress, characterized by new bone formation. The data obtained in proservation, this case confirms that endodontic procedures antisepsis of root canals, MCP and ICM, well-conducted, are sufficient to promote the repair of chronic periapical lesions.

E035 - Effects of apical periodontitis on blood profile of the Wistar rats

Leticia Citelli CONTI[1]; Renata Oliveira SAMUEL[1]; Valéria Marçal Felix de LIMA[2]; Edilson ERVOLINO[3]; Mariane Maffei AZUMA[1]; João Eduardo GOMES-FILHO[1]; Luciano Tavares Angelo CINTRA[1]

[1]Department of Endodontics, Araçatuba Dental School, Univ Estadual São Paulo.
[2]Department of Medicine, Surgery and Animal Reproduction, Araçatuba Dental School, Univ. Estadual Paulista.
[3]Department of Basic Sciences, Araçatuba Dental School, Univ. Estadual Paulista.

The purpose of this study was to evaluate serum changes of inflammatory mediators due to the presence of one or multiple apical periodontitis (AP). 30 male Wistar rats were used and divided into 3 groups of 10 animals each (group): healthy rats; 1PA - mice with PA in a tooth; 4PA mice with PA in four dental elements. After 30 days, blood was collected by cardiac puncture for quantitation of interleukin (IL) 6, IL-17, IL-23, tumor necrosis factor (TNF) α, interferon (IFN) γ and nitric oxide (NO). After blood collection, the animals were killed by anesthetic overdose. The jaws were collected and processed for histological analysis with hematoxylin and eosin and immunohistochemical staining for the aforementioned mediators. Results of the different analyzes were made by specific statistical tests for each case ($p<0.05$). In the lesion of groups 1PA and 4PA were observed the presence of IL-6, IL-17, IL-23, TNF-α, IFN-γ, NO and inflammatory infiltration with moderate bone resorption in both groups in each tooth involved. IL-6, IL-17, IL-23 and TNF-α serum levels were higher in 4AP compared to healthy rats ($p <0.05$). However, serum amount of NO was significantly lower in 4AP 1FL when compared to healthy rats ($p<0.05$). Given these results, it is noted that the PA interferes in the blood hemostasis by altering the serum levels of inflammatory mediators.

E036 - Study of ibuprofen action on the pulp of rats after dental bleaching

Lidiane Mendes LOUZADA[1]; Ariane Santana de PROENÇA[1]; Luciana Louzada FERREIRA[1]; Francine BENETTI[1]; Vanessa RAHAL[1]; André Luiz Fraga BRISO[1]; Luciano Tavares Angelo CINTRA[1]

[1]Department of Restorative Dentistry, Araçatuba Dental School, Univ. Estadual Paulista.

Hydrogen peroxide (H_2O_2) that is present in the bleaching gel releases reactive oxygen species, resulting in inflammation of the pulp tissue. Ibuprofen is a non-steroidal anti-inflammatory indicated to pain relief associated with inflammatory reaction. This study verified the local anti-inflammatory potential of Ibuprofen in Wistar rats after dental bleaching. Right upper molars of 20 rats received 35% H_2O_2 (3x15 min), and the left upper molars received the vehicle of the bleaching gel, thus forming the following groups: G1- bleaching gel; G2- bleaching gel followed by Ibuprofen; Control (C)-G1 - vehicle of bleaching gel without Ibuprofen, C-G2: vehicle of bleaching gel followed by Ibuprofen. After dental bleaching, half the rats of groups G2 and C-G2 received Ibuprofen by gavage in intervals of 12/12 hours for two days, and for six days to the other half. At two and 30 days, all animals were killed and the maxillae processed for analyses on H.E. Scores were attributed to inflammation, and the data submitted to the Kruskal Wallis test and Dunn ($p<0.05$). Pulp tissue of the groups that received the bleaching gel showed necrotic areas in the occlusal third of the coronal pulp, and mild inflammation in the middle third. There was a significant difference between the occlusal third of the groups that received the bleaching gel to the groups receiving vehicle bleaching gel ($p<0.05$), independently of the administration of Ibuprofen. In the middle third, the difference remained between the group that received the bleaching gel without Ibuprofen, with the control group ($p<0.05$). In the cervical third there wasn't significant difference between groups ($p>0.05$). At 30 days there were tertiary dentin formation in the groups receiving the bleaching gel, and absence of inflammation. It was concluded that the Ibuprofen applied systemically after bleaching procedure with 35% hydrogen peroxide, did not minimize the effects of this procedure on the pulp tissue.

E037 - Vehicle influence on CER mineralization ability

Luciana Solera SALES[1]; Alailson Domingos dos SANTOS[2]; Christine Men MARTINS[1]; India Olinta de Azevedo QUEIROZ[1]; João Carlos Silos MORAES[2]; Luciano Tavares Angelo CINTRA[1]; João Eduardo GOMES FILHO[1]

[1]Department of Endodontics, Araçatuba Dental School, Univ. Estadual Paulista.
[2]Department of Physics and Chemistry, School of Engineering of Ilha Solteira, Univ. Estadual Paulista.

The purpose of this study was to evaluate the rat subcutaneous tissue response to CER (fast endodontic cement), wich is a formulation of Portland cement, with water or resin as vehicle and Angelus MTA®. These materials were placed in polyethylene tubes and implanted into dorsal connective tissue of Wistar rats for 7, 15, 30, 60 and 90 days. The specimens were prepared to be stained with hematoxylin and eosin or Von Kossa or not stained for polarized light. The presence of inflammation, predominant cell type, calcification, and thickness of

fibrous connective tissue were recorded. All materials Angelus MTA® and CER (both vehicles) caused moderate reactions at 7 days which decreased with time. The response was similar to the control at the 30th and 60th days with Angelus MTA® and CER characterized by organized connective tissue and presence of some chronic inflammatory cells. Mineralization and granulations birefringent to the polarized light were observed with all materials; however, MTA showed more than CER and water as vehicle showed more than resin. It was possible to conclude that CER was biocompatible and stimulated mineralization; water as vehicle seems to be more suitable for mineralization.

E038 - Apicectomy: analysis of the apical fragment by SEM

Luiz Fernando Leopoldino PROCIDONIO[1]; Fernanda Graziela Correa SIGNORETTI[2]; Brenda Paula Figueiredo de Almeida GOMES[2]; Rogério Castilho JACINTO[2]; Francisco MONTAGNER[3]; Marcos Sergio ENDO[1]

[1]Department of Dentistry, Area of Endodontics, State University of Maringá.
[2]Department of Restorative Dentistry, Endodontics Area, Piracicaba Dental School, State University of Campinas.
[3]Department of Restorative Dentistry, Endodontics Area, Federal University of Rio Grande do Sul.

Accidental procedures caused during initial endodontic treatment may negatively influence the periapical repair and contribute to the persistence of the infection in inaccessible areas requiring surgical intervention. This report is a case of persistent apical periodontitis in the lower left first molar associated with the sinus tract and apical periodontitis. It was performed the nonsurgical endodontic retreatment in a single session using the crown-down technique associated with 2% chlorhexidine gel, patency and enlargement. After filling the root canal, occlusal access cavity was immediately restored with composite resin. Clinically, after one month it was observed persistence of the sinus tract. Radiographically, no repair of apical periodontitis was observed. Thus, the apical microsurgery was indicated with operative microscope aid: apicectomy, back-filling with ultrasound and sealing with MTA. Microbiological sampling of the apical periodontitis was carried out, and isolated the following bacterial species: *Actinomyces naeslundii* and *A. meyeri*, *Propionibacterium propionicum, Clostridium botullinum, Parvimonas micra* and *Bacteroides ureolyticus*. The sectional apical portion of the distal root was observed by scanning electron microscopy (SEM) and revealed presence of bacterial biofilms around the apical foramen and the outer root surface. Furthermore, it also displayed extravasation resulting from gutta-percha apical zip formation in initial endodontic treatment. Follow-ups at 6 and 24 months showed apparent radiographic periapical healing. It was concluded, therefore, that Gram-positive anaerobic bacteria and extraradicular biofilm can participate in the maintenance of persistent periapical disease. Nonsurgical endodontic retreatment and completion of an apical microsurgery proved to be an alternative in the successful treatment of persistent extraradicular infection.

E039 - MicroCT evaluation of instruments CM-Wire, M-Wire and NiTi

Marcela Milanezi de ALMEIDA[1]; Clarissa Teles RODRIGUES[1]; Marco Antonio Hungaro DUARTE[1]; Flaviana Bombarda de ANDRADE[1]; Norberti BERNARDINELI[1]

[1]Department of Operative Dentistry, Endodontics and Dental Materials, Bauru School of Dentistry, University of São Paulo.

Endodontic retreatment is indicated when there is failure in root canal treatment, and the removal of all the filling material is indicated in order to provide disinfection of the root canal and healing of the apical tissues. The aim of this study was to evaluate the removal of filling material by using reciprocating and rotary instruments used sequentially, manufactured with different types of alloys. Thirty maxillary lateral incisors with root curvature were used. The teeth were instrumented up to the F1 instrument of ProTaper Universal system and filled with sealer Endofill by the lateral condensation technique. The teeth were divided into three groups (n=10). Group 1: Re-instrumentation with Reciproc R25 instrument followed by the instrument Mtwo 40 / .04 and the instrument Logic 50 /.01 CM wire. Group 2: R Re-instrumentation with ProDesign R instrument, followed by Logic 40 / .05 instrument and Logic 50/.01 CM- wire instrument. Group 3: Re-instrumentation with Gates-Glidden 2 and 3 drills in the cervical and middle thirds, instrumentation up to file 30K and instrumentatio with Hedstroem 35, 40 and 45 in a step-back technique, followed by re-instrumentation with 40K and 50K files. The samples were scanned and reconstructed with microCT device to evaluate the removal of the filling material after each procedure. Statistical tests Kruskal-Wallis, Friedman, Dunn and Wilcoxon were used. The results showed that all groups presented residues of filling material after re-instrumentation procedures. There was no significant difference in the removal of filling material between the three groups tested. There was no significant difference in the performance of Reciproc instruments and ProDesign R nor the Mtwo and Logic instruments. The apical portion presented most remnant filling material after retreatment procedures in all groups. It can be concluded that the combination of rotary and reciprocating instruments was effective, but did not remove completely the filling material from curved canals, regardless of the type of the alloy of the instruments.

E040 - Endodontic cement with tt-farnesol: action on Enterococcus faecalis

Mariá Pereira VIEIRA[1]; Jefferson José de Carvalho MARION[2]; Alessandro Diogo de CARLI[3]; Rafael Aiello BONFIM[3]; Rennan Carvalho PAIM[1]; Paulo Zárate PEREIRA[3]; Hélio Katsuya ONODA[2]; Thais Mageste DUQUE[4]; Diego Luiz SORGATTO[1]

[1]School of Dentistry, Federal University of Mato Grosso do Sul.
[2]Department of Endodontics, School of Dentistry, Federal University of Mato Grosso do Sul.
[3]Department of Public Health, School of Dentistry, Federal University of Mato Grosso do Sul.
[4]School of Dentistry Uningá.

The aim of this study was to determine in vitro antimicrobial activity of Sealapex and its association with trans, trans-farnesol on *Enterococcus faecalis*. Group 1 (control): Sealapex, Group 2: Sealapex + Farnesol 350 µg/g, Group 3: Sealapex + Farnesol 1750 µg/g. Each experimental group had six specimens (CDP), cylindrical pellets 2X5MM. Each 2 of them were placed in a microcentrifuge tube containing Simulated Body Fluid and *Enterococcus*

faecalis. Each 24 hours for 6 months, aliquots were harvested and plated by subsequent counting of colony-forming units (CFU). The results went through the statistical analysis of two-way ANOVA, complemented with the Bonferroni test. There was significant differences between the different groups tested ($p=0.0031$) and between the different experimental times ($p<0.0001$). After 24 hours of onset of the experiment, the bacterial concentration increased significantly in all groups tested ($p<0.001$). From the 48th hour, there was a marked decrease in bacterial concentration in the groups with addition of tt-farnesol. The same situation only occurred in the pure cement after 72 hours, tending to lose their effectiveness after 120 hours. The combination of the tt-farnesol and Sealapex was effective against *Enterococcus faecalis* in both concentrations tested, with antibacterial activity higher than the use of this sealer alone.

E041 - Physical and chemical properties of different intracanal medications

Mariana Maciel Batista BORGES[1]; Rafaela Fernandes ZANCAN[1]; Talita TARTARI[1]; Denise Ferracioli ODA[1]; Ivaldo Gomes MORAES[1]; Rodrigo Ricci VIVAN[1]; Marco Antônio Húngaro DUARTE[1]

[1]*Department of Operative Dentistry, Endodontics and Dental Materials, Bauru School of Dentistry, University of São Paulo, Bauru.*

The aim of this study was to evaluate the pH, calcium ion release and volumetric solubility of the pastes: Calcium Hydroxide + Saline Solution (G1), Calen (G2), Calen CMCP (G3) and Calcium Hydroxide + Chlorhexidine (G4). In the measurement of pH and calcium release acrylic teeth had their canals filled with intracanal medications (N=10) and sealed their crowns. These teeth were immersed in deionized water and after periods of 3, 7, 15 and 30 days were exchanged bottle. In that were immersed in water the pH was measured using a pH meter and released calcium by atomic absorption spectrophotometry. The solubility was evaluated using computed microtomography, by measuring the volumetric loss of the inserted folders in standard 40 well acrylic teeth (N=10) before and after immersed in deionized water. The increased release of Ca^{2+} and OH^{-} ions occurred in the time of 3 days. In all Calen CMCP periods obtained the highest values for Ca^{2+} release. For pH the significant differences occurred in the period of 7 days in the comparison of Calen and Calen with CMCP and Calcium Hydroxide + Chlorhexidine, already in 15 days Hydroxide Calcium + Saline differed from Calen CMCP. In the 30-day period the groups of Hydroxide Calcium + Chlorhexidine and Calen acted similarly, presenting statistical differences with others. For the solubility of the highest values occurred in Calen and Calen CMCP group. All folders provided alkaline pH and calcium release, and the highest values in the 3-day period. The solubility was greatest in Calen paste.

E042 - Easyclean versus ultrasound: intra-dentinal antimicrobial action

Maricel Rosario Cárdenas CUÉLLAR[1]; Thaís Cristina PEREIRA[1]; Fernanda Silva FERNANDES[1]; Marco Antônio Hungaro DUARTE[1]; Henrique BASSI[1]; Flaviana Bombarda de ANDRADE[1]

[1]*Department of Operative Dentistry, Endodontics and Dental Materials, Bauru School of Dentistry, University of São Paulo.*

Currently in Endodontics, the agitation of irrigating solution as passive ultrasonic agitation has been suggested, to improve the cleaning and disinfection of the root canal system. It was also launched the Easy Clean device (Easy, Belo Horizonte, Brazil), a plastic instrument that promotes cleaning by mechanical agitation of irrigating chemicals. Thus, the disinfection capacity of this new instrument was evaluated by comparing it with ultrasonic agitation and conventional irrigation through microbiological culture. Thirty standardized bovine dentin tubes were sterilized, then infected for 5 days and divided into three test groups: Group 1 - Conventional irrigation, Group 2 - irrigation associated with ultrasonic agitation and Group 3 - irrigation associated with agitation with Easy Clean system. Bacterial collection of dentine fragments was performed with Largo drills of different diameters on a sterilized device for subsequent counting of remaining viable micro-organisms in colony forming units after 48 hours of incubation at 37°C. In general, the ultrasonic agitation promoted a smaller number of surviving bacteria, statistically different from conventional irrigation group. The Easyclean group showed intermediate results without statistical differences with others. Comparing the results of Largo drill #5, the superficial area of the dentine, there were not any difference between the groups. On the other side, at greater depths relative to the main root canal, the dentin excised by Largo drill #6, the ultrasonic agitation eliminated more bacteria than the conventional irrigation. In conclusion, the ultrasonic agitation of the irrigant promotes greater dentin decontamination than conventional irrigation in the deeper regions of dentin and the Easyclean device proved to be useful also in the decontamination, showing similar effects of ultrasound use.

E043 - Tissue reaction of CaOH2 paste associated with silver nanoparticles

Marina de Souza ROLON[1]; Angela KINOSHITA[1]; Guilherme da Silva DONIZETI[1]; Leandro de Andrade HOLGADO[1]

[1]*University of Sagrado Coração.*

Calcium hydroxide is a widely used intracanal medicament in dentistry. Its ionic dissociation in calcium ions and hydroxyl ions and the effect of these ions on tissues and microorganisms causes the mineralization and exhibits its antimicrobial action. However, in cases where highly cytotoxic bacteria are present, it needs to be associated with other medications in order to achieve success on the endodontic treatment. Silver antimicrobial action has been known for a long time and its form in nanoparticles has advantages due to its nanoscale in which its contact surface is higher in relation to its free form. Thus, in this work, Silver Nanoparticles solution (2 mM) were incorporated into the calcium hydroxide powder, building a new biomaterial, and the tissue reaction was evaluated in order to eventually be used as intracanal medication. Fifteen adult male rats (Wistar) underwent surgical procedure in which they received the materials on the

back its subcutaneous tissue. Each rat received 3 tubes, each one containing: Calcium hydroxide paste + ultrapure water (MilliQ); Calcium hydroxide paste incorporated into silver nanoparticles and; empty tube. After periods of 7, 15 and 60 days, the animals were submitted to euthanasia using barbiturates and the materials with the surrounding tissue were removed to optic microscopic analysis. Macroscopic analysis showed no signs of necrosis or deficiency in tissue repair on the animals. Preliminary results of microscopic analysis of the 7th day showed no statistically significant difference in the amount of mononuclear and polymorph nuclear cells ($P>0.05$ Kruskal-Wallis), showing that the presence of silver nanoparticles on the composition of calcium hydroxide paste did not change the tissue reaction.

E044 - The use of ultrasound to optimize the endodontic treatment

Matheus Alpoim Figueiredo Wychniauskas MEDEIROS[1]; Murilo Priori ALCALDE[1]; Bruno Martini GUIMARÃES[1]; Ivaldo Gomes de MORAES[1]; Clovis Monteiro BRAMANTE[1]; Rodrigo Ricci VIVAN[1]; Marco Antonio Hungaro DUARTE[1]

[1]Department of Operative Dentistry, Endodontics and Dental Materials, Bauru School of Dentistry, University of São Paulo.

Antisepsis in teeth with anatomical complexity is essential to the success of endodontic treatment. Ultrasound is used for agitation of irrigating solution, intracanal dressing and endodontic sealer to improve the antisepsis of root canals system. The male patient attended the endodontics clinic reporting history of spontaneous pain. On clinical examination the presence of a carious lesion in tooth 46 was observed, and in the radiographic examination the presence of an apical periodontitis and a suggestive image of a mandibular molar in C Shaped were detected. The endodontic treatment was proposed. For the root canal preparation, was used Reciproc system 25/08 and Mtwo 40/04. The irrigating solution used was 2.5% sodium hypochlorite. A passive ultrasonic irrigation of sodium hypochlorite and EDTA was performed, each one for 1 minute. Then the root canals were irrigated with saline solution and dried with absorbent paper points. As an intracanal dressing was used Sodium hydroxide paste (calcium hydroxide + propylene glycol + paramonochlorophenol (camphor), which was agitated for 1 minute. After 15 days, the medication was removed by passive ultrasonic irrigation and the root canals were dried with paper point. Later, the master cone was proved and the root canal obturation was started. First the AH Plus sealer was inserted with spiral Lentulo # 40 and was performed his ultrasonic agitation for 1 minute. After the ultrasonic agitation of the sealer the gutta-percha were inserted and the Tagger's hybrid technique was performed. The radiographic examination, it was noted a satisfactory filling of the isthmus areas and even of lateral canals. The coronal sealing was carried out with a base Cotosol and covered with glass ionomer. The follow up showed repair of the periapical tissues. It was concluded that the ultrasound can be used in several steps of endodontic treatment, increasing the predictability of the treatment.

E045 - Internal dentin resorption: a multidisciplinary treatment

Mauro Elisban Diaz MAMANI[1]; Ligia Maria Lima ANDREATTA[1]; Argelia SANTIAGO[1]; Rafael Francisco Lia MONDELLI[1]

[1]Department of Dentistry, Endodontic and Dental Materials, Bauru Dental School, University of São Paulo.

One of the pulp tissue inflammatory pathologies is the internal resorption, related to an aggression or no necrosis of the tissue. Because of it is an asymptomatic condition, early diagnosis can be done by a radiographic examination. When is in an advanced stage, the dental crown can get a pink color, and when it happens in anterior teeth can aesthetic problems to the patients. Thus, the clinical case describes a patient forwarded the endodontics clinic with a diagnosis of internal resorption in the middle third of the root dentin and color change in tooth 12. After a satisfactory endodontic treatment, there was the need for internal and external crown bleaching, a periapical radiograph and the bleaching treatment was started. Bleaching was carried out by making the cervical plug with conventional glass ionomer cement (Vidrion R, SS White), followed by acid conditioning of the pulp chamber and vestibular surface. There were two sessions of bleaching employing the mixed technique, with instant whitening performed with 35% hydrogen peroxide gel (Lase peroxyde Sensy, DMC) and activation with Hybrid Light LED-Laser (Ultrablue IV, DMC) and mediate technique with two successive changes of sodium perborate (WHITENESS perborate, FGM) with an interval of three days between them. After a week with intra pulp chamber dressing with calcium hydroxide paste, it was choosing for the fixing of glass fiber post (Reforpost, Angelus) with self-etching dual U200 cement (3M / ESPE).

E046 - MCT analysis of curved root canals prepared with reciprocating systems

Melissa Esther RIVERA-PEÑA[1]; Pablo Andrés AMOROSO-SILVA[1]; Samuel Lucas FERNANDES[1]; Murilo Priori ALCALDE[1]; Bruno Cavalini CAVENAGO[1]; Aline Keller dos SANTOS[1]; Marco Antonio Húngaro DUARTE[1]; Rodrigo Ricci VIVAN[1]

[1]Department of Operative Dentistry, Endodontics and Dental Materials, Bauru Dental School, University of São Paulo.

The objective of this study was to analyze the shaping ability of Unicone (Medin), Wave one (Dentsply Maillefer) and Reciproc (VDW) reciprocating systems through the use of MCT in simulated curved canals. The centering ability, the changes in canal volumes and the shaping time of these systems were also measured. 60 artificial root canals with a curvature range of 300 in resin blocks, were scanned pre and postoperatively by MCT. The resin blocks were divided in four groups (n=15) and the root canals were shaped using the reciprocating systems. Lastly, using NiTi Flex as the control group. Changes in canal volumes, shaping time and the centering ability of the 3 systems were measured and compared with the preoperative values. The data were analized using the software CTAnalyser and the Shapiro-Wilks test with $p<0.05$ indicating a statistically significant difference. There was statistical difference ($p<0.05$) between the reciprocating and manual instruments regarding the shaping time. Nevertheless, there was not statistically significant difference between the reciprocating systems used in this study. On the other hand, in the cervical third and total volume of the canal, the Unicone system showed

the biggest volume increase of the reciprocating systems, being greater for the manual instruments. Lastly, the reciprocating systems showed better shaping of the root canals in comparison to the manual preparation, which exhibited less prepared areas in the mesial and distal walls. In comparison to the manual preparation technique, the reciprocating instruments provided a faster shaping of the simulated root canals, similar increase volumes of the medium and apical thirds and a lower volume on the cervical third and total canal portions. Ultimately, they showed a greater removal of dentine in the concave wall of the root canals especially for the Reciproc system.

E047 - Antimicrobial activity of different intracanal medication on biofilm

Pedro Henrique Souza CALEFI[1]; Rafaela Fernandes ZANCAN[1]; Jussaro Alves DUQUE[1]; Marcelo Milanda Ribeiro LOPES[2]; Flaviana Bombarda de ANDRADE[1]; Rodrigo Ricci VIVAN[1]; Márcia Sirlene Zardin GRAEFF[2]; Marco Antonio Hungaro DUARTE[1]

[1]Department of Operative Dentistry, Endodontics and Dental Materials, Bauru School of Dentistry, University of São Paulo.
[2]Integrated Research Center, Bauru School of Dentistry, University of São Paulo.

The aim of this study was to evaluate the antimicrobial action on biofilms of different pastes: Calen, Calcium Hydroxide + Chlorhexidine, Double Antibiotic Paste + Calcium Hydroxide and Triple Antibiotic Paste. Biofilm *in vitro* of *Enterococcus Faecalis* was induced on blocks of bovine teeth. Next, the samples were treated by the pastes for 7 days. The percentage of living cells was measured by using Live/Dead dye and confocal microscope. The data were statistically compared (N=20).Triple Antibiotic Paste presented the greater antimicrobial activity followed by Calcium Hydroxide + Chlorhexidine. The other groups present no statistical significant differences in relation to the control group. In conclusion, none of the pastes killed 100% of the bacteria into the biofilm. The effectiveness of the Triple Antibiotic Paste was confirmed, presenting the lowest percentages of live bacteria. The association of the chlorhexidine to the calcium hydroxide favored the bigger antimicrobial action to the paste. Calen paste, in seven days, showed insufficient antimicrobial effectiveness, even with a high pH. Calcium Hydroxide in addiction to double antibiotic paste not favored its antimicrobial action.

E048 - Comparison of the effectiveness of Wave One Gold on desobturation

Raul Paschoto Silva RUFINO[1]; Lyz Cristina Furquim CANALI[2]; Bruno Matini GUIMARÃES[2]; Jussaro Alves DUQUE[2]; Rodrigo Rocci VIVAN[2]; Arnaldo SANT'ANNA JÚNIOR[1]; Guilherme Hiroshi YAMANARI[1]; Marco Antonio Hungaro DUARTE[2]

[1]Department of Endodotics, Santa Fé do Sul Municipal Foundation of Education and Culture.
[2]Department of Operative Dentistry, Endodontics and Dental Materials, Bauru School of Dentistry, University of São Paulo.

The desobturation of the filling materials from the root canals is essential for the success of endodontic retreatment, since this procedure has a high clinical difficulty. The aim was evaluate with micro–computed tomography (micro-CT) the efficiency of Wave One (WO) and Wave One Gold (WOG) to desobturate the root canals, analyzing the volume and extrusion of filling material. Ten mesial root of mandibular first molar was prepared and obturated with single cone technique and AH plus Sealer and then scanned with micro-CT. For the retreatment, 5 mesio-vestibular and 5 mesio-buccal roots were divided in two groups in relation with the instrument used for desobturation: G1 – WO 25.08 e G2 - WOG 25.07. The desobturation was made with the tooth adapted to an eppendorf for collect the extruded material from the apical foramen. Then, the teeth and the eppendorfs were rescanned. After this step, the groups were instrumented with additional files with higher caliber: G1 – WO 40.08 e G2 – WOG 35.06. As previously, all the extruded materials were collected e rescanned with the same parameters. The remaining and extruded material volume was determined after the procedures of desobturation from the apical third (4 last mm) and from the entire canal. The results have shown that both volumes of extruded and remaining materials were similar presenting no statistical differences $p<0.05$. It can be concluded that there were no differences that have led to an improvement of desobturation using the new WOG instruments in comparison with WO. More studies on the wave One Gold are needed to compare other properties.

E049 - Influence of NiTi alloy on the quality of root canal preparation

Renan Diego FURLAN[1]; Jussaro Alves DUQUE[1]; Bruno Cavalini CAVENAGO[2]; Rodrigo Ricci VIVAN[1]; Pablo Andres Amoroso SILVA[1]; Ricardo Afonso BERNARDES[3]; Bruno de Carvalho VASCONCELOS[4]; Marco Antonio Hungaro DUARTE[1]; Clóvis Monteiro BRAMANTE[1]

[1]Department of Operative Dentistry, Endodontics and Dental Materials, Bauru School of Dentistry, University of São Paulo.
[2]Department of Restorative Dentistry, Federal University of Paraná.
[3]ABO of Itaguatinga, Distrito Federal.
[4]Department of Dentistry, Federal University of Ceará.

In endodontics, there is a constant emergence of new and improved instrumentation systems, as well as different types of treatment of NiTi alloys. The aim of this study was to compare, by the microcomputed tomography, the efficacy and safety in the root canal preparation proportioned by the Protaper Universal (PTU) and ProTaper Gold (PTG). Twelve mandibular molars with separate mesial canals were scanned using a high-definition microcomputed tomography system. PTU and PTG instruments were used in instrumentation channels, 6 mesial-buccal and 6 mesial-lingual of different teeth for each group. After the use of the instruments to F2, the channels were scanned again, such as after the use of F3 instrument. The parameters analyzed were the thickness of the remaining dentin in the cervical and apical thirds, volume and untouched canal walls by the instrument. Statistical analysis of the data were done using Friedman and Dunn's test for intra-group analysis, and for the between groups, the Mann-Whitney test were used. In the preoperative analysis, there were no statistical significant differences between the area and volume of root canals used in both groups ($p>0.05$). In the comparison between the PTU and PTG, there was no statistical difference in the volumes obtained after the use of instruments F2 and F3 as well as to the thickness of dentin in the apical third. In the cervical third, ProTaper Gold maintained higher centralization of preparation in the transition between F2 and F3 instruments than the ProTaper Universal. Both ProTaper Universal and ProTaper Gold provides a similar ability to shape the root canals of mandibular molars

E050 - Giroversion and dilacerations: challenges in the endodontic treatment

Rhawany Nascimento SANTINI[1]; Jose Francisco Mateo CASTILLO[1]; Tulio Lorenzo Olano DEXTRE[1]; Lucimara Teixeira das NEVES[1]; Celso Kenji NISHIYAMA[1]; Lidiane de Castro PINTO[1]

[1]Department of Endodontics, Hospital for rehabilitation of Craniofacial Anomalies, University of São Paulo.

The objective of this work was to describe the clinic conduct adopted in the endodontic treatment in tooth with dental anomalies, indicating the difficulties in the visualization and localization of the root canal system and further complexities the appear along with the execution of the endodontic therapy. Male patient, 12 years old, registered at the HRAC/USP, with complete bilateral cleft lip and palate was referred to the evaluation of the teeth 11 and 21. Thermal sensitivity tests were performed, where both teeth produced negative response. Radiographically the tooth 11 didn't show an image suggesting periapical lesion. It responded positively on the cavity test, confirming the pulp vitality. In contrast, the tooth 21 showed periapical bone rarefaction, therefore diagnosing periapical pathology. It was planned the endodontic treatment with calcium hydroxide paste as dressing with the aim of removing the periapical infection of the pulpless tooth. Clinically, this tooth showed giroversion and radiographically it was observed apical root dilacerations. In the first session, after anesthesia, the coronal opening, the absolute isolation and the access to the root canal, neutralization of the toxic-septic content associated with irrigation with Labarraque liqueur (2.5% NaOCl) were executed and the mechanical preparation using the modified Oregon technique. Then, calcium hydroxide paste as the intracanal dressing and sealing with glass ionomer cements (GIC). After 90 days, with the absence of signs and symptoms, the root canal was obturated using the Tagger hybrid technique and cement AH Plus. After 6 months, it was observed radiographically aspects of bone normality and clinically the absence of symptomatology. In conclusion, in spite of the anatomic complications and the presence of dental anomalies, the therapy held overcame the difficulties presented, determining the success of the treatment.

E051 - Dens invaginatus type III - surgical and endodontic treatment

Rodrigo Ryuiti HAYASHI[1]; Bruno Martini GUIMARÃES[1]; Murilo Priori ALCADE[1]; Rodrigo Ricci VIVAN[1]; Marco Antonio Hungaro DUARTE[1]; Clovis Monteiro BRAMANTE[1]

[1]Department of Operative Dentistry, Endodontics and Dental Materials, Bauru School of Dentistry, University of São Paulo.

Dens invaginatus is an anomaly that has numerous complex forms. This work presents a case of Type III dens invaginatus in a maxillary lateral incisor. An 18-years-old male patient was referred to the endodontic clinic because of a buccal sinus tract in the vestibular mucosa adjacent to the maxillary left lateral incisor. It had always been treated with apical retrofilling but it did not present non-surgical endodontic treatment. There was a sinus tract and the radiograph showed a periapical lesion. Due to the complex anatomy of Type III dens invaginatus, the greater probability of the nonsurgical endodontic treatment failure and the presence of a previous retrofilling, the surgical treatment was proposed firstly trying to solve the problem replacing the retrofill material. However, the sinus tract reappeared. Then the pulp chamber was opened and non-surgical treatment was carried out. The sinus tract disappeared and the follow-up showed the repair of the bone lesion, demonstrating the greater importance of the non-surgical treatment.

E052 - Surgical microscope in endodontics

Thais Natalia de Souza TIBERIO[1]; Fábio Pereira Linhares de CASTRO[1]

[1]Department of Dentistry, North Paulista University Center.

The difficulty to view the interior of the pulp chamber and root canals is one of the factors that can harm the endodontic treatment. This work aims to present to the dentistry the importance, advantages and disadvantages of the surgical microscope used in endodontics. We use as a content source, papers published in journals and textbooks. The magnification of the surgical microscope available on the market allows an increase up to 25 times. The lighting allows excellent visualization of the operative field, in some cases it is possible to see glue channels and to the apical foramen. The operating microscope allows a more comfortable works position, where staff remains with the spine in a 90° angle during the procedure. In clinical application, allows ease in removal of fractured instruments, treatment of perforations, open apexes, channel location. It´s disadvantage is the high cost and high learning curve. We concluded that due to the improved lighting and magnification of the surgical field for a significant improvement in quality of care providing greater safety and comfort for the profession.

E053 - Biomineralization assessment of endodontics cement: a microCT analysis

Vanessa Abreu Sanches MARQUES[1]; Vitor Correa HOMSE[1]; Diego VALENTIM[1]; Marco Antonio Hungaro DUARTE[2]; Bruno Cavalini CAVENAGO[2]; Ana Maria Veiga VASQUES[1]; Carlos Roberto Emerenciano BUENO[1]; Eloi DEZAN-JUNIOR[1]

[1]Department of Dentistry Restorative, Araçatuba School of Dentistry, Univ. Estadual Paulista.
[2]Department of Operative Dentistry, Endodontics and Dental Materials, Bauru School of Dentistry, University of São Paulo.

The aim of this study was to evaluate the mineralization ability of the endodontic materials BiodentineTM and White Angelus® MTA when compared with calcium hydroxide. The first right and left molars of 48 Wistar rats were submitted to pulpotomy. Access was performed with operating microscope with 1/2 carbide bur at high speed, with continuous irrigation, and pulp was cut with an adapted curette. The chamber was irrigated with saline until hemostasis, after coronal pulp removal. The pulp capping was performed with Biodentine, White Angelus® MTA or Calcium Hydroxide and crown sealed with glass ionomer and a sealant (PermaSeal, Ultradent). The control group did not receive capping material, and was directly restored with glass ionomer. Microtomography analysis (SKY SCAN 1174) was performed after 7, 15 and 30 days. Transverse sections were used to measure the largest area of hard tissue bridge formation through CTAn software. The data were statistically analyzed with two way ANOVA. At 7, 15 and 30 days Biodentine produced an average of 65%, 71% and 68% of hard tissues in the area of mineralization, respectively; calcium hydroxide

produced 38%, 56% and 53%, while White Angelus® MTA produced 27%, 21% and 41%, respectively. Biodentine™ induced highest mineralization areas followed by calcium hydroxide and White Angelus® MTA.

E054 - The use of ultrasonic to improve root filling

Vitor HIGA[1]; Murilo Priori ALCALDE[1]; Bruno Martini GUIMARÃES[1]; Pablo Andrés AMOROSO-SILVA[1]; Rodrigo Ricci VIVAN[1]; Clovis Monteiro BRAMANTE[1]; Marco Antonio Hungaro DUARTE[1]

[1]Department of Operative Dentistry, Endodontics and Dental Materials, Bauru School of Dentistry, University of São Paulo.

The root canal obturation of teeth with anatomical complexities is a challenge for root canal treatment. Several obturation techniques was proposed attempting to improve this procedure, such as, ultrasonic agitation of endodontic sealer. The objective of this study was assess the presence voids, gaps in the sealer/dentin interface, the intratubular sealer penetration in canals and isthmuses of the AH Plus sealer when ultrasonic activation was performed during obturation. 30 mesial roots of mandibular first molars were selected and divided into 2 groups (n=15). Root canal instrumentation was performed with the reciprocating system Reciproc (R25) and finished with the Mtwo (35.04) rotary instrument. Then the AH Plus sealer was mixed with Rhodamine B and was inserted into the root canals with a Lentulo spiral #35. In group 1 the ultrasonic activation of the sealer was performed while in group 2 was not activated. Then, the root canal filling was performed using the single cone technique. After 7 days of storage the roots were sectioned at 2, 4 and 6 mm from the apex and analyzed in the stereomicroscope and by confocal laser scanner microscopy. For the statistical analyses the Shapiro–Wilk test, the Mann–Whitney test was used to analyse the influence of ultrasonic agitation of the sealer of the stereomicroscopy and CLSM analysis. The Prism 6.0 software (GraphPad Software Inc., La Jolla, USA) was used as the analytical tool, and the significance level was set at 5%.The results showed that the ultrasonic agitation of the AH Plus sealer favored the isthmus filling and the intratubular penetration. It was concluded that theultrasonic agitation of the sealer favored higher intratubular penetration, lower presence of gaps and voids, promoting a better filing quality in teeth with anatomical complexities.

E055 - Dentinal debris removal provided by different irrigation techniques

Yahir Muñoz VALENCIA[1]; Francine CESÁRIO[1]; Marco Antonio Hungaro DUARTE[1]; Jussaro Alves DUQUE[1]; Murilo Priori ALCALDE[1]; Flaviana Bombarda de ANDRADE[1]; Rodrigo Ricci VIVAN[1].

[1]Department of Operative Dentistry, Endodontics and Dental Materials, Bauru School of Dentistry, University of São Paulo.

The aim of the present study was to compare volumetrically the debris-removal ability provided by different irrigant agitation techniques employing a new methodology with the use of artificial resin teeth. Thirty artificial resin upper incisors with straight root canals were instrumented and included into a muffle containing silicone. Then, the specimens were longitudinally sectioned with a diamond disk so that a longitudinal groove was made on the inner surface of the root canal of one hemisection and treated with 10% hydrofluoric acid. Dentinal debris were obtained through bovine dentinal shavings, mixed with sodium hypochlorite and inserted into the grooves. The samples were distributed into three groups: G1-Conventional (n=10), G2 - Easy Clean with alternating rotation (n=10), G3 - Easy Clean with continuous rotation (n=10). Pre-treatment and final rinse irrigation images were obtained and processed. The analysis of the images was performed using CTVol software for calculate volume (mm^3) before and after the irrigation protocol. The t paired test, analysis of variance (ANOVA) and the post hoc Tukey's test were used to assess reliability with significance set up at set at $p<0.05$. None of the irrigation techniques was able to completely removed dentinal debris from artificial resin teeth. Nevertheless, there was a statistically significant differences difference between the Easy Clean with continuous rotation group in relation the conventional and Easy Clean with alternating rotation groups. None of the irrigation techniques completely removed dentinal debris from the inner surfaces of the grooves of artificial resin teeth. Easy Clean with continuous rotation showed a higher percentage of dentinal debris removal.

D001 - Microabrasion in the treatment of dental fluorosis: a case report

Alyssa Teixeira OBEID[1]; Victor MOSQUIM[1]; Martha Beteghelli MICHIELIN[1]; Cassiana Koch SCOTTI[1]; Ernesto Benalcázar JALKH[2]; Rafael Francisco Lia MONDELLI[1]

[1]Department of Operative Dentistry, Endodontics and Dental Materials, Bauru School of Dentistry, University of São Paulo. [2]Department of Prosthodontics, Bauru School of Dentistry, University of São Paulo.

The search for an ideal smile is increasingly frequent in dental clinics and the demand for aesthetical treatment is directly proportional to this crescent. Among the alterations in the dental enamel that may compromise its aesthetic aspect is dental fluorosis, which is responsible for an opaque aspect of the enamel and even for the appearance of brownish spots in more severe degrees. When there is aesthetic complaint by the patient and a superficial enamel involvement can be seen clinically, microabrasion is the indicated procedure. This study aims to report a clinical case of a 21-year-old patient, male, who sought the Dentistry clinic of Bauru School of Dentistry, longing to have whiter teeth with a more homogeneous aspect once in the anamnesis were found whitish and superficial spots due to dental fluorosis. The established clinical protocol was the association of in-office dental bleaching with enamel microabrasion. Dental bleaching was performed using 35% hydrogen peroxide, photo catalyzed with hybrid LED/laser light. After a week, the elements 13 to 23 underwent microabrasion with a paste composed by 37% phosphoric acid and pumice stone. Subsequently, superficial polishing was done using an aluminum oxide paste and uncolored neutral fluoride was applied on the surface of the treated teeth. Thus, it is reasonable to conclude that the dentist should prefer techniques as conservative as possible, seeking a minimally invasive dentistry in obtaining a more pleasant smile.

D002 - Microhardness of resin-modifield glass-ionomer cement

Andréa Rodrigues SOUZA[1]; Elen Cristina Nogueira CAÍRES[1]; Emily Souto MARTINs[1]; Jairo Evangelista NASCIMENTO[1]; João Pedro Freitas SILVA[1]; Laís Vieira PINTO[1]; Paula Tatiane Rodrigues SOUZA[1]; Silvério de Almeida Souza TORRES[1]

[1]Department of Dentistry, United Colleges of Northern Mines.

Glass-ionomer cement is an important restorative material biocompatible, presenting great potential adhesiveness to tooth structure, coefficient of thermal expansion close to that of dentin, and have high fluoride release ions, contributing to the remineralization of the enamel and the caries control. These attributes make it be widely used in dental procedures. Some of these materials may be made with the addition of resin, being considered glass ionomer cements modified by resin, which improves the physical and mechanical properties. However, problems such as the total conversion of these resinous materials and the possibility of the presence of residual monomers are still found in the literature, even checking the presence of few references in the literature discussing this issue. The aim of this pilot study was to determine the hardness as a function of depth for a resin-modifield glass-ionomer cement. To this, were prepared test pieces (N=5) for four depths (2, 3, 4 and 5 mm) resin-modifield glass-ionomer cement - Riva Light Cure/SDI (RLC) from a nylon matrix. After performing the Knoop microhardness test (DK) showed the following results: 2 mm (39.84), 3 mm (38.99), 4 mm (34.93) and the depth of 5 mm is not achieved, taking readings the hardness numbers. This study found a decrease in hardness as a function of depth and very differing values between two and four millimeters, thus suggesting the insertion of resin-modifield glass-ionomer cement two millimeters in increments to a more satisfactory polymerization.

D003 - Microabrasion in generalized fluorosis spots - case report

Danielle de Souza PINTO[1]; Mauro Elisban Diaz MAMANI[1]; Tamires de Luccas BUENO[1]; Rafael MAENOSONO[1]; Sergio Kiyoshi ISHIKIRIAMA[1]; Rafael Francisco Lia MONDELLI[1]

[1]Department of Operative Dentistry, Endodontics and Dental Materials, Bauru School of Dentistry, University of São Paulo.

White spots on the enamel may come from a hypocalcification or dental hypoplasia, and generating an aesthetic discomfort to the patient who seeks treatment for their elimination. In white spots from dental fluorosis the enamel microabrasion is a technique that can promote a satisfactory aesthetic result. In this case, female patient, 26 years of age, attended the graduate clinic Bauru School of Dentistry, with main complaint of white spots on teeth. To perform the clinical examination it was found widespread fluorosis spots, in all teeth, located on the vestibular surface with a depth in enamel. The proposed treatment for patient was the removal of these patches through the technique of enamel microabrasion. Two sessions were held, one for the upper and one for lower arch. The absolute isolation of the teeth was performed and then an aggregate was applied for microabrasion (Micropol, DMC Equipment Ltd), composed of 6% hydrochloric acid on silica, through an abrasive rubber, thrown in low rotation for 10 seconds on each tooth. This same procedure was executed 6 times in under, being held 8 applications in the upper arch. After each session, the polishing of the surfaces with a felt and topical application of fluoride acidulated phosphate colorless, for 4 minutes with the purpose of remineralization of tooth structure. At the end of all the treatment result obtained with microabrasion procedure was the minimisation of stains with a pleasant smile, as well as the satisfaction of the patient.

D004 - Gingivoplasty guided by Chu's Proportion Gauge

Gabriela Mendonça RANDO[1]; Martha Beteghelli MICHIELIN[1]; Cassiana Koch SCOTTI[1]; Ligia Maria Lima ANDREATTA[1]; Julio Alberto MAGOLBO[2]; José MONDELLI[1]

[1]Department of Operative Dentistry, Endodontics and Dental Materials, Bauru School of Dentistry, University of São Paulo. [2]Private Clinic.

Chu's Proportion Gauge is used to diagnose and correct individual dental discrepancies, proportion of central incisors, laterals and canines that require correction to improve the patient's smile aesthetics. The purpose of this case report is to present how this gauge can be used in gingivoplasty surgery to guide the dentist through the surgical technique, once detected an increase in probing depth of the teeth involved. The patient was referred to the Department of Operative Dentistry showing complaint about her smile aesthetics, and during clinical examination

was observed unevenness of the gingival margins of the left maxillary central and lateral incisors, additionally to the presence of false gingival pockets. The surgical technique of choice was gingivoplasty by external bevel incision, and the Chu's Proportion Gauge was used during the procedure to check the correct height-width ratio of the elements 21 and 22. 6-month follow-up demonstrates effectiveness of the technique and resulted in aesthetic excellence.

D005 - Relationship of light intensity and microhardness of composite resins

Henrico Badaoui Strazzi SAHYON[1]; Camila Berbel SELOTO[1]; Arthur Bruno Pereira CAVALCANTE[1]; Paulo Henrique dos SANTOS[1]

[1]Department of Dental Materials and Prosthodontics, Araçatuba School of Dentistry, Univ. Estadual Paulista.

The purpose of this *in vitro* study was to evaluate the light intensity of light cured units of graduation students at Araçatuba School of Dentistry – UNESP and private dental clinics, evaluating the consequences of different light intensities in microhardness of composite resins before and after thermo cycling. Eighty specimens of TPH Spectrum composite resin (5.0 x 2.0 mm), colors A3 and C3, divided into 4 groups according to the restorative material and light curing units used (VALO -Ultradent and EC 450 - ECEL) (n=10). For the measurement of light intensity it was used a digital radiometer (Dabi Atlante RD7 Ecel). Knoop hardness values were performed using the HMV 2000 hardness tester to determine the possible changes in composite resins before and after thermocycling (12000 times, 5-55°C). The microhardness data were analyzed using 3-way repeated measures ANOVA and Tukey's test (p=0.05). The results showed that thermocycling, different luminous intensities of light curing and different colors of resin materials were able to change the microhardness of the composite resin. The A3 restorative material light cured with higher luminous intensity unit (VALO) showed higher Knoop microhardness values. Therefore, the light curing units must provide adequate light intensity to allow satisfactory mechanical properties of resin materials.

D006 - Strategic approaches for the treatment of the sequelae of caries

Isabela TOLEDO[1]; Cassiana Koch SCOTTI[1]; Martha Beteghelli MICHIELIN[1]; Elisabete FERREIRA[1]; Juliana Fraga Soares BOMBONATTI[1]; Maria Teresa ATTA[1].

[1]Department of Operative Dentistry, Endodontics and Dental Materials, Bauru School of Dentistry, University of São Paulo.

Due to the greater understanding of caries as a behavioral disease, the diagnosis of its risks and activities turns out to be the best strategy to determine the most appropriate and conservative treatment. Based on the above mentioned, the objective of this study is to present, through a case report, different approaches to the treatment of sequelae left by periods of disease activity in various stages of progression. A 19-year-old female patient sought dental treatment and, through history and physical examination, state high-risk of disease state was not detected. Nevertheless, the patient had carious lesions untreated coming from a high-risk period and existing pre-activity. Inactive white spot lesions, cavity restricted to enamel, enamel cavity and chronic caries involving dentin were identified. The operative approach of the white inactive spot lesions was microabrasion of enamel, for the cavities limited to enamel and dentin was performed the removal of decayed tissue and preservation of sclerotic and reactive tissue, paying attention to the lesion characteristics in terms of color, consistency and extension, followed by restoration with composite resins. Later, directions were given to the patient to maintain her oral health status. Thus, the treatment of inactive caries when guided by the analysis of etiological factors of dental caries, in addition to the knowledge of the progression of lesions, allows more conservative approaches that contribute to the individual's health maintenance.

D007 - Esthetic resolution in ankylosed and infra-occlusion tooth

Jéssica Behrens CRISPIM[1]; Margareth Calvo Pessutti NUNES[1]; Marcos Sergio ENDO[1]

[1]Department of Dentistry, State University of Maringá.

During childhood the occurrence of injuries is high; Studies show that each two children, suffer dental trauma, and the correct diagnosis and treatment is essential for maintaining a healthy dentition. The avulsion of permanent teeth is more common in young teeth, because the roots are not fully formed and periodontal ligament is very resilient. The aim of this study was to describe a case of an 8 year old who sought care in Maringaense Specialized Center of Trauma in Dentistry, State University of Maringá, five days after suffering avulsion of tooth 21 after a bicycle fall. The tooth was not properly stored and reimplantation was performed 3 hours after avulsion. Six months after the finish of obturation the tooth 21, there was root resorption. Due to the patient's bone growth after two years and six months of injury, it was noted that the tooth 21 was, besides to the extensive root resorption, ankylosed and infra-occlusion. We opted for the direct restoration of this tooth with composite resin, to make the most aesthetically pleasing smile and avoid extraction, keeping the natural tooth as long as possible, later in adulthood be submitted to extraction and implant placement. It was concluded that the best treatment is one that enhances the self-esteem of the patient, returning the smile and expanding the social behavior of the same.

D008 - Fluorescence analysis in aesthetic restorative treatments

Lígia Saraiva BUENO[1]; Natália Almeida BASTOS[1]; Cassiana Koch SCOTTI[1]; Giovanna Speranza ZABEU[1]; Juliana Fraga Soares BOMBONATTI[1]; Rafael MONDELLI[1]

[1]Department of Operative Dentistry, Endodontics and Dental Materials, University of São Paulo, Bauru School of Dentistry.

Currently, new direct restorative materials have been developed in order to reproduce the natural optical properties of the enamel and dentin, increasing the aesthetic integration of the restoration. These properties, among them the fluorescence, are essential in correcting the shape, position or color of teeth. Therefore, in order to assist in making these restorations, new diagnostic methods are being developed. The present work demonstrates, through a case report, the importance of proper selection of color coupled with a fluorescence

diagnostic method of composite resins. Patient, female, 21, attended the clinic of the Bauru School of Dentistry (FOB) and, during anamnesis, reported complaints of previous unsatisfactory restorations because of incompatibility between tooth color and restoration. After clinical examination the presence of diastema closure composite resin between the maxillary central incisors with correct anatomy was observed, but with alterations in color and fluorescence change. A new restoration was carried out using a new imaging system for high performance optical fluorescence, called Evince. The entire enamel surface was etched with 37% phosphoric acid for 30 seconds, washed and dried. Then Scothbond Multipurpose adhesive (3M ESPE) was then applied. The restorative technique used was the stratification using Filtek Z350XT resins (3M ESPE): A1 color for enamel and IPS Empress Direct (Ivoclar Vivadent AG, Schaan, Liechtenstein): A1 color to dentin. The polishing was given after 7 days. After the conclusion of the case, the patient reported being satisfied with the aesthetic treatment performed. The correct perception of the optical properties through alternative methods in order to perform a restorative technique is important to allow the mimicry of tooth structure.

D009 - "Radiation caries"? A multidisciplinary challenge to the dentist

Maiara Gabriela GONÇALES[1]; Marina Ciccone GIACOMINi[2]; Rafael Simões GONÇALVES[2]; Marilia Mattar de Amoêdo Campos VELO[2]; Letícia Ferreira de Freitas BRIANEZZI[2]; Paulo Sérgio da Silva SANTOS[1]; Linda WANG[2]

[1]Department of Stomatology, Bauru School of Dentistry, University of São Paulo.
[2]Department of Operative Dentistry, Endodontics and Dental Materials, Bauru School of Dentistry, University of São Paulo.

Malignant neoplasias of head and neck region are usually treated with radiotherapy. However, radiation unbalances the oral hemostasis, resulting in adverse effects: oral mucositis, hyposalivation, dysphagia, dysgeusia, trismus, tissue necrosis, osteoradionecrosis and "radiation decay." To minimize them, previous treatments should be performed. Reduction of salivary flow and compromising of buffer capacity favor the development of new carious lesions, mainly due to the destruction of the salivary glands by radiation, altering the oral microflora and the composition of saliva, which increases the demineralization. It has been hypothesized to occur a direct effect of radiation on the teeth, which is under investigation. This case report will address the restorative treatment of a patient after radiation therapy, with the special attention required in the overall management and the particularities of carious lesions, demonstrating the need for multidisciplinary care. A leucoderma male patient, 60 years old, with neopharynx neoplasia, held radiotherapy and chemotherapy treatment. The dental procedure included the restoration of the lesion of #23 tooth after completion of treatment. The characteristics of the carious tissue and the selection of resin-modified glass-ionomer cement will be presented, which is an anti-caries material that provides excellent sealing and compatibility with the gum tissue. The biofilm control, use of fluoride and nutritional counseling are essential to prevent progression of caries. During treatment, attention regarding the chair-time, hydration of the oral cavity and positioning are necessary. Thus, one must carry out a careful preparation of the previously operative care professional during and after treatment to restore function and maintain the physical and emotional attention necessary for post radiotherapy patients. Thus, the professional must be well prepared, previously, during and after restorative treatment, to reestablish function and maintain emotional and physical care needed to post radiotherapy patient.

D010 - Comparison of erosive protocols to non-carious cervical lesions

Mariana Dias MODA[1]; Ticiane Cestari FAGUNDES[1]; Eduardo BRESCIANI[2]; Paulo Henrique dos SANTOS[3]

[1]Department of Restorative Dentistry, Araçatuba School of Dentistry, Univ. Estadual Paulista.
[2]Department of Restorative Dentistry, Institute of Science and Technology, Univ. Estadual Paulista, São José dos Campos/SP.
[3]Department of Dental Materials and Prosthodontics, Araçatuba School of Dentistry, Univ. Estadual Paulista.

Currently, non-carious cervical lesions are being highlighted for its high incidence. Therefore, the aim this study was to analyze damage to bovine dentine after undergoing different in vitro erosive protocols and compare those results to non-carious cervical human lesions (NCCL) and sound dentine. Blocks of cervical dentine were used: sound human dentine (n=10), human dentine with NCCL (n=10), and bovine dentine (n=30). Twenty bovine blocks were submitted to two erosive protocols (n=10/protocol). In the first protocol, samples were demineralized with a hydrochloric acid pepsin solution (HCl-pepsin) over 9 days (6×2 min/day, pH 1.6), treated with a trypsin solution (6×10 min/day), and then brushed (2×15 s/day) after the first and last trypsin treatment. In the second protocol, samples were demineralized with 2% acid citric (4×5 min/day, pH 2.8) and brushed (4×15 s/day) after each erosive cycle. Samples were analyzed in order to obtain Martens hardness values (HMV), elastic modulus (Eit*), and surface gloss. Sound and human dentine with NCCL showed the highest HMV and Eit*, but they were not statistically different from each other ($p>0.05$). No statistical differences were found for bovine dentine submitted to HCl-pepsin and human dentine with NCCL when mechanical properties were evaluated ($p>0.05$). The citric acid protocol obtained lower mechanical property values than other groups ($p<0.05$). The bovine dentine that underwent erosive protocols and the human dentine with NCCL presented similar surface gloss values ($p>0.05$). The HCl-pepsin protocol applied in bovine dentine was able to accurately mimic mechanical properties and surface gloss of human dentine with NCCL.

D011 - Replacement of amalgam restoration using "bulk-fill": a case report

Murilo de Almeida MANOEL[1]; Rafael Simões GONÇALVES[1]; Souza, Matheus Lotto de Almeida SOUZA[1]; Giovanna Speranza ZABEU[1]; Rafael Francisco Lia MONDELLI[1]

[1]Department of Operative Dentistry, Endodontic and Dental Materials, Bauru School of Dentistry, University of São Paulo.

Several failures have been related to amalgam restorations requiring repair or replacement. Accordingly, composite resins (CR) and the concept of adhesive allows current dentistry to address the aesthetics needs which permeates modern society. Recently, a new group of dental materials

called "bulk fill" has been developed, which are CRs that can be used in a single increment up to 4mm thick. The aim of the present case report is to present a usual condition found in the dental office: fractured amalgam filling associated with the aesthetic desire of the patient. A 42-year-old patient sought the graduation clinic of the Bauru School of Dentistry-FOB/USP presenting painful symptoms in tooth 36 with discomfort while chewing and sensitivity to cold. After clinical and radiographic analyses, a fractured amalgam restoration (MOD) was observed, confirming the need for its replacement. After its removal, a crack that stretched the entire length of the lingual cusps in the mesial-distal direction was observed. A reduction was performed in the lingual cusps to be recovered with CR to avoid its deflection. The restorative procedure was performed under absolute isolation. A 3-step etch-and-rinse adhesive system (Adper Scotchbond Multipurpose, 3M/ESPE) and a flowable restorative material (Filtek Bulk Fill, 3M/ESPE) to partially fill the cavity were used, and to finish the restoration, a nanoparticulate resin (A2E-Filtek Z350 XT-3M/ESPE) was used, which has good mechanical and polishing properties. Thus, it can be concluded that failed amalgam restorations must be repaired or carefully replaced to prevent damage to the remaining tooth structure; CR being the material of choice for the replacement.

D012 - ICDAS: early diagnosis to minimal intervention treatment

Natália Almeida BASTOS[1]; Marilia Mattar de Amoêdo Campos VELO[1]; Maria Angélica Silvério AGULHARI[1]; Cassiana Koch SCOTTI[1]; Linda WANG[1]

[1]Department of Operative Dentistry, Endodontics and Dental Materials, Bauru School of Dentistry, University of São Paulo.

Understanding dental caries as disease has allowed the consolidation of a minimal intervention philosophy, which diagnosis of early lesions represents the key point for the choose of the treatment that prioritize the conservation of tooth structure. Therefore, a detailed visual indexes may contribute minimizing the subjective interpretation with regard to characteristics of caries lesions, improving its sensitivity and reproducibility. The present study reports, through clinical cases, the caries index "international caries detection and assessment system-2 (ICDAS-2)"; application, showing the need of interaction between correct diagnosis and appropriate treatment. In the beginning, the examiner determines if a clean and dry tooth surface is sound, sealed, restored, crowned, or missing. Afterwards, the examiners classify the carious status of each tooth surface from sound to extensive cavitation. The criteria determine different codes: (0) no or subtle change; (1) visible white lesion after prolonged air drying or pigmentation confined on the pit and fissure area; (2) visible white lesion in wet condition or brown carious discoloration which is wider than the natural fissure; (3) enamel breakdown; (4) underlying dark shadow from dentin; (5) distinct cavity with visible dentin; (6) an extensive cavity involving at least half of a tooth surface cavitation. After previous training, ICDAS becomes an important dental caries early diagnosis tool. Some clinical cases will be presented reporting different stages and treatments, from monitoring approach to restorative intervention. Based on this system, ICDAS become an excellent method, allowing standardization of early interventions and maintenance of most healthy tooth structure.

D013 - Analysis of the chemical interaction between GIC and glass fibers

Yasmin Firmino de SOUZA[1]; Helder Fernando BORGES JUNIOR[1]; Sergio SABIO[1]; Francielle SATO[2]; Adriane do NASCIMENTO[2]; Mauro Luciano BAESSO[2]

[1]Department of Dentistry, State University of Maringá.
[2]Department of Physics, State University of Maringá.

Glass ionomer cements (GIC) are restorative materials that have beneficial properties, such as fluoride release, biocompatibility, adhesiveness and linear thermal expansion coefficient similar to the tooth. However, these material have limited mechanical properties, reducing the durability of the restoration in posterior teeth. Various reinforcements have been tested in order to improve this mechanical properties, including glass fibers. We already know that there is increased resistance of the glass ionomer cement when mixed with glass fibers, but what is the relationship between these two materials? This work proposes to characterize the structural components in the interface between fiberglass and glass ionomer cements, and assess the existence of chemical interactions between these two materials. We used a glass ionomer cement of high viscosity (Fuji IX GC) and glass fibers (Nitriflex). For the analysis of chemical interaction, there were five different types of samples: only glass ionomer cements, only fiberglass and samples of glass ionomer cement reinforced with glass fibers (GIC+fiberglass), in concentrations of 10%, 20% and 30% fiberglass. The samples were analyzed by FTIR and Raman spectroscopy, and the spectra were analyzed using Origin 8.5® software. The results showed a possible presence of chemical interaction, with the appearance of changes in peak 1610 cm^{-1} and 993 cm^{-1} in the samples of GIC+ fiberglass at a concentration of 20% of fiberglass. These results suggest an improvement of the physical properties of the compound, which is of special interest to application in dentistry.

D014 - Marginal quality in class II resin-based composite

Raniel Ramon Norte NEVES[1]; Mylena Morassi BUENO[1]; Karin Cristina da Silva MODENA[1]; Maria Cecília Veronezi DAHER[1]; Marcela Pagani CALABRIA[1]

[1]School of Dentistry, University of Sagrado Coração.

The marginal microleakage is still one of the largest clinical problems due several reasons. The purpose of this *in vitro* study was to compare the marginal quality of class II restorations ending in enamel or dentin that were restored with the composite SureFil SDR™® (Dentsply) and a conventional composite resin TPH3 (Dentsply) by means of a scanning laser confocal microscopy (Leica TCS SPE, Mannheim, Germany). In healthy molars (n=10) were made class II cavities (MO-ending in enamel and DO- ending in dentin) as follows: 4 mm bucco-lingual, 4 mm (enamel) and 6 mm (dentin) ocluso- gingival and 2 mm mesio-distal. Cavities were conditioned with phosphoric acid and the adhesive system pigmented by rhodamine B was applied (Adper Single Bond 2-3MESPE) and cured. The teeth were restored with SureFil resin (n=5) in single increment of 4mm and with resin TPH3 (n=5) by 2 mm incremental technique. Then the outer surface of the restoration received adhesive impregnated with fluorescein. The teeth were sectioned towards mesio-distal lengthwise for further analysis of confocal restorations. Criteria were used to qualify the presence

and absence of marginal microleakage. Both groups did not present microleakage on the side of the cavity preparation ending in enamel (level 0). However, in both groups always microleakage were detected in dentin margin (level 1) which remained in initial gingival wall third. The restorative material Surfil presented the same pattern of marginal microleakage of conventional resin. The location of the end of the cavity preparation influenced the pattern of marginal microleakage.

D015 - Effect of storage in the dimensional change and details of alginate

Allan Oliveira da SILVA[1]; Bruno Guandalini CUNHA[1]; Aimée Maria GUIOTTI[1]; Karina Helga Leal TÚRCIO[1]; Humberto GENNARI FILHO[1]

[1]Department of Dental Materials and Prosthesis, Araçatuba School of Dentistry, Univ. Estadual Paulista.

New products are released in an attempt to compensate for some inherent disadvantages alginate, for example, dimensional instability, a major cause of clinical failure of the use of alginate. This study evaluated the influence of storage in the course of five days, on the dimensional changes and maintenance details of a high stability alginate, Hydrogum 5, comparing it with the conventional Hydrogum, the same trademark. The preparation of the samples followed the specifications n.18 and 19 of ANSI/ADA, which acquired 40 molds, 20 for each alginate. Half of the samples were used for detail maintenance test by obtaining gypsum-stone type IV models after each storage period by checking whether reproduction and sharpness three grooves (50±5 uM, 20±5 uM, 75±5 uM). For the dimensional stability test were carried photographs with digital camera (Nikon D50) mounted on the stand, with the distance camera / object kept the same for all photographed molds. Each mold was photographed immediately after its removal from the matrix, and each storage period (15 minutes, 24, 48, 72, 96 and 120 hours), kept hermetically sealed in plastic bags. Measurements were made in Corel DRAW X6 program, used to measure the scanned images. Data were subjected to statistical analysis (Student's t test; $p<0.05$). It was observed that the high stability alginate contraction experienced by the end of 120 hours (-1.56%) with no significant difference compared to conventional alginate. Both alginates kept detail reproduction over time. There was statistical difference in relation to the immediate period for the two alginates, after 24 hours. Moulds made with this material should be immediately leaked to submit satisfactory clinical results. It is not recommended to use this material where you expect high dimensional accuracy.

D016 - *In vitro* evaluation of the effectiveness of different bleaching agents

Angela Rodrigues de ÂNGELI[1]; João Felipe BESEGATO[1]; Adrieli BUREY[1]; Marcieli Claudia SARTORI[1]; Rafaela GHELLER[1]; Márcio Grama HOEPPNER[1]; Bruno Bevenuto LUCAS[1]; Cássia Cilene Dezan GARBELINI[2]

[1]Department of Restorative Dentistry, State University of Londrina.
[2]Department of Oral Medicine and Children›s Dentistry, State University of Londrina.

The dental bleaching is much sought for aesthetic reasons and for being a conservative procedure. Bleaching agents, are mostly, based on the hydrogen peroxide. Some are added nanometric particles of titanium dioxide, which when light-activated potentiate the peroxide oxidation reaction. However, there are still lack studies to understand how these products act on the dental structure in depth. This study aims to evaluate the in vitro effects of two bleaching agents based on hydrogen peroxide, with the response variable to the enamel surface roughness and color change. Therefore, 10 samples were obtained from bovine teeth (thickness 3.5 mm and 5 mm x 5 mm size), divided into two groups (G) (n=5), according to the whitening agent: G1 - bleaching with peroxide of 30% hydrogen plus titanium dioxide nanoparticles (TiO_2) and light-activated by diode laser wavelength 810-980 nm (DTlaser), and G2 - bleaching with hydrogen peroxide at 35% (PCo). The adjustment of the surface of the samples was regularized with decreasing abrasive disks and stored in a standardized coffee solution for 7 days. The surface roughness was evaluated before (RT0) and after the second session (RT1) whitening, being realized 3 readings for each sample. The color of the samples has previously been measured (CT0), after seven days (CT1) soaking in the dye solution and 24 hours after the second bleaching session (CT2). According to the results, it was observed that there was no statistically significant difference ($p<0.05$) for surface roughness and color variables before and after the bleaching sessions in both groups. Therefore, it can be concluded that the use of the laser is optional and the professional may choose any of the bleaching agents tested.

D017 - Layering with composite resin restorations class IV

Bárbara FONSECA[1]; Raphael GUSTAVO[1]; Binko Felipe VILLA VERDE[2]

[1]Dental School, Paranaense University.
[2]Department of Restorative Dentistry, Paranaense University.

Treatment of class IV cavities with adhesive restorations in direct composite resins comprise less invasive procedures, performed in a single session and have great aesthetic results. However, the indications of these treatments must be respected. Rehabilitation of anterior teeth fractured challenges include creating natural transition between the restoration and the tooth, and opacification enough to mask the dark background of the mouth also the translucency of the incisal edge and the natural surface texture should approach the maximum adjacent structures, and to achieve excellence must be used layering techniques based on the concepts of light and color. The aim of the study is to report a case of IV mesial poor class restoration and incisal fracture element 12. Patient 22, female, she attended the dental clinic of the

State University of Ponta Grossa, Paraná, dissatisfied with the smile's appearance, chose If for a restorative treatment with direct composite resin. We first carried out the molding and waxing diagnosis in order to facilitate the preparation of palatal barrier, incisal and proximal anatomy, restoration of removing composite resin with diamond burs at high speed, it performed the bezel with diamond burs F, phosphoric acid etching 37% Condac , adhesive system Ambar-MGF, application of resin by natural layering technique, the selected resins were Dentin A1, Enamel A1, incisal effects T-yellow and T-blue and high resin value HV (Opallis, FGM) and subsequent finishing and polishing. Regarding the results it is observed that the Opallis resin is a great choice material due to its availability of color and effect resins, and also developed great shine to the end of the procedure, therefore, it follows that this resin provides great naturally allowing the dentist artificially reproduce the tooth with excellence.

D018 - Dental injury followed by bonding fragment

Bruna Gonçalves RODRIGUES[1]; Margareth Calvo Pessutti NUNES[1]; Marina de Lourdes Calvo FRACASSO[1]; Izabela Volpato MARQUES[1]

[1]Department of Dentistry, The State University of Maringá.

The increase in number of domestic, traffic and work accidents, as well as the levels of violence and a higher participation of children in sports activities have contributed for dentoalveolar traumatism be one of the major complaints in dental emergency services. Faced this issue, the C.E.M. TRAU (Maringá Center Specialized in Traumatism in Dentistry) of the University of Maringá seeks to provide medical care for persons who have suffered such trauma by offering support for patients from the city of Maringa and its region. There are several types of traumas, which in special can be discussed the coronal fracture, that consists in loss of the crown substances and may affect only enamel, enamel-dentin or even enamel-dentin-pulp, each of them with its particular kind of treatment. The objective of this study is to report a clinic case of a special needs patient who had fracture coronary of the elements 11 and 21, involving enamel and dentin without compromise the pulp. In this case it was performed a bonding of fragments to restore functions such as masticatory, phonetics and aesthetics, as the trauma region included the anterior teeth of the jaw. The final result was very satisfactory once the fragments were intact and properly stored, following professional dentist guidance. At the first moment it was difficulty to deal with the management of the patient but through the treatment the barrier between the professional and the patient narrowed, facilitating the procedures. Therefore, it is concluded that although difficulties may happen in the treatment of special needs patients, it is necessary an awareness by the professional to perform the medical care, always following good technique principles in order to restore the masticatory function of the patient and the aesthetics of the affected teeth.

D019 - Restorative approach for an anterior fractured tooth

Carlos Eduardo Castello da Motta LAMEIRA[1]; Daniel SUNDFELD NETO[1]; Renata Aparecida CARDOSO[1]; Adriana de Jesus SOARES[1]; Ticiane Fagundes CESTARI[1]; Renato Herman SUNDFELD[1]; Núbia Inocencya Pavesi PINI[1]

[1]Department of Restorative Dentistry, Araçatuba Dental School, Univ. Estadual Paulista.

Dental trauma in anterior region is a common clinical situation in clinical practice and may compromise function and esthetic of the smile composition. Frequently, it is necessary a multidisciplinary approach to a complete treatment, since diagnosis and planning of the case. This case report aimed to present a clinical situation in which a dental trauma caused form and colour changes in some teeth, leading to an aesthetic injury to smile. An 18-years-old patient, female, presented unsatisfactory Class-IV restorations on the right central incisor (11) and the left lateral incisor (22). The central incisor (11) presented a bigger cavity than lateral incisor (22), besides to be endodontically treated. The patient has suffered a trauma accident during practice of sports 5 years before. In the first restorative approach, the endodontic treatment was set with pulp revascularization. At present, in the second intervention, it was planned for the patient to perform, non-vital bleach in tooth 11 using sodium perborate and distilled water (2 sessions) and after, in-office vital bleaching with hydrogen peroxide 35% (session 1-3 applications) for all teeth. Tooth 11 evolved from color C2 to B1 (subjective analysis – Vita Scale), and from L=66 to L=73.7 (L=luminosity, objective analysis - EasyShade spectrophotometer). After 15 days interval, new direct restorations were performed on teeth 11 and 21, using a silicone matrix obtained from the initial condition of the patient, with her old restorations. Microhybrid resin (Vitalescence-Ultradent) was used in color B1 to reproduce dentin and enamel, white for enamel. The techniques employed were efficient to restore the aesthetics in the patient's smile, preserving the biological and functional aspects involved in young patients with fractured teeth.

D020 - Tooth fragment reattachment: conservative alternative to restore tee

Giovani Lopes FERNANDES[1]; Marjorie de Oliveira GALLINARI[1]; Laura Molinar FRANCO[1]; André Luiz Fraga BRISO[1]; Rodrigo Sversut ALEXANDRE[1]

[1]Department of Restorative Dentistry, Araçatuba Dental School, Paulista State University.

Dental fractures caused by trauma are very common, with relative difficulty in restoring them properly. As restorative techniques have direct composite resin restorations, use of veneers and fragment reattachment. The collages of fragment is considered more conservative alternative to restore anterior teeth fractured, beside that re-establishing the morphological, mechanical and aesthetic characteristics. Additionally this technique allows the immediate approach of the traumatized tooth without any form of preparation and with greater predictability of the treatment and maintenance of the original tooth color. This paper reports the case of the patient G.L.F. 23 year old male, who fractured the element 11. In this case was conducted bonding of dental fragments / autogenous, as the patient kept the tooth fragment in perfect conditions which allowed the execution of the technique. First the adaptation of the fragment was verified, and then

was chose the color of the composite resin to be used. Selected resin, hybridization of both the fragment was performed as tooth remnant. Then, before polymerizing the adhesive, a portion of resin was interposed in the fragment and made light curing. Finalized the union of the tooth fragment was made a channel in the line of union and restored with composite resin to enhance the unity and aesthetics, preventing the union of view. The restoration was completed with finishing and polishing with abrasive discs and rubbers. After 1 year of follow up the marginal integrity and aesthetics remained intact. As a result a lasting favorable aesthetics, we can conclude that the collage fragments is an alternative to direct restorative methods and has advantages such as ease of implementation and promote better aesthetic result and, to date, no adverse effect.

D021 - Clinical evaluation of resin-based sealants

Heitor Ceolin ARAUJO[1]; Karine TAKAHASHI[1]; Isabela Copetti FARIA[1]; Brenda Zanfolin TORQUATO[1]

[1]Presidente Prudente Dental School, University of West Paulista.

Dental caries is a major problem in dentistry. Several studies on materials for the prevention of this disease have been made over the years, and applying resin-based sealants in permanent teeth has been effective in preventing caries, particularly in high-risk patients. The objective of this study is to evaluate the effectiveness, retention, prevalence of caries and marginal discoloration of resin-based sealants (Fluoroshield and Prevent) in first permanent molars. 92 children from 7 to 11 years old, were selected from Professor Anna Mello Castriani Public School of Regent for the application of resin-based sealants in lower first permanent molars. The application of resin-based sealants Fluoroshield and Prevent was performed according to manufacturer's recommendations. The evaluation of the effectiveness, retention, prevalence of caries and marginal discoloration was performed according to the criteria of Provenzano: alpha (intact sealing, none caries and discoloration) Bravo (partial sealing, surface caries and slight discoloration) Charlie (complete loss of sealing, presence of cavitation and discoloration) after 6 months of the application by two calibrated examiners. Statistically none significant differences were observed ($p>0.05$) between the resin-based sealant groups on the research. It can be concluded that both resin-based sealants used in research have proved effectiveness in the evaluated criteria. And with this, this may be an alternative to prevent and combat dental caries.

D022 - Minimally invasive treatment in a case with severe dental erosion

Kaellipy Oliveira de SOUZA[1]; Renata Corrêa PASCOTTO[1]

[1]Department of Dentistry, State University of Maringá.

Excessive consumption of acidic substances associated with parafunctions contributes to the progressive pathologic loss of tooth structure. The purpose of this case report is to describe the treatment minimally invasive aesthetic restoration with composite resin in a young patient with clinical signs of attrition/dental erosion. The buccal lesions were associated with the frequent consumption of lemon and incisal signs of wear associated with bruxism. The presence of strong acids of extrinsic origin in direct contact with the tooth surfaces caused a decrease in normal brightness of the teeth, promoting dentin exposure and consequent sensitivity. The parafunctional habit, characterized as nocturnal bruxism, caused incisal wear and also in cusp, compromising disocclusion canine guides. As a conservative treatment alternative was proposed the restoration of areas jeopardized by erosion with direct aesthetic composite resin restorations (Z350XT, 3M ESPE) in A2 color (body and glaze). The materials were applied by incremental technique. To control the parafunctional habit at the end of restorative treatment was made one occlusal splint. The patient received guidance on the importance of reducing the intake of citrus fruits in your diet and not performing the brushing immediately after the consumption of acidic substances. Also was prescribed daily mouthwashes with NAF 0.05% and use of toothpaste low abrasiveness and active remineralizing component. The proposed treatment recovered the aesthetics of minimally invasive way, reduced sensitivity and obtained control of parafunctional habit.

D023 - Caries incidence on hemodialysis patients

Letícia Boaventura Sá PONHOZI[1]; Ana Carolina GUIMARÃES[1]; Isadora Mecca MARTINELLI[1]; Mayara Câmara BUSS[1]; Raquel Sano Suga TERADA[1]; Nelí PIERALISI[1]

[1]Department of Dentistry, State University of Maringá.

Chronic kidney disease when it reaches its final stage, the patient presents the kidney failure when patient dialysis or kidney transplantation is required. In this condition, there is a frequent state of immunosuppression, which early diagnosis and treatment of infectious diseases, such as caries, can shorten infections focus and improve the quality of life of this population. The objective of this study is to compare the presence of dental caries on hemodialysis patients (HD) of different age groups. The caries incidence comparability was made between children and adolescents HD dates, described by literature reports, and adults HD dates collected in a Maringa State University study. Furthermore, the oral pH, salivary flow rate and daily oral hygiene were also compared. The present analysis showed lower caries incidence in young HD patients, higher pH levels and no statistically significant change in the salivary flow rate in relation to healthy patients. By other side, adults HD showed higher dental caries and oral pH levels in relation to kidney transplanted patients, whose oral environment resembles to healthy patients. In conclusion, caries are more frequent in adult HD, as well as it would be relevant the presence of the dentist in the nephrology team to help chronic kidney disease patients to reduce infections focus through guidance and treatment of carious lesions.

D024 - Infiltrated white spot lesions submitted to different challenges

Mariana Dias MODA[1]; Emerson Yoshio NERES[1]; Érika Kiyoko CHIBA[1], Juliano Pelim PESSAN[2]; Ticiane Cestari FAGUNDES[1]

[1]Department of Restorative Dentistry, Araçatuba School of Dentistry, Univ. Estadual Paulista.
[2]Department of Pediatric Dentistry and Public Health, Araçatuba School of Dentistry, Univ. Estadual Paulista.

A white spot lesion is the first clinical sign of a caries lesion and represents the mineral loss from enamel subsurface. The purpose of this study was to evaluate the microhardness and surface roughness of white spot lesions after application of a resin infiltrant and subjected to different challenges. Caries-like lesions were induced in bovine enamel blocks (n=50) and randomly divided into five study groups (n=10): demineralized enamel (negative control - GI), infiltrated enamel (GII), infiltrated enamel submitted to brushing (GIII), infiltrated enamel submitted to pH-cycling (GIV), demineralized and infiltrated enamel submitted to artificial aging (GV). Half of each enamel surface was used as its own positive control. Data from roughness were analyzed using Kruskal-Wallis followed by Dunn's test. Results from microhardness were analyzed by two-way analysis of variance, followed by Tukey's test for multiple comparisons. The level of significance was set at 5%. Microhardness and roughness values obtained from the test side of specimens were significantly lower compared to the sound enamel, for all groups. Microhardness values obtained for GII were not significantly different form GIII. Values found for GI were significantly lower compared to GII, GIII and GV. The lowest microhardness values were observed for GIV, which was significantly different from the other groups. Surface roughness was not significantly different between GII and GIII. The resin infiltrant presented superiority over the unprotected white spot lesions, being more resistant to mechanical and aging challenges. However, it was not able to reestablish the sound enamel properties, and was not resistant to a new cariogenic challenge.

D025 - International Standards: dental ceramics in industry and laboratory

Milena Steluti MARQUES[1]; Brunna Mota FERRAIRO[1]; Fernanda Furtado PIRAS[1]; Fernanda Ferruzzi LIMA[1]; José Henrique RUBO[1]; Ana Flávia Sanches BORGES[2]

[1]Department of Prosthodontics, Bauru Dental School, University of São Paulo.
[2]Department of Operative Dentistry, Endodontics and Dental Materials, Bauru Dental School, University of São Paulo.

International standards are present at all times in thousands of products, materials and services. Their intended purpose is to help the industry to be more efficient and effective, to develop a consensus on the products, provide benchmarks between them, and establish consistent terminology on the definitions of standards, measurements and testing procedures. In addition, they enable the introduction of innovations in the market with the quality required for the use of consumers, reducing technical and commercial risks. Among the materials, the most used in Dentistry is ceramic, which are present in large numbers on the market, making the professionals of prosthetic area require a constant study of its specifications, classifications, properties and indications. Thus, the aim of this study is to elucidate how the international standards of ceramic materials are developed and what its role in global scientific research through literature review. Familiarize yourself with the standards does not bring merely commercial benefits; they enable the scientific community, for example, compare the results of scientific studies in systematic reviews or clinical findings, standardizing methodologies and terminologies used. Being essential the clinical knowledge regarding the rules applicable to materials available, as well as its operation and indications; whereas good clinical results require proper selection of material added to correct diagnosis, planning and the professional skills.

D026 - Structural defects of the enamel: aesthetic restoring treatment

Murilo de Almeida MANOEL[1]; Matheus Lotto de Almeida SOUZA[1]; Natália Almeida BASTOS[1]; Cassiana Koch SCOTTI[1]; Rafael Francisco Lia MONDELLI[1]; Ana Flávia Sanches BORGES[1]

[1]Department of Operative Dentistry, Endodontics and Dental Materials, Bauru School of Dentistry, University of São Paulo.

Hypoplasia is the most common structural defect of the enamel. This is defined as an alteration, partial or total, of the dental tissue structure, which origin is related to factors that interfere in the mineralization of the enamel, these can be from systemic or from hereditary origins. These changes in tooth structure induce defects which may vary from small spots to erosion on the enamel surface. This demand for dental treatment is mainly related to the aesthetic aspect involved. Therefore, this case report aims to present the diagnosis and esthetic restorative treatment of enamel hypoplasia. Female patient, 12 years, sought the integrated clinic I of the Bauru School of Dentistry complaining of spots "brownish" in the anterior teeth. Clinically, was observed in the middle third of the upper lateral incisors and canine and inferior canines the presence of darkened spots with whitish halos, requesting an aesthetic direct restorative treatment. The hypoplastic regions were worn limited to the removal the affected tooth structure, followed by dentinopulpar complex protection. After etching and adhesive application system, it was held the restoration with composite resin nanohybrid (Opallis-FGM) by the layering of color in dentin and enamel, followed by characterization of white streaks by means of pigments (Kolor+Plus™ Kerr). After a week, was performed the finishing and polishing of restorations. From the treatment, the smile aesthetic harmony was restored, providing significant positive impact on self-esteem of the patient.

D027 - Properties of resin for ocular prosthesis subjected to disinfection

Paulo Augusto PENITENTE[1]; Murilo César Bento LAURINDO JÚNIOR[1]; Marcelo Coelho GOIATO[1]; Daniela Micheline SANTOS[1]; Amália MORENO[1]; Emily Viviane FREITAS[1]

[1]Department of Dental Material and Prosthodontics, Araçatuba Dental School, Univ. Estadual Paulista.

The biologically adapted ocular prosthesis and properly sanitized mainly due to bring comfort to the patient through the preservation of the properties of the material and reduction of biofilm ocular microbiota over time of use by the patient. The aim of this study was to evaluate the roughness and surface energy, and verify the effectiveness

of chlorhexidine gluconate (CHX) in three concentrations on biofilm removal of two species of Staphylococcus spp. 40 samples were prepared (1.0 cm in diameter and 0.3 cm in thickness), N1 acrylic resin for the tests of physical and mechanical properties and 40 for microbiological testing. Samples of microbiological test were submitted to biofilm formation on its surface. All samples were disinfected daily for 180 days with the disinfectant solution proposed as follows: immersion in distilled water for 10 min (controls) Immersion in CHX 0.5; 2 and 4% for 10 minutes at each concentration. The readings roughness and surface energy were performed at baseline and after storage periods of disinfection and 15, 90 and 180 days. Data were analyzed by ANOVA followed by Tukey test. It can be seen that after periods of disinfection and storage occurred deterioration of the sample surface. The roughness values increased statistically significant for the group with the highest concentration of CHX. It was also observed that the samples treated with a higher concentration of CHX had a lower bacterial adhesion.

D028 - Porcelain veneers

Taís Garani Pimenta DUTRA[1]; Joanna Adami DELPINO[1]

[1]Department of Dentistry, National Institute of Higher Education and Graduate Padre Gervasio.

With the advancement of dentistry, materials and techniques used, the professional conducts indirect restorations with no wear or with a minimally invasive preparation, through the ceramic veneers with an average thickness of only 0.3 mm, popularly called dental contact lenses. This practice is highly conservative and reversible, adopted by dental surgeons to restore the tooth shape, however it presents complex handling and preparation. Successful treatment depends on knowledge of the properties and limitations of the material, as well as technical field. The aim of this work is a literature review with operating books, papers, magazines and websites in order to report the practice of cementing and handling of the ceramic laminate. Some stages are critical to the success and durability of a porcelain veneer restoration. It was concluded that the choice of the ideal case, the most appropriate ceramic material, the use of dental wear technique, proper insulation, good cementation are essential conditions for an ideal porcelain veneer. However, one cannot dismiss, however, the effective follow-up of the case so that the work has really the quality you want.

D029 - Pouring time effect of irreversible hydrocolloid in casts' accuray

Aion Mangino MESSIAS[1]; José Maurício dos Santos Nunes REIS[1]; Marina Telarolli de Almeida LEITE[2]; Paula Garcia NACANO[2]; João Gustavo RABELO[1]; Filipe de Oliveira ABI-RACHED[1,2]

[1]Department of Dental Materials and Prosthodontics, Araraquara Dental School, Univ. Estadual Paulista.
[2]Department of Biological Sciences and Health, University Center of Araraquara.

This study aimed to assess the accuracy of dental casts obtained from irreversible hydrocolloid impressions with different pouring times. A master model in polymethylmethacrylate (PMMA), with crown preparations on teeth 14, 16, 21 and 25, was used. Total impressions (N=24) using stainless steel stock tray were obtained with irreversible hydrocolloid Hydrogum 5 (Zhermack). The impressions were disinfected by spraying them with 0.5% sodium hypochlorite, which remained over the impression for 10 minutes. The gypsum type IV (GC FUJIROCK® EP, GC America) was poured into the impressions according one of the pouring times (n=8): (T1) immediately; (T2) 3 hours after disinfection; and (T3) 120 hours (5 days) after disinfection. In T2 and T3 groups, the impressions were stored wet in plastic bags hermetically sealed, as recommended by the manufacturer of the Hydrogum 5. Once obtained, the casts were photographed and based on predetermined points, linear occlusal measurements lateral-side (LS) and anteroposterior, right (RPA) and left (LPA), were performed via ImageJ. The data obtained from the linear occlusal measurements were submitted to normality (Shapiro-Wilk) and homogeneity of variance (Levene) tests. One-way ANOVA (α=0.05) was applied to detect if there was influence of Pouring Time in the experimental casts. Regardless of occlusal linear measurements (LS, RPA and LPA), there was no significant difference between the pouring times evaluated (LS; RPA; LPA - p=0.16; 0.57; 0.19, respectively). Although the established protocol for irreversible hydrocolloids is the immediate pouring, experimental casts obtained with Hydrogum 5 showed no differences in the linear dimensions, for the three pouring times, in relation to the master model.

D030 - Dental anatomy: points of contact in posterior teeth

Alexia Saad LOPES[1]; Alaina FIORAVANTE[1]; Adriana de Oliveira SILVA[1]

[1]Department of Restorative Dentistry, State University of Londrina.

The reproduction of the anatomical details of the posterior teeth with the restorative material is an esthetic demand, but, above all, functional. Perhaps more important than the type of material that will be employed is the analysis and reproduction of the sculpture details with the adaptation of the material along the cavo superficial edge, grooves, pits, sheds, crests, occlusal and approximal contact points. Even with the technological advances of the new dental resins by promoting greater acceptance in posterior teeth, the point of contact still shows some degree of difficulty, being reported by most clinicians. Considering the FAQ regarding the extent and locations of proximal contacts of posterior teeth this paper proposes a review of the literature with the goal of making explicit interactively the series of structures that make this small space a very important region for the conservation of teeth, since the disruption of the balance between its elements can be determined in finality, changes in the tissues of support. It was observed that enlargements of the contact surfaces for restoring a tooth decrease the size of interproximal space, which can cause injury in the surrounding tissues as the lack of contact can generate a dental movement, by action of the forces of mobilization or by chewing. The points of contact are situated to the buccal and occlusal side that participate in its formation since the incisors to molars that suffer a light migration for cervical and lingual (except the contact among the first and the second superior molar that it is centralized perfectly in hall-palatine sense of the face proximal of the first molar). It was concluded that the maintenance of the contact points assure a correct continuity of the arch, assuring the stability of the position of the teeth in the horizontal sense and facilitating the transmission of the forces masticatory for the dental arch.

D031 - Effect of MDP adhesives for bonding to zirconia

Alfredo Esteban Llerena ICOCHEA[1]; Reginaldo Mendonça da COSTA[1]; Ana Flávia Sanches BORGES[1]; Adilson Yoshio FURUSE[1]

[1]Department of Operative Dentistry, Endodontics and Dental Materials, University of São Paulo, Bauru school of Dentistry.

The composition of dental adhesives may influence their performance when used for adhesion to dental structures or ceramics. To evaluate influence of different MDP concentrations on the shear bond strength of a resin cement to zirconia. Six experimental adhesives were prepared with the following composition: 0.50 wt% CQ, 1.0 wt% DABE, 0.20 wt% BHT, 0.45 wt% DPHIF, 10 wt% HEMA, 15 wt% TEGDMA, 25 wt% BIS-EMA, 10 wt% ethanol, 25 wt% UDMA, and 12.85 wt% BIS-GMA. The MDP monomer was added in 0 wt%, 3 wt%, 6 wt%, 9 wt%, 12 wt%, or 15 wt%). As control, four commercially available adhesives were evaluated: Single Bond Universal, Single Bond 2, Ambar and Signum Zirconia Bond. The shear bond strength to zirconia was evaluated in a universal testing machine. Failure modes were analyzed under a stereoscopic loupe. Statistical analyses were performed with one-way Anova and Tukey's HSD test (α=0.05). There were significant differences between groups ($p<0.00001$). The highest shear bond strength values were obtained with Signum Zirconia Bond and Single Bond Universal. Singlebond 2 showed the lowest values. There were no differences between experimental adhesives. All groups showed adhesive failures. MDP-containing adhesives are important for bonding resin cements to zirconia, however, the concentration of MDP is not the only factor to be considered.

D032 - Analysis of physical properties of modified root canal sealers

Ana Beatriz Vilela TEIXEIRA[1]; Carla Larissa VIDAL[1]; Denise Tornavoi de CASTRO[1]; Christiano de Oliveira SANTOS[2]; Andréa Cândido dos REIS[1]

[1]Department of Dental Materials and Prosthodontics, Faculty of Dentistry of Ribeirão Preto, University of São Paulo.
[2]Department of Morphology, Stomatology and Physiology, Ribeirão Preto Dental School, University of São Paulo.

The aim was to evaluate the flowability and radiopacity of sealers (AH Plus, Sealapex, Endofill and Sealer 26), incorporated with antimicrobial nanomaterial vanadate of nanostructured silver decorated with silver nanoparticles (β-$AgVO_3$) at concentrations of 0% (control), 2.5%, 5% and 10%. For flowability, six specimens of each material were placed between two glass plates for 1 minute was measured and the diameter of the formed discs. For radiopacity, they were made 5 digital radiographic images of 9 specimens of each material. The software Image J was used to assess the density of the gray tones. Statistical analysis was performed by two-way ANOVA, followed by Tukey HSD test ($p<0.05$). The flow capacity AH Plus and Endofill reduced with increasing concentration of β-$AgVO_3$ ($p<0.05$). There was no influence on the flow capacity Sealer 26 and Sealapex ($p>0.05$). The radiopacity AH Plus increased with the concentration of β-$AgVO_3$ ($p<0.05$). For Endofill greater radiopacity was observed with 10% Sealer 26 and 2.5% ($p<0.05$). The incorporation of 2.5% to 5% reduced radiopacity Sealapex. It is concluded that the addition of β-$AgVO_3$ keeps the flow capacity of the Sealer 26 and Sealapex and improves the radiopacity of AH Plus, Endofill and Sealer 26, however, further investigations as the physical properties should be assessed.

D033 - Composites for aesthetic remodeling teeth with diastemas

Ana Carolina Nunes e SILVA[1]; Fábio SENE[1]; Gabriela Menegazzi CASEIRO[1]; Marcela Angélico QUINTO[1]; Isabela Alves MATIOLI[1]

[1]Department of Restorative Dentistry, Londrina State University.

Diastema and teeth with change of shape and dimensions are very common clinical situations. One of the ways to solve or mitigate these problems are dental remodeling with composite resin. The objective of this study is to report a case of remodeling of the upper incisors and canines with microdiastemas. Female patient, 32 years old, sought dental care for aesthetic improvement of the teeth, in particular, the size of her upper teeth. After anamnesis and clinical examination, was established the planning initially by using a whitening gel based on hydrogen peroxide 7.5% (White Class-FGM), for 1 hour daily. After 3 weeks we have reached the saturation point. At that time, the mock-up, the restoring simulation with bisacrilica resin and the restoring planned procedure were executed. After etching and applying the adhesive system Ambar (FGM), the palatal was made initially with Trans Neutral resin (Opallis FGM). The dentin was stratified with A1 in the cervical and D-Bleach in the middle and incisal thirds. To conclude, the enamel for teeth whitened (E-Bleach M-Opallis FGM) was applied, obtaining, after finishing and polishing, an excellent cosmetic result. When properly planned and executed, the use of composites for remodeling teeth with change of shape and dimensions is an excellent aesthetic choice, offering great naturalness and longevity.

D034 - Effect of fatty acids protection on initial enamel erosion

Ana Paula BOTEON[1]; Franciny Querobim IONTA[2]; Poliana Pacifico VAL[2]; Catarina Ribeiro Barros de ALENCAR[2]; Maisa Camillo JORDÃO[2]; Heitor Marques HONÓRIO[2]; Daniela RIOS[2]

[1]Department of Operative Dentistry, Endodontics and Dental Materials, Bauru School of Dentistry, University of São Paulo.
[2]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.

Due to the high prevalence of dental erosion in recent years, it is necessary to search for preventive therapies for this condition. The aim of this study was to evaluate the in vitro effect of different types of fatty acids on initial enamel erosion. Therefore, the acquired pellicle was formed in situ by 2 volunteers using intraoral palatal device for 2 hours. After using the device, enamel blocks of each group were treated in vitro according to the study group (n=12/*per* group): G1 - Palm Oil; G2 - Coconut Oil; G3 - Safflower Oil; G4 - Sunflower Oil; G5 - Olive Oil; G6 - deionized water (negative control) and G7- solution fluoride - Elmex Erosion Protection (positive control). After treatment, the blocks were immersed in artificial saliva for 2 minutes under constant stirring to simulate the natural rinsing that occurs in the oral cavity. Then the enamel blocks were immersed in a 0.5% citric acid pH 2.5 for 30 seconds to promote the softening of the enamel

surface without structure loss. The response variable was the percentage of surface hardness loss [(initial hardness - final hardness) / initial hardness * 100]. Data were submitted to One-way ANOVA and Tukey's test, adopting $p<0.05$. The results showed that all groups presented loss of surface hardness statistically similar ($p>0.05$), excepting for G1, which differed from all the other groups and resulted in less surface hardness loss ($p<0.05$). Therefore, it was concluded that Palm Oil therapy had produced promising results on protecting initial enamel demineralization, but further studies are needed to test the potential of this fatty acid under prolonged erosive challenge.

D035 - Use of infiltrant for treating incipient carious lesions: a case report

Angélica Feltrin dos SANTOS[1]; Camila Cruz LIBARDI[1]; Fernanda Sandes de LUCENA[1]; Lorena de Melo Alcantara GARRIDO[1]; Linda WANG[1]; Adilson Yoshio FURUSE[1]

[1]Department of Operative Dentistry, Endodontics and Dental Materials, Bauru School of Dentistry, University of São Paulo.

Among the treatments available for incipient carious lesions, caries infiltration technique using fluid composites is an approach that has been bringing out as an excellent alternative, due to the particular characteristics of the material that establishes a barrier inside the lesion strengthening its weakened structure by making it acid-resistant and prevent its progression to a cavitation stage. In this context, the aim of this report is to present the clinical case of a young patient who attended to the postgraduation clinic in Bauru School of Dentistry, University of São Paulo, whose main complaint was white spot lesions that harmed his smile. Incipient carious lesions have been observed, with white spot appearance on clinical examination. The chosen treatment was to aware the patient of oral hygiene, besides the use of the material stops the progress of incipient lesions. Prophylaxis with pumice paste and the absolute isolation of the operative field have been performed, following to this it has been done the application of the Infiltrant agent which consisted of the application of 15% hydrochloric acid for 2 minutes (Icon Etch - DMG), washing for 30 seconds, and application of absolute alcohol (Icon Dry - DMG) drying for 30 seconds and subsequently Infiltrant agent has been applied (Icon infiltrant - DMG) for 3 minutes, followed by light curing for 40 seconds. The Infiltrant agent has been reapplied (Icon infiltrant - DMG) and after 1 minute the light curing procedure has been done for 40 seconds. Finishing and polishing with sandpaper discs (Sof Lex Pop-on, 3M ESPE), abrasive rubber (TDV) , silicon carbide brush and felt disks with diamond paste have been done. After the treatment, it has been observed significant reduction of white spots which has improved the patient's smile that seemed to be very satisfied with the result.

D036 - Influence of bleached enamel on restorative materials adhesion

Aron Oliveira Marques SOUZA[1]; Janaina Aparecida Avila MOTTA[1]; Igor Abreu de BEM[1]; Murilo Baena LOPES[2]; Klissia Romero FELIZARDO[1]

[1]Department of Dentisty, Dental School, Paranaense University. [2]Department of Dentistry, Dental School, University of North Paraná.

Possible reductions of bond strength between restorative materials and bleached enamel are questioned due to mineral loss of enamel when subjected to bleaching treatment. The objective of this work was to verify by means of bibliographic revision the possible causes of adhesive resistance loss after enamel bleaching. Innumerous hypothesis to justify the low adhesive force after bleaching was related. The presence of residual oxygen on enamel and dentin surface could inhibited or reduced the polymerization reaction. These radicals are highly active and capable of penetrate on dental structure by means of a chemical process that promote the break of organic and inorganic molecules. When the bleaching reaches its limit, the bleach agent starts acting on the carbon chain and the enamel protein start to be converted into carbon and water, increasing the dental porosity. Beside this, hydrogen peroxide could denaturize the matrix proteins, altering the chemical and physical properties, resulting in a reduction of calcium and phosphorus, consequently reducing the bond strength. It can be concluded that according to the literature revision the reduction of the bond strength is due to the chemical modification of the enamel surface.

D037 - Direct aesthetic restoration on front tooth after dental bleaching

Beatriz GIONCO[1]; Rafaela GHELLER[1]; João Felipe BESEGATO[1]; Marcio Grama HOEPPNER[1]

[1]Department of Restorative Dentistry, Dentistry School, State University of Londrina.

Teeth's coloring and shape are relevant aesthetics factors that justify the increasing demand of patients searching for odontology treatment, because it involves their appearance and emotional well-being. The present study aims at presenting and discussing the treatment realized at the patient N.A.P, 22 years old, female, from her in satisfaction with the color of the teeth and the composite resin restoration present on the 21 tooth, realized after a fracture caused by an accident. During the clinical examination was founded a Class IV restoration on the 21 tooth, with peripheral degradation, color alteration and significant anatomic difference compared to the 11 tooth. The periapical x-ray did not show any suggestive image of calcification inside the pulp tissue and/or root resorption. The proposed treatment was: 1º) Supervised home bleaching with product carbamide peroxide-based at 10%, used by 21 days with the evaluation of the results every week; 2º) Substitution of the resin composite restoration using the direct layered technique, by the color selection, degree of opacity and the translucency of the restorative material, with reference to the aesthetic needs of the patient; 3º) Finishing, polishing and characterization of the restoration taking into account the aesthetic characteristics from the 11 tooth; 4º) Orientation and motivation of the patient to the oral habits to preservation of the obtained results. Considering the result, it can be concluded that the treatment was satisfactory for the

restoring of the aesthetic and smile harmony.

D038 - Influence of sonic application mode of an adhesive system to dry/moist

Caio Cesar PAVANI[1]; Lucas Silveira MACHADO[2]; Daniel SUNDFELD NETO[3]; Rodolfo Bruniera ANCHIETA[4]; Laura Molinar FRANCO[1]; Fabio Martins SALOMÃO[1]; Renato Herman SUNDFELD[1]

[1]Department of Restorative Dentistry, Araçatuba Dental School, Paulista State University.
[2]Department of Conservative Dentistry, College of Dentistry, Federal University of Rio Grande do Sul.
[3]Department of Dental Materials and Prosthodontics, Dental School, Centro Universitário do Norte Paulista.
[4]Department of Restorative Dentistry, Piracicaba Dental School, University of Campinas.

To evaluate the sonic application effect of a 3-step etch-and-rinse adhesive system to a previously dry/moist demineralized dentin. Forty sound human third molars were randomly divided into 4 groups (n=10) according to the adhesive system (Scotchbond Multi Purpose, 3MESPE) (SBMP) application mode and dentin condition: GI – manual application of the adhesive system to moist dentin; GII – sonic application of the adhesive system to moist dentin; GIII – manual application of the adhesive system to dry dentin and; GIV – sonic application of the adhesive system to dry dentin. Previously to adhesive application, the dentin was etched with 37% phosphoric acid for 15 seconds. Composite build-ups were constructed incrementally; specimens were sectioned to obtain resin–dentin sticks with cross-sectional area of 1 mm^2.Then, resin composite was incrementally build-up and sectioned in order to obtain 1 mm^2 sticks. The specimens for each sectioned tooth were subjected to microtensile bond strength (μTBS) after 24 hours (T0) and 6-month (T1) water storage. Also, two sticks were randomly separated within each group for the interfacial nanoleakage evaluation. The data were statistically analyzed by two-way ANOVA and Tukey`s test $p<0.05$. SBMP applied on moist dentin yielded higher μTBS after 24 h, regardless of the application mode. However, when SBMP was sonic applied to dry dentin, the μTBS values were similar to the manual application to moist dentin. After 6-month water storage, the sonic application on moist dentin was superior to manual mode on dry/moist dentin. Interfacial nanoleakage was observed in all groups without a relevant difference among them over time. The sonic application favors the bond strength to a non-ideal humidity conditions on demineralized dentin.

D039 - Microbial analysis of modified endodontic sealers with nanomaterial

Carla Larissa VIDAL[1]; Ana Beatriz Vilela TEIXEIRA[1]; Denise Tornavoi de CASTRO[1]; Marco Antônio SCHIAVON[2]; Andréa Cândido dos REIS[1]

[1]Department of Dental Materials and Prosthesis, School of Dentistry of Ribeirão Preto, University of São Paulo.
[2]Department of Natural Sciences, Research Group of Chemistry Materials, Federal University of São João del Rei.

This study determines the minimum inhibitory concentration (MIC) of nanostructured silver vanadate decorated with silver nanoparticles (β-$AgVO_3$) and its effect on the antimicrobial capacity of four sealers (AH Plus®, Sealapex®, Sealer 26® and Endofill®). The MIC of the β-$AgVO_3$ was evaluated against the species *Enterococcus faecalis* (ATCC 29212), *Pseudomonas aeruginosa* (ATCC 27853) and *Escherichia coli* (ATCC 25922) by the method of successive dilutions. The agar diffusion test was conducted after 2, 7 and 14 days in order to determinate the inhibitory effect of the modified sealers with 2.5, 5 and 10% β-$AgVO_3$, compared to the three aforementioned microorganisms.The β-$AgVO_3$ MIC for P. aeruginosa and *E. coli* was 31.25 ug/ml for *E. faecalis* and 0.5 mg/ml. AH Plus® presented inherent antimicrobial activity against E. *faecalis*, which was not changed by the addition of β-$AgVO^3$. The addition of 10% β-$AgVO_3$ promoted antimicrobial activity against P. aeruginosa and *E. coli*. Endofill® presented antimicrobial activity against *E. faecalis* and *E. coli*, which increased from 2.5% concentration of β-$AgVO_3$ and the concentration of 10% β-$AgVO_3$ promoted antimicrobial activity against P. aeruginosa. Sealer 26® presented inherent antimicrobial activity against *E. faecalis*, which increased from 5% concentration of β-$AgVO_3$. The addition of 10% β-$AgVO_3$ promoted antimicrobial activity for E. coli. Sealapex® showed no inherent antimicrobial activity. The addition of β-$AgVO_3$ promoted antimicrobial activity against *E. faecalis*, which increased proportionally to the concentration of β-$AgVO_3$ and *E. coli*, which increased from 5% concentration. Time did not affect the antimicrobial activity of the sealers. The addition of β-$AgVO_3$ can improve endodontic treatments since they enhance the antimicrobial effect of the endodontic sealers used.

D040 - Toxicity of new $Ca(AlO_2)_2$ cement with different radiopacifiers

Cláudia HUCK[1]; Hernane da Silva BARUD[2]; Fernanda Gonçalves BASSO[3]; Carlos Alberto de Souza COSTA[3]; Josimeri HEBLING[4]; Lucas da Fonseca Roberti GARCIA[5]

[1]Department of Restorative Dentistry, Araraquara Dental School, Univ. Estadual Paulista.
[2]Medical-Chemistry Laboratory and Regenerative Medicine (QUIMMERA), University Center of Araraquara.
[3]Department of Physiology and Pathology, Araraquara Dental School, Univ. Estadual Paulista.
[4]Department of Orthodontics and Pediatric Dentistry, Araraquara Dental School, Univ. Estadual Paulista.
[5]Department of Restorative Dentistry, Araçatuba Dental School, Univ. Estadual Paulista.

The aim of this study was to evaluate the effects of different radiopacifiers on the cytotoxicity of a calcium aluminate cement (AlCa) on odontoblast-like cells. A standard amount of each material (0.2 g) was manipulated according to the recommendations of each manufacturer and applied in transwell inserts, which were placed in 24-well culture plates containing 1 mL of culture medium (DMEM). The following groups were designed (n=6): control (no cement); EndoBinder without radiopacifier; Endo Binder + Bismuth oxide (Bi_2O_3); Endo + Binder Zinc Oxide (ZnO); EndoBinder + Oxide Zirconia (ZrO_2) and white MTA. After 24 h of incubation, the extracts (DMEM containing components released from the cements) were obtained, and then 100 μL fractions were applied to immortalized odontoblast-like MDPC-23 cells earlier cultured in DMEM. The extracts were kept in contact with the cells for 24 h previously to the analysis of cell viability (MTT assay), alkaline phosphatase activity (ALP), total protein production and cell morphology (Scanning Electron Microscopy - SEM). Fifty microliters of extract were used to determine the components released by the cements, by means of energy dispersive spectroscopy

(EDS). Data were submitted to Kruskal-Wallis ($p<0.05$). Overall, cells exposed to the different formulations of EndoBinder presented discrete reduction in cell viability, total protein production and ALP activity, with statistically similar values to the control and MTA. The chemicals released by cements were characterized in the analysis of extracts. However, the cells had no significant changes in their morphology. EndoBinder, as well as MTA, did not negatively affect the metabolism of the odontoblast-like cells, and were considered cyto compatible, irrespective of the radiopacifier.

D041 - Ions release and cytotoxicity of antimicrobial polymers

Denise Tornavoi de CASTRO[1]; Mariana Lima da Costa VALENTE[1]; Oswaldo Luiz ALVES[2]; Andréa Cândido dos REIS[1]

[1]Department of Dental Materials and Prosthesis, Ribeirão Preto Dental School, University of São Paulo.
[2]Solid State Chemistry Laboratory, State University of Campinas.

The aim of this study was to evaluate in vitro release of metal ions and cytotoxicity of autopolymerizing (AP) and heat-polymerizing (HP) acrylic resins incorporated with nanostructured silver vanadate decorated with AgNPS ($AgVO_3$) in different percentages: 0% - control, 0.5%, 1%, 2.5%, 5% and 10%. After sterilization with ethylene oxide, the samples were immerse in culture medium at 37°C for 30 days. The elemental release of silver ions (Ag) and vanadium (V) was evaluated by mass spectrometry with inductively coupled plasma (ICP-MS) (n=9) and the cell viability of mouse fibroblasts L929 by the colorimetric assay to measure the reduction of MTT (3-[4,5-Dimethylthiazol- 2yl]-2,5-diphenyltetrazolium bromide) (n=12). The data were analyzed by ANOVA followed by Tukey's test ($\alpha=0.05$). The control group (0%) had low concentrations of Ag and V ions, statistically different from the others ($p<0.0001$). The HP resin released significant amounts of Ag starting at 2.5% ($p<0.0001$) and AP resin starting at 5% ($p<0.0001$). For V, in both resins, there was a more significant release at concentrations of 2.5, 5 and 10% of $AgVO_3$ ($p<0.0001$). All groups showed a significant reduction for L929 cell viability when compared with the control (100%), including the control samples of the resins, without $AgVO_3$ ($p<0.0001$). In comparison with the control resins, for HP, a significant reduction in the metabolism of cells occurred starting at 2.5% and for AP starting at 5% ($p<0.0001$). Significant amounts of Ag and V ions were released from acrylic resins with higher concentrations of $AgVO_3$, indicating that Ag was probably the main ion responsible for reducing cell viability of L929.

D042 - Evaluation of bleaching effect, dental sensitivity and gum irritation

Eberti Cristóvão SANTOS[1]; Evandro Henrique Messias LOPES[1]; Natália Thaís GASPAR[1]; Patrícia de Paula ALVARENGA[1]; Graziela Avila Prado GALHANO[1]

[1]Dental School of Presidente Prudente, University of West Paulista.

The emergence of whitening strips, which is promising similar results to those applied by a dental surgeon making important the appraisal about the effectiveness in the use thereof. The objective of this study was to evaluating the bleaching effect, dental sensitivity and gum irritation in the bleaching techniques with use of strips. Thirty volunteers were divided into three groups according to the bleaching technique (n=10): G1 - home bleaching with silicone tray and 10% hydrogen peroxide for sixty minutes per day; G2 - home bleaching with use of whitening strips for thirty minutes twice a day; and G3 - home bleaching with silicone tray and 10% hydrogen peroxide for thirty minutes twice a day. Volunteers were assessed about the whitening effect through a spectrophotometer, dental sensitivity and gum irritation in three phases: before the treatment, after the treatment and after three months. Regarding the bleaching effects, it was observed statistical similarity between the different techniques used. However, there was a greater dental sensitivity and gum irritation when hydrogen peroxide was used twice a day. Despite to the proven effectiveness of bleaching with strips, there was a higher dental sensitivity and gum irritation.

D043 - Twelve minimal invasive veneers: one-year follow-up

Edgar Massunari MAENOSONO[1]; Rafael Massunari MAENOSONO[1]; Juliana Fraga Soares BOMBONATTI[1]; Adilson Yoshio FURUSE[1]; Bella Luna Colombini ISHIKIRIAMA[1]; Sérgio Kiyoshi ISHIKIRIAMA[1]

[1]Department of Operative Dentistry, Endodontics and Dental Materials, Bauru School of Dentistry, University of São Paulo.

Minimal invasive veneers are the utmost esthetical restorative treatment for multiple diastemas closure because it can combine esthetics, function and great conservation of sound tooth structure; however, few evidences are currently available regarding to the longevity of such technique. In the present case report twelve minimal invasive veneers were evaluated after one-year clinical control. A young female patient was about to finish her orthodontic treatment, however multiple diastemas in both upper and lower incisors and canines were still present. Since height-width proportion would become inadequate after diastemas closure, a gingivectomy surgery was performed both on upper and lower jaws. A minimal preparation was performed on the distal of the left upper lateral incisor, and polyvinyl siloxane impressions were taken with the aid of retraction cords. A1 HT lithium disilicate ingots were milled on a CAD/CAM system, obtaining twelve 0.3 mm thickness minimal invasive veneers. After being tested with try-in pastes, veneers were etched with 10% hydrofluoric acid for 20s, followed by silane and adhesive application. Teeth were etched with 37% phosphoric acid, and adhesive was applied as well. Veneers were cemented one by one with neutral value light curable resin cement, being light cured for 40s each side with a LED device at 1200mW/cm^2. Excesses were removed with n.12 scalpel blade. The results were considered very satisfactory and the patient was very satisfied. After one-year clinical control no alteration was observed and the esthetical result was still very satisfactory. In conclusion, this case report gives some evidences that minimal invasive veneers are very satisfactory in short-term evaluation. Longer clinical evaluations are still needed.

D044 - Bulk-fill composites: literature review and two case reports

Fabrícia CARDOSO[1]; Rafael Massunari MAENOSONO[1]; Letícia Ferreira de Freitas BRIANEZZI[1]; Martha Beteghelli MICHIELIN[1]; Rafael Francisco Lia MONDELLI[1]; Sérgio Kiyoshi ISHIKIRIAMA[1]

[1]Department of Operative Dentistry, Endodontics and Dental Materials, Bauru School of Dentistry, University of São Paulo.

Bulk-fill resin composites are the latest trend on posterior teeth adhesive restorations. Fabricants claim that, in opposition of the currently used incremental technique, this type of composite can be used in larger increments due to the reduced polymerization shrinkage and the increased depth of polymerization, which would reduce time spent on posterior teeth deep restorations. The objective of this literature review is to discuss the main aspects regarding to polymerization shrinkage, degree of conversion, gap formation, along with some clinical evidences provided by a randomized controlled clinical trial. In addition to this, two case reports will be presented so as to demonstrate the technique and discuss clinical advantages and disadvantages of this brand new restorative technique. In summary, bulk-fill resin composites are promising, with quite good laboratorial results, however, there is still lack of stronger evidences regarding to the longevity of the restorations performed with this material.

D045 - Marginal leakage: adhesive system effect and cavity preparation.

Felipe Pereira CUNHA[1]; Taylane Snoffer Berlanga de ARAUJO[1]

[1]Department of Dentistry, North University Center Paulista.

This study analyzed *in vitro* the influence of two resinous adhesive systems, being a self (Clearfil SE Bond 2) and a conventional (Master Bond), and the treatment of cavity margins in controlling microleakage. For this held preparation of cl V on the labial face in 60 anterior teeth, previously extracted cattle, divided into six groups (n=10); Group I - bevel enamel + conventional adhesive system; Group II - bevel enamel + self-etching adhesive system; Group III - no bevel + conventional adhesive system; Group IV - no bevel + self-etching adhesive system; Group V - bevel all along the cavo superficial angle + conventional adhesive system; Group VI - bevel all along the cavo surface angle + self-etching adhesive system. Standardized and restored with composite resin microhybrid preparations after were stored in saline solution at 37°C for a week, and then polished up the restorations with sequential discs Soft-lex. Thermal cycling of 150 cycles was performed and after the sectioning in the incisal-cervical direction from the proximal face, yielding three slices corresponding to the two cuts. The degree of microleakage rated by penetration of silver nitrate of 50% at the incisal and cervical walls by means of a Software-Image Tool; for a quantitative analysis. The results submitted to analysis of variance followed by Tukey's test to observe the differences. Concluding: a) the adhesive systems statistically showed the same behavior; b) there is a statistically significant difference between the preparation techniques, and those held in Groups I and II, and V and VI, showed similar behavior and the best results for reducing microleakage; c) preparations in Groups III and IV showed higher rates of microleakage; d) the cervical region showed the highest level of microleakage.

D046 - Strain and internal measurement of implant-supported framework

Fernanda Furtado PIRAS[1], Max Dória COSTA[1], Adriana de Castro O. Pereira BRAGA[1], Regina Guenka PALMA-DIBB[2], Edson Antônio Capello SOUZA[3], José Henrique RUBO[1]

[1]Department of Prosthodontics, Bauru School of Dentistry, University of São Paulo.
[2]Department of Restorative Dentistry, Ribeirão Preto School of Dentistry, University of São Paulo.
[3]Department of Mechanical Engineering, Faculty of Engineering of Bauru, Univ. Estadual Paulista.

Passive fit and stability have been described as important prerequisites in the choice of materials and manufacturing techniques in implant-supported prosthesis. Evaluating technical features and the quality of manufactured frameworks becomes necessary for the long-term success. This study analyzed abutment deformation under axial load on frameworks manufactured with different materials and techniques, correlated with measures of framework internal walls and abutment external walls. To simulate bone tissue, a polyurethane model was used with two external hexagon implants and conical abutments. Twelve three-element frameworks were fabricated and divided into 3 groups (n=4): conventional Ni-Cr casting; machined zirconia CAD / CAM and laser sintered Co-Cr. Strains generated during axial load were recorded using three strain gauges for each abutment. A confocal laser microscopy was used to evaluate angle, length and height of the inner (framework) and outer (abutment) walls in corresponding areas where the strain gauges were fixed. The results were correlated by Person Statics Analysis Test ($p<0.05$). Regarding abutment strains, compression areas were predominant and few traction areas showed low values. Laser sintered group showed compressive values for all strain gauges. Both, machined and conventional groups behaved similarly, differing in only one area. The angles presented similar values among the materials and smaller value for abutments. As for the variables length and height, all values were different. Regarding the abutments, those values were greater in height and smaller in length. Correlation between strain and length, and also strain and angle, were found for some areas. Greater strains were observed with higher angle and smaller length.

D047 - Double-layer CAD-CAM veneer for discolored tooth restoration

Fernanda Sandes de LUCENA[1], Rafael Massunari MAENOSONO[1], Letícia Ferreira de Freitas BRIANEZZI[1], Martha Beteghelli MICHIELIN[1], Bella Luna Colombini ISHIKIRIAMA[1], Sérgio Kiyoshi ISHIKIRIAMA[1]

[1]Department of Operative Dentistry, Endodontics and Dental Materials, Bauru School of Dentistry, University of São Paulo.

Intense single tooth color alteration is one of the most challenging situations on esthetic dentistry, especially if accompanied by incorrect gingival anatomy and miss-alignment of anterior teeth. In this clinical report, a young female patient presented a strong color alteration on the left maxillary central incisor that had already been treated with internal bleaching, however without a satisfactory result. In addition to this, the gingival margins of central incisors were beneath its correct position, and small miss-alignment of lateral incisors and canines were present. The treatment performed was a periodontal surgery with flapless osteotomy to correct the position of central

incisor's gingival position, and after 45 days teeth were prepared for veneers. On canines, lateral incisors and the right central incisor almost no preparation was required as minimal invasive veneers were performed. Preparation of 1.2 mm deep was performed on the discolored teeth. In order to mask the underneath color, a 0.9 mm thickness medium opaque (MO) lithium disilicate veneer was prepared on CAD-CAM, followed by manufacturing of six similar 0.3 mm thickness veneers with high translucent (HT) A1 ingots. All veneers were prepared for cementation with 10% hydrofluoric acid for 20 s, silane and adhesive application, and teeth were treated with a three step etch-and-rinse adhesive. Cementation of MO veneer was performed with white opaque light curable resin cement, followed by the cementation of the other veneers with value -1 resin cement, all light cured for 40s each side. The esthetical result was very satisfactory, with quite good color match obtained through the cementation of a MO veneer underneath HT minimal invasive veneers.

D048 - Veneers preparation with CVD high-speed diamond burs

Francielly da Silva CAMIM[1]; Denise Ferracioli ODA[2]; Talita TARTARI[2]; Erica Delalibera SILVA[1]; Ricardo Dantas PIRES[1]; Rafael Massunari MAENOSONO[1,2]

[1]Department of Operative Dentistry, Santa Fé do Sul Municipal Foundation of Education and Culture.
[2]Department of Operative Dentistry, Endodontics and Dental Materials, Bauru School of Dentistry, University of São Paulo.

All-ceramic veneers are the utmost restorative treatment performed in esthetic dentistry, able to achieve the highest levels of patient satisfaction regarding to function, longevity and esthetics. Nowadays, these results can be obtained even with very small thickness veneers due to the development of dental ceramics with higher flexural strength and light curable resin cements with different colors. Thereby, one of the currently challenges is to perform a sharp and conservative tooth preparation, associated to an adequate polishing, also avoiding periodontal damage. The aim of this clinical report is to demonstrate the chemical vapor deposition (CVD) high-speed diamond burs used to finish the preparation of six maxillary teeth to receive lithium disilicate veneers (E.max CAD, Ivoclar Vivadent). A young female patient with several anti-esthetic resin composite restorations sought dental treatment to improve esthetics of her smile. Teeth preparation was performed very conservatively, and CVD high-speed diamond burs were used to finish preparations, also avoiding periodontal damage, which allowed that polyvinyl siloxane impressions could be taken in the same session. After that, veneers were design and manufactured on CAD-CAM (Cerec, Sirona), and cementation was performed with light curable resin cements (AllCem, FGM), obtaining very satisfactory esthetical results. Conventional and CVD diamond burs were also analyzed through scanning electron microscope to provide better comprehension about their action on tooth structure.

D049 - Smile remodeling using composite resins

Gabriela Menegazzi CASEIRO[1]; Fátima Cristina de SÁ[1]; Fabio SENE[1]; Mayara Manginelli FREITAS[1]; Isabela Alves MATIOLI[1]

[1]Department of Restorative Dentistry, Londrina State University.

Composite resins have optical properties that make them an excellent option for the remodeling of anterior teeth because of their cost effectiveness, durability, and natural look. A 23-year old female patient sought dental care reporting that she would like to whiten and enlarge her upper anterior teeth. After a clinical examination, a diastema between teeth 13 to 23 was found. Initially, the patient's teeth were whitened by the take home technique using hydrogen peroxide at 7.5% (White Class – FGM) for one hour per day. After three weeks, a diagnostic mockup was performed and a silicone matrix fabricated for teeth 13 to 23. Two weeks after the end of the whitening process, a remodeling of the patient's upper anterior teeth was completed utilizing composite resin Opallis (FGM) in the following sequence: transparent neutral palatal resin, B1 dentin on cervical, Bleach dentin on the middle third and incisal third. During the same session, the occlusal adjustment and the initial finish were performed. One week after the initial finish, the patient received a re-anatomization and a final polishing. The use of composite resins alongside whitening techniques and an adequate planning provided the remodeling of the upper anterior teeth with harmonic and natural results.

D050 - Restoration of anterior fracture by fragment bonding technique

Gabriela Nunes ZORZI[1]; Margareth Calvo Pessuti NUNES[1], Marina de Lourdes Calvo FRACASSO[1]

[1]Department of Health Sciences, Department of Dentistry, State University of Maringá.

Anterior teeth traumatism has been a great challenge for the dentist, being considered as a situation of urgency in relation to the fracture itself, as well as the emotional change produced in the patient. Among the various forms of rehabilitation for fractured teeth, fragment reattachment must be the first choice when the fragment is available, is unique and is intact, due to advantages such as: full immediate recovery of the aesthetics, because the shape, contour, the alignment, the translucency, surface texture belong to the natural tooth. In addition, the aesthetic is more durable, because only a small amount of restorative material will be exposed on the vestibular surface. Thus, this study aims to report the case of a 8-year-old female patient, that with a bicycle fall, fractured element 21 losing coronary structure involving dentin and enamel without pulp exposure. Despite the great dental involvement, we opted for the dental bonding by the psychological aspect and because it is a large, single fragment, without apparent pulp exposure. There was a need for a modified isolation by difficulty of absolute isolation, due to the age of eruption of teeth. Because of the extent of the fracture in depth and age of the patient, has been used calcium hydroxide cement for pulpal protection. In addition, it was made in a relief in the fragment to accommodate the protection held in the remaining, but without bevel. The reattachment was held through the direct adhesion technique and used a hybrid resin to dentin. As loss of fragment structure, after dental bonding was completed with an enamel resin. After seven

days was the finishing, polishing and adjustments. The final outcome of the case was satisfactory, allowing for the return of the form and function of the dental element, in addition to the favorable aesthetics, which ensured the patient's psychological well-being.

D051 - Case report of closing diastema

Gabriela Gonçalez PIAI[1]; Giovanna Speranza ZABEU[1]; Rafael Simões GONÇALVES[1]; Wendy Saory HISSANO[1]; Marcelo Agnoletti PEREIRA[2]; Sérgio Kiyoshi ISHIKIRIAMA[1]

[1]Department of Operative Dentistry, Endodontics and Dental Materials, Bauru School of Dentistry, University of São Paulo.
[2]Private Practice, Bauru/SP.

The upper anterior diastema sets up a common and usual aesthetic problem. Its treatment is directly related to its etiology, among these the most common is dentoalveolar discrepancy. Many approaches can be used to closing diastema, however, some techniques may fail bringing even periodontal problems. This clinical case aims to report a new approach to closing small diastema with composite resin (CR), designated as a technical free-hand. 29-year female patient, presented to graduation clinic from Bauru School of Dentistry FOB / USP reporting dissatisfaction of her smile. During clinical examination it was observed the presence of space between the maxillary central incisors, smaller than 2mm, opting for its closing with CR. The restorative treatment was performed under absolute isolation, being used a conventional three-step adhesive (Adper Scotchbond Multi-Purpose - 3M ESPE) and A2 CR to enamel and dentine (Opallis - FGM). In the free-hand technique, the restoration began with a proximal arm with CR dentin, who served as guide of the restoration. This arm is characterized as a resin fillet which runs from incisal to cervical, who guidinged the stratification of resin. Then, it was performed the stratification of CR dentin on the palatal surface and vestibular and, after, a thin enamel layer of CR on the vestibular, following the tooth anatomy. The polishing was given after 7 days and a periapical radiograph was performed to verify the presence of cervical excess. Thus, direct restorations with CR has the potential to reproduce the natural appearance of the teeth with excellent results. However, it is necessary to choose a correct approach of the treatment for aesthetic and functional reestablishment without bringing harm to the patient.

D052 - Bond interface evaluation between two adhesive systems

Genine Moreira de Freitas GUIMARÃES[1]; Tamires de Luccas BUENO[2]; Maria Angélica Souza AGULHARI[2]; Maria Teresa ATTA[2]; Carolina Yoshi Campos SUGIO[2]; Beatriz Amaral de Lima NETTO[2]; Karin Cristina da Silva MODENA[1]

[1]Department of Health Sciences, University of Sagrado Coração.
[2]Department of Operative Dentistry, Endodontics and Dental Materials, Bauru School of Dentistry, University of São Paulo.

The aim of this study was to compare the quality of the hybrid layer, related to the presence of gaps, obtained with the adhesive systems, Single Bond Universal (3M ESPE) and Adper Scotchbond Multi-Purpose (3M ESPE) in a period of 24 hours. Cavities Class I were prepared with carbide burs (245) at high speed (4.0 x 3.0 x 5.0 mm) in 30 healthy molars teeth, divided into two groups: Single Bond Universal - SBU or Adper Scotchbond Multi-Purpose – ASMP and restored with composite resin Filtek ™ Z250 (3M ESPE) using an incremental technique. The quality of the bonding interface was analyzed using confocal microscopy. It was added Rhodamine B to the adhesive systems in concentrations determined by pilot studies by confocal microscopy and microtensile test of 0.02 mg/ml (SBU) and 0.10 mg/ml (ASMP) to permit the visualization. The microtensile test results were analyzed by t test ($p<0,05$) and the mean values (MPa ± SD) of microtensile test were: SBU 35.652 ± 10.772 and ASMP 41.540 ± 13.265. There was no statistically significant difference ($p = 0.202$) for the bond strength when the Rhodamine B was added to the tested adhesive systems. Qualitative analysis for the presence of gaps showed no difference between the adhesive systems used in this study. Both adhesive systems were capable to forming hybrid layer without the presence of gaps according to microscopic analysis.

D053 - Synthetic- polymer based healers and prosthetic components

Geyson Galo da SILVA[1]; Denise Tornavoi de CASTRO[1]; Mariana Lima da Costa VALENTE[1]; Cesar Penazzo LEPRI[2]; Andréa Cândido dos REIS[1]

[1]Department of Dental Materials and Prosthodontics, Ribeirão Preto Dental School, University of São Paulo.
[2]Department of Biomaterials, University of Uberaba.

Despite the success of dental implants, problems of a biological and mechanical associated with prosthetic components are commonly reported. The polyethylene terephthalate (PET) is widely used in health due to biocompatibility, high mechanical strength, gloss and transparency. The aim of this study was to evaluate in an unprecedented way the physical, mechanical and morphological PET suggesting its use in the manufacture of prosthetic components and dental healing abutments, and compare them to polyethylene properties, material already used for this purpose. For each material, 60 specimens (9 x 2 mm) were obtained for the analysis of hardness and surface roughness of which 30 were used for morphological analysis by scanning electron microscopy (SEM) and 30 specimens (8 x 4 mm) for compressive strength analysis. Data were analyzed by Student's t test ($\alpha = 0.05$). The Pearson correlation test was used to verify the correlation between the methods. There was no significant difference in hardness ($p = 0.843$) and surface roughness ($p = 0.223$) of the two materials, however, PET showed higher compressive strength when compared to polyethylene ($p = 0.000$). Overall, there was a weak correlation between the methods. However, considering each material separately, there is a moderate positive correlation between roughness and surface hardness of PET. PET has better results than the polyethylene for the manufacture of prosthetic components and dental healing abutments. But more tests are needed to ensure that it is in a position to remain intact in the oral environment and fulfills the intended function.

D054 - Zirconia reinforced lithium silicate: 6-month follow-up

Giovanna Speranza ZABEU[1]; Rafael Massunari MAENOSONO[1,2]; Letícia Ferreira de Freitas BRIANEZZI[1]; Denise Ferracioli ODA[1]; Adilson Yoshio FURUSE[1]; Sérgio Kiyoshi ISHIKIRIAMA[1]

[1]Department of Operative Dentistry, Endodontics and Dental Materials, Bauru School of Dentistry, University of São Paulo.
[2]Department of Operative Dentistry, Santa Fé do Sul Municipal Foundation of Education and Culture.

Zirconia reinforced lithium silicate (ZLS) has been introduced in dentistry with the purpose to obtain an improved flexural strength (420 MPa), associated to the enhanced esthetics of glass ceramics; by the incorporation of 8-10% zirconium oxide with a mean grit size of 0.5-0.7 µm. Recently published evidences suggests that the adhesion to resin cement and wear resistance seems to be satisfactory, however very few clinical reports are currently available; thus, the aim of this case report is to discuss the clinical perceptions regarding the ZLS with 6-months follow-up. A 57-year-old male patient presented to Bauru School of Dentistry seeking treatment for his anterior teeth. Clinical examination revealed some marginal misfit, and a non-ideal anatomical form of the four upper incisors. Conventional preparations for laminate veneers were performed, after that, impressions were taken with polyvinyl siloxane addition silicon. A1 high translucent ZLS blocks were selected to fabricate the veneers through CAD-CAM following manufacturer's recommendations. After minor adjustments and resin cement color selection with try-in pastes, veneers were etched with 10% hydrofluoric acid for 20 seconds and prepared for adhesion with silane and adhesive application. Cementation was performed with a light-curable resin cement color A1, obtaining very esthetical result. On 6-month clinical control it was possible to observe that veneers were intact, veneers shade was harmonized to the other teeth and sound gingival papillae. ZLS ceramics were able to determine very satisfactory esthetical results on laminate veneers, with an extra value of flexural strength, which may be useful for other conservative approaches.

D055 - Clinical evaluation of risk factors for noncarious cervical lesions

Ilana Santos RAMALHO[1]; Laís Alcântara PIRES[1]; Luana Menezes de MENDONÇA[1]; Livia Aguiar Santos Nogueira LIMA[1]; Ana Carolina MAGALHÃES[2]; Luiz Fernando PEGORARO[1]

[1]Department of Prosthodontics, University of São Paulo, Bauru School of Dentistry.
[2]Department of Biological Sciences, University of São Paulo, Bauru School of Dentistry.

The purpose of this research was to investigate the influence of different risk factors in the formation of noncarious cervical lesions (NCCLs). These lesions were identified and classified according to the degree of severity and correlated with the following factors: presence/absence of wear facets and dental biofilm, age, gender, dietary habits, medical history, oral hygiene habits and parafunctional habits. Thirty-three undergraduate and graduate students were evaluated, with ages ranging from 18 to 30 years. Clinical evaluation consisted of dental biofilm index application, clinical examination to identify NCCLs and casts for identification of wear facets and application of a questionnaire. The results showed that 25 individuals (75.7%) had at least one NCCL, with higher prevalence in buccal surfaces and in the first molars, followed by the first premolar; incisors were teeth with fewer lesions; premolars were teeth that had lesions with higher severity scores; direct correlation was found between lesions severity and age ($p=0.04$, $r=0.350$), and between wear facets and lesions ($p<0.05$, $r=0.605$). From 250 teeth with cervical lesions, 217 (86.8%) had wear facets and 33 (13.2%) had no facets, indicating a significant relationship between the presence of facets and NCCLs ($p<0.05$); inverse correlation was found between the presence of dental biofilm and the number and severity of NCCLs ($p=0.02$, $r=-0.403$; $p=0.02$, $r=-0.426$, respectively). Gender, dietary habits, medical history, oral hygiene habits and parafunctional habits showed no significant differences regarding to the presence of NCCLs. The results showed that these lesions have a strong causal relationship with the occlusal stress and the presence of dental biofilm may have a protective role in the formation of these lesions.

D056 - Composite resin for restoration of fractured upper incisor

Isabela Alves MATIOLI[1]; Fábio SENE[1]; Valéria PELLIZZARO[1]; Gabriela Menegazzi CASEIRO[1]; Ana Carolina Nunes e SILVA[1]

[1]Department of Restorative Dentistry, Londrina State University.

Fractured anterior teeth are very common situations in young patients. The composite resin restorations are the main way to rehabilitate these teeth. However understand each system, color, shape and microanatomy are fundamental. The aim of this study is to report the layering technique and restoration of a fractured central incisor. Male patient, 13, sought dental care due to extensive fracture in tooth 21. After anamnesis and pulp sensitivity tests, verified the vitality of it and planned a restoration in composite resin. In the same session a provisional restoration was done in resin, with the same palatal silicone matrix. In the next session the restoration was performed using the Empress Direct system (Ivoclar Vivadent). The palatal portion was made with trans opal resin. The dentin portion was made deeply with A4 resin, followed by the middle third A3 and A2 incisal third colors. Then characterizations were made with white colorant on the surface of the tip and ocher mamelons (Tetric Color – Ivoclar Vivadent). Then the trans 20 enamel was applied to complete the restoration. After finishing setting of the reflection areas, micro-texturization and polishing gave the correct integration of color and shape. Restorations in composite resins, when properly planned and executed, are the best and most conservative way to recover anterior teeth fractured.

D057 - Analysis of mechanical behavior of nanoceramic resins

Isabela BELTRAMINI[1]; Camila Moreira MACHADO[1]; Ernesto Benalcázar JALKH[1]; Ronaldo HIRATA[2]; Mariana Miranda de Toledo PIZA[1]; Estevam Augusto BONFANTE[1]

[1]Department of Prosthodontics, Bauru School of Dentistry, University of São Paulo.
[2]Department of Biomaterials and Biomimetics, New York University.

Despite their excellent esthetic results, resin composites still pose some disadvantages, such as polymerization contraction that may eventually lead to marginal infiltration, post operative sensibility and a decrease in bond strength. When fabricated in blocks for CAD/CAM (Computer Aided Design/Computer Aided Manufacturing) they present as an alternative for direct restorations since they reduce the amount of intrinsic flaws. The present study sought to evaluate the biaxial flexural strength of nanoceramic resin composites fabricated manually or milled from CAD/CAM blocks. Sixty disc shaped specimens were fabricated (Filtek Z350 XT, 3M- Oral Care, n=30) or milled (Lava™ Ultimate, 3M-Oral Care, n=30) (8 mm x 0.5 mm) and tested 24 hours after polishing with increasingly grit silicon carbide papers. Mechanical analysis comprised biaxial flexure testing where samples were placed in a device positioned in a universal testing machine and loaded at a cross-head speed of 0,5 mm/min until fracture. The results were analyzed by the Weibull distribution which calculated, from biaxial strength values, the characteristic strength, Weibull modulus, and the probability at 30 and 35 N between groups. The analysis showed that whereas characteristic strength and Weibull modulus were slightly higher for Lava Ultimate (42,41 N and 8,52) compared to Filtek Z350 XT (36,84N and 7,71) both were not significantly different ($p>0.05$). There was no statistical difference for probability of survival calculated for either 30 N (95% Lava and 81 % Filtek) or 35 N (82% Lava and 51% Filtek) between groups.

D058 - Molar incisor hypomineralization: what the dentist needs to know

Isabela MESQUITA[1]; Priscilla Santana Pinto GONÇALVES[1]; Natália Mello dos SANTOS[1]; Natália Junqueira BUAINAIN[1]; Franciny Querobim IONTA[1]; Thiago Cruvinel da SILVA[1]; Daniela RIOS[1]

[1]Department of Pediatric Dentistry, Orthodontics and Public Health, Bauru Dental School, University of São Paulo.

Molar incisor hypomineralization (MIH) is an enamel's systemic defect characterized by decreased mineralization of up to 4 first permanent molars, which may also affect the incisors. Due to its high prevalence, the dental change has been considered a challenge for dentists, especially for pediatric dentists due to uncertainty about its etiology and treatment difficulties. Children with MIH require ten times more restorative treatments than non-affected children, this fact is reflected in behavioral problems, such as fear and anxiety. The aim of this study is to review the literature regarding the clinical and etiological factors, diagnosis and treatment of MIH, through the presentation of clinical cases, the dentist gets information on how to deal with these cases in the clinic. The etiology of the MIH is still unknown, it is known only that the typical lesions are caused by changes during early mineralization ameloblasts. Clinically, defects appear as changes in translucency and color of the affected enamel, showing asymmetrical lesions ranging from white/cream to yellow/brown, affecting mainly permanent molars and incisors. The increase of enamel porosity can lead to early enamel loss by mechanical forces or the development of caries, because of a great painful sensibility hampering the oral hygiene. These injuries are classified as mild, moderate and severe, and treatments range from fluoride application to rehabilitation with crowns or tooth extraction associated with orthodontic treatment. Through the literature it can be concluded that MIH is a complex dental alteration with various degrees of involvement, and it may be associated with painful symptoms, which must be diagnosed and treated early enough to avoid effects on the oral and psychological health of the child.

D059 - Bleaching technique association for sensitivity reduction

Janaina Aparecida Avila MOTTA[1]; Igor Aparecido BEM[1]; Aron Oliveira Marques SOUZA[1]; Murilo Baena LOPES[2], Klissia Romero FELIZARDO[1]

[1]Department of Dentisty, Paranaense University.
[2]Department of Dentistry, University of North Parana.

Chemical changes in bleaching agents and clinical strategies have been proposed to eliminate or control tooth sensitivity associated with whitening. The aim of the study was to report a case which was associated with two bleaching techniques; a home through a bleaching agent containing desensitizing agents in its composition, and the office, with the use of a desensitizing gel before the procedure, in order to achieve a satisfactory cosmetic result without sensitivity report. J.C.O, 18 years old, showing dissatisfaction with his teeth color, search for treatment at the Multidisciplinary clinic II, Unipar. The plaster casts were obtained and trays were made for the home bleaching, which was made with 16% carbamide peroxide (Whiteness Perfect 16% FGM, containing potassium nitrate and fluoride) for 1 hour per day during 3 weeks. On the tenth day of treatment, the office bleaching was performed with 35% hydrogen peroxide (Whiteness HP 35% MGF) for 3 applications of 20 minutes with 5 minutes' dwell time. The desensitizing gel (Desensibilize KF 2%, FGM) was applied for 10 minutes' prior the procedure. Teeth color was evaluated every week. Dentinal sensitivity was recorded daily by the patient in accordance with a scale containing the following criteria: 0 = none, 1 = mild, 2 = moderate 3 = considerable and 4 = severe. After treatment, the teeth color was registered as B1, which make the patient extremely satisfied. It was concluded that the use of a desensitizing gel before bleaching treatment and the use of a bleaching agent with desensitizing agent in their composition showed satisfactory esthetic results and elimination of the sensitivity.

D060 - Biological restoration of a second deciduous molar

João Gabriel Paulino MAZZON[1]; Letícia Pena BOTELHO[2]; Marina Piolli de Oliveira PRADO[2]; Karine T. A. TAVANO[2]; Adriana M. BOTELHO[2]; Rafael MENEZES-SILVA[1]

[1]Department of Operative Dentistry, Endodontics and Dental Materials, Bauru School of Dentistry, University of São Paulo.
[2]Department of Dentistry, Federal University of Jequitinhonha and Mucuri Valleys.

Dentoalveolar ankylosis is a phenomenon that affects

deciduous teeth, especially in the absence of its permanent successor. It is characterized by the fusion between dentin/cementum with alveolar bone. When the permanent dentition is complete and the tooth ankylosed remains persistent (stable), it will be positioned in infraocclusion. Studies show a positive correlation between infraocclusion and root resorption of deciduous molars with agenesis of its permanent successor. This is a case report of a 24 year old patient who sought treatment with the main complaint of upper teeth migration. Clinical and radiographic examination revealed teeth 75 and 85 ankylosed in infraocclusion and agenesis of their respective successors. It was also noted vertical migration of premolars antagonists to the ankylosed deciduous molars, common characteristic attributed to the attempt to create contact points. In order to restore tooth 85 occlusal height, it was decided to make an allogeneic biological restoration. The reduced interocclusal space prevented this option from tooth 75, in which a composite resin restoration was performed. Biological restoration consists in attachment of tooth fragments obtained from extracted teeth, donated and sterilized. It uses adhesive materials capacity combined with strategic placement of tooth fragments. Occlusal tooth height recovery by this technique was performed in three steps, two clinical sessions with one laboratory session in between. After two years, radiographic examination showed that restoration and tooth remained viable without the presence of caries, tooth migration or root resorption signs, characterizing a successful procedure. It follows, therefore, that biological restoration is a viable technique for occlusal tooth height recovery of deciduous teeth ankylosed in infraocclusion, being able to restore function and aesthetics with good long-term results.

D061 - Three-dimensional modeling protocol of a maxillary central incisor

José Lázaro Rodrigues VIEIRA JÚNIOR[1]; Nayra Kawana TURINI[1]; Valéria PELLIZZARO[1]; Adriana de Oliveira SILVA[1]

[1]Department of Restorative Dentistry, State University of Londrina.

The advance of science and technology has motivated the realization of simulations and behavioral analysis by advanced computer systems. However, the three-dimensional modeling dental structures is still a challenge for bioengineering. This paper presents the development of a simplified protocol of three-dimensional modeling applied to a maxillary central incisor from basic architectural references of dental morphology, aiming to provide a scientific contribution to the studies in bioengineering, a BioCAD. The validation of the modeling concepts given by the application in a digital planning a smile, with the auxiliary use of scanned study models, glimpsing the possibility of developing a DPS-3D (Digital Planning Smile-3D). The anatomy of the structures involved was designed according to the literature information. Anatomical labial dimensions, incisal and mesial of the healthy tooth and supporting structures were designed on graph paper, scanned and, with 3DSMax® -Autodesk program, modeled three dimensionally. It is concluded that the presented protocol might provide advantages over other methods of obtaining three-dimensional geometry, for ease of implementation, the possibility of changes in the geometry detail, maintaining a proper configuration for the process of generating virtual models that can be used digital planning and also to obtain teaching materials.

D062 - Multidisciplinary treatment to re-estabilish the smile harmony

Laís Kennerly HERRERA[1]; Luana Menezes de MENDONÇA[2]; Maria Silvia LIMA[3]; Camila Manzano Veronezi de PALMA[3]; Maria Cecília Veronezi DAHER[1]; Karin Cristina da Silva MODENA[1]

[1]Department of Health Sciences, University of Sagrado Coração.
[2]Department of Health Sciences, Bauru Dental School, University of São Paulo
[3]Dental Intitute Cecília Veronezi.

Dental surgeons should be prepared to deal with the demand for the perfect smile and perform treatments to bring this desired aesthetic, sometimes making use of multidisciplinary treatments to achieve the goal. Female patient went to the clinical course of Improvement in Aesthetic Dentistry of Cecilia Veronezi Dental Institute to improve the appearance of her smile. The treatment planning involved orthodontic, periodontics and restorative dentistry procedures. Orthodontics was responsible to correct the gingival zenith, occlusal and dental plan alignment for distribution of orthodontic spaces. Periodontics was responsible for height enlargement of clinical crowns of the maxillary anterior teeth. The approach of Restorative Dentistry consisted in the office bleaching where it was used the hydrogen peroxide gel at 35% and at closure diastema procedures and recontouring of the anterossuperior teeth with direct composite resin, re-establishing principles such as size and shape, smile line, incisal edges and proportionality. The multidisciplinary approach enables to restore the smile and face aesthetics, rescuing the patient self-esteem.

D063 - Aesthetic and functional rehabilitation using ceramic laminates

Larissa de Avila DUARTE[1]; Alexandre Coelho MACHADO[2]; Analice Giovani PEREIRA[2]; Guilherme Faria MOURA[2]; Lívia Fávaro ZEOLA[2]; Pedro Henrique Rezende SPINI[2]; Paulo Vinicius SOARES[2]

[1]Dental School, Federal University of Uberlândia.
[2]Area Dentistry and Dental Materials, School of Dentistry, Federal University of Uberlândia.

Minimally invasive restorations using ceramic laminates stand out in dentistry for their longevity, high strength and excellent optical properties. The aesthetic planning should consider harmonizing between the gingival contour and dental anatomy. The objective of this study is to describe steps of aesthetic rehabilitation and functionally patient who has previous diastema with minimally invasive ceramic veneers. Female patient came to the area of Dentistry and Dental Materials, Federal University of Uberlândia, complaining of diastema teeth 13, 12, 11, 21, 22 and 23. Besides diastema, the patient shows insertion of the upper labial frenulum near the papilla of the central incisors and bulky gum. Gingival plasty was performed to subgingival enamel exposure, and frenectomy. Study molding and digital planning were made. The prognosis was accomplished according to the specifications of the digital planning. Then, fashioned into a mockup using bis-acrylic resin. After approval of mock-up by the patient, there were minimal wear on enamel with diamond burs of extra-fine grain, to favor the laminate insertion axis. The work molding was performed with the addition of silicon. The laminates were made of feldspathic ceramics, color

A1. The cementation procedure for contact lenses was carried out with conventional light-cured resin cement. As a result, function and aesthetics expected by the patient and executing team they were restored with preservation period of 1 year. We conclude that the use of thin ceramic laminates allows the aesthetic success of rehabilitation treatment, being extremely conservative.

D064 - Chemical solubility of an experimental lithium disilicate

Larissa Natiele MIOTTO[1]; Mariana de Oliveira Carlos VILLAS-BÔAS[2]; Lucas Miguel CANDIDO[1]; Edgar Dutra ZANOTTO[2]; Laiza Maria Grassi FAIS[1]; Lígia Antunes Pereira PINELLI[1]

[1]Department of Dental Materials and Prosthodontics, Araraquara Dental School, Univ. Estadual Paulista.
[2]Laboratory of glassy materials, Department of Materials Engineering, Federal University of São Carlos.

Glass ceramics of lithium disilicate (LS2) can be used in metal free prostheses and are manufactured through the injection process or by the CAD/CAM method. It is possible to obtain a good clinical performance with this type of material due to high translucency, high flexural strength, toughness similar to natural teeth and low chemical solubility. The objective of this study was to evaluate the chemical solubility of an experimental lithium disilicate, developed in the laboratory of glassy materials LaMaV - UFSCar, comparing the manufacturing methods: injection technique (IJ; n=10) and CAD/CAM technique (CC; n=10). Samples were produced with approximately 30 cm^2. Before the experiments, samples were washed with distilled water and dried in an oven (150±5°C, 4h). Samples were weighed on precision balance, prior to immersion in 4% acetic acid solution (80±3°C; 16h). After 16 hours the processes of washing with distilled water, dry in oven (150±5°C; 4h) and weighed was repeated. Chemical solubility was calculated using the formula: Chemical Solubility (µg/cm^2) = weight loss (µg)/surface area (cm^2), according to ISO 6872: 2008. Mann-Whitney statistical analysis (α=0.05) was used to compare the groups. The average solubility of the IJ group was 11.18 and 13.50 for CC group with no statistical difference between the groups. Therefore, there is no difference between the obtainment technique. The results showed that these materials have solubility of less than 100 g/cm^2 being suitable for use as dental prostheses.

D065 - Restoration of non-carious cervical lesions using Giomer system

Leonardo Portilha Gomes da COSTA[1]; Isabela Furlaneto LEÃO[2]; Naiara Araújo de OLIVEIRA[2]; Rafael Francisco Lia MONDELLI[2]; Juliana Fraga Soares BOMBONATTI[2]

[1]Department of Dentistry, Hospital for Rehabilitation of Craniofacial and Anomalies, University of São Paulo.
[2]Department of Operative Dentistry, Endodontics and Dental Materials, Bauru School of Dentistry, University of São Paulo.

Non carious cervical lesion results from several etiologies causing dental tissues disruption, leading to teeth surface alterations through one process that does not involve bacteria. These lesions can be classified as erosion, abrasion and abfraction and despite differing etiologies they present a complex diagnosis and most of the time it is a consequence of the association of more than one factor characterizing a multifactorial etiology. The objective of the present study was to restore these lesions using Giomer System Beautifil II, a direct restoration material composed of pre-reacted glass ionomer cement particles that works as particles inside the resin matrix (nanohibrid universal composite) being able to release and recharge fluoride. In the present report, D.G.G. patient, female, 59 years-old, came to Restorative Dentistry, Bauru School of Dentistry presenting the teeth 33 and 34 with non-carious cervical lesions, made the diagnosis, opt to restore them with Giomer System, FL-Bond II and light cure dental restorative material Beautifil II. Considerations: in this case, Giomer System permitted to reestablish form, function and esthetic, allowing shine and smoothness in addition to its potential to release fluoride.

D066 - Rehabilitation Treatment of enamel hypocalcified lesions

Letícia Marinho VIEIRA[1]; Isabela BELTRAMINI[1]; Martha Beteghelli MICHIELIN[1]; Cassiana Koch SCOTTI[1]; Rafael Francisco Lia MONDELLI[1]

[1]Department of Operative Dentistry, Endodontics and Dental Materials, Bauru School of Dentistry, University of São Paulo.

Hypocalcified enamel is one of the development anomalies frequently observed in human dentistry and it is the result of a deficiency of minerals in tooth enamel caused by a lack of ameloblasts, or injuries to the cells ameloblasts after deposition and maturation's enamel organic matrix. Clinically, is possible to detect whitish or yellowish stains in the form of grooves or slots, which can jeopardize not only the aesthetics of the patient's smile but also interfere with their psychological and social environment. The aim of the present clinical case is to present the diagnose and the treatment of a young patient, which came to the Odontology School of Bauru complaining of dark spots on anterior teeth. Clinically, was observed on the medial third incisor's element 21, 22, 33, 41 and 42, the presence of deep yellowish spots. The whitening technique in clinic, in the area involved, was the first attempt to maximize the conservation of the patient's dental structure. However, due to localization and depth of lesions, the hypocalcified structure in the teeth 21 and 22 were worn out, being removed the dental structure's affected. The restorations were made with nanohybrid composite, through stratification of the dentin and enamel, followed by finishing and polishing. 9) From the treatment, could be restored the aesthetic harmony, providing significant positive impact to the patient's self-esteem. However, due to localization and depth of lesions, the hypocalcified structure of affected teeth were worn out, being removed the dental structure's affected. The restorations were made with composite nano hybrid, through stratification of the dentin and enamel, followed by finishing and polishing. From the treatment, the aesthetic harmony was restored, providing significant positive impact to the patient's self-esteem.

D067 - Characterization and corrosion resistance of Ni-Cr alloys in mouthwashes

Lia Kobayashi OLIVEIRA[1]; Conceição Aparecida Matsumoto DUTRA[2]; Eduardo Norberto CODARO[2]; Ana Paula Rosifini ALVES-CLARO[3]; Maria Cristina Rosifini ALVES-REZENDE[1]

[1]Department of Materials and Prosthodontics, Araçatuba School of Dentistry, Univ. Estadual Paulista.
[2]Department of Physics and Chemistry, Guaratinguetá School of Engineering, Univ. Estadual Paulista.
[3]Department of Materials and Technology, Guaratinguetá School of Engineering, Univ. Estadual Paulista.

Dental alloys and Nickel-Chrome and Nickel-Chrome-Titanium provide better patient access to rehabilitation treatments using ceramics for esthetic overlay. When in oral cavity, these alloys are susceptible to corrosion, which can jeopardize not only their clinical performance as well as their physical and biological properties. The objective of this study was to evaluate the corrosion resistance of two dental alloys, one Nickel-Chrome base and another based on Nickel-Chromium-Titanium in three types of mouthwashes with different active ingredients: mouthwash I - 0.5 g/L cetylpyridinium chloride +0.05% sodium fluoride; mouthwash II -0.05% sodium fluoride+0.03% triclosan and mouthwash III – 0.12% chlorhexidine digluconate. Potentiodynamic curves were performed using potentiostat PAR283 and conventional double glass cell wall thermostating. It used reference electrode Ag / AgCl, KClsat and as auxiliary electrode graphite rod. The microstructures of the two alloys were observed by optical microscopy. Analysis of corrosion potentials (Ecorr) and rupture (erup) showed that the interval of the passive region was dependent on pH and the presence of fluoride ion in the electrolyte, and the alloy composition. The Nickel-Chrome alloy showed lower corrosion resistance in mouthrinse III while Nickel-Chromium-Titanium alloy showed greater range of passivity and lower current density in rinses I and II. Microstructural analysis revealed dendritic microstructure (dendritic spacings) in the Nickel-Chrome alloy and eutectic (intimate mixture of two phases) in the Nickel-Chromium-Titanium alloy. It was concluded that the chemical composition of mouthwashes played decisive role in the corrosion resistance of the alloy Nickel-Chrome and Nickel-Chrome-Titanium.

D068 - Microbiological and mechanical analyses of a modified acrylic resin

Lígia Gabrielle Sanches MARIOTTO[1]; Denise Tornavoi de CASTRO[1]; Mariana Lima da Costa VALENTE[1]; Andréa Cândido dos REIS[1]

[1]Department of Dental Materials and Prosthodontics, Ribeirão Preto Dental School, University of São Paulo.

Biomaterials with antimicrobial properties are highly desirable in dentistry. This study evaluated the antibiofilm efficacy and the compressive strength of a heat-cured acrylic resin incorporated with silver nanostructured vanadate (β-$AgVO_3$). Specimens were prepared according to the percentage of β-$AgVO_3$ (control 0%, 0.5%, 1%, 2.5%, 5% and 10%) in the dimensions of 9x2mm for microbiological test (n=8) and 4x8 mm for the mechanical test (n=10). The specimens were sterilized and inoculated with *Candida albicans* ATCC 10231 (107 CFU/mL) to be subjected to analysis of cell viability using the XTT and the counting of colony forming units (CFU/mL). The compressive strength was evaluated. Statistical analysis was performed by ANOVA, Levene and Tukey (α=0.05), showed that concentrations 5 to 10% caused the greatest reduction in biofilm viability, being similar to each other ($p>0.05$), and different from the control ($p<0.05$). The other concentrations showed intermediate results ($p>0.05$). There was a reduction in the number of CFU/mL. The incorporation of 10% yielded the best results being statistically similar than 5% ($p=0.106$). The control showed the highest compressive strength which is similar to 2.5% ($p=0.228$). The other concentrations showed significant reduction of compressive strength ($p<0.05$). Nanomaterial is capable of promoting antimicrobial activity to the acrylic resin but certain concentrations may interfere in compressive strength.

D069 - Single session in-office bleaching and restoration: case report

Lorena de Mello Alcântara GARRIDO[1]; Tamires de Luccas BUENO[1]; Fernanda Sandes de LUCENA[1]; Angélica Feltrin dos SANTOS[1]; Rafael Massunari MAENOSONO[1]; Rafael Francisco Lia MONDELLI[1]; Sérgio Kiyoshi ISHIKIRIAMA[1]

[1]Department of Operative Dentistry, Endodontics and Dental Materials, Bauru School of Dentistry, University of São Paulo

In-office bleaching and adhesive restorations should not be performed in the same session because the oxygen release from the bleaching procedure may interfere on the polymerization of both adhesive systems and resin composites. The aim of this clinical report is to discuss the technique used to remove these oxygen remnants with the aid of antioxidants agents, in order to perform adhesive restorations right after an in-office bleaching. Two young adult patients, twins, 19 years old, whose complaints were both their discolored teeth and some white spots lesions on maxillary incisors, couldn't attend to multiple sessions since they were from another city. In-office bleaching was performed by three applications of 35% hydrogen peroxide gel (Lase Peroxide Flex, DMC), each gel application light activated for 9 min with hybrid LED/LASER irradiation. So as to consume oxygen remnants, bicarbonate water (Neutralize, Lase Peroxide Flex Kit, DMC) was applied for 5 minutes to remove residual oxygen after cavity preparation but prior to acid etching and adhesive application. Restorations were than performed with incremental technique, with the aid of A2/B2 dentin resin composite (Brilliant NG, Coltene) and A1/B1 enamel resin composite (Brilliant NG, Coltene). Finishing and polishing procedures were also performed in the same session. After 3-months clinical control it is possible to observe that on both cases the esthetical treatment was quite successfully, without any visible deterioration of resin-enamel bonding so far.

D070 - Zirconia grinding with diamond stone: morphology and crystallography

Lucas Miguel CANDIDO[1]; Larissa Natiele MIOTTO[1]; Eduardo Bellini FERREIRA[2]; Selma Gutierrez ANTONIO[3]; Laiza Maria Grassi FAIS[1]; Lígia Antunes Pereira PINELLI[1]

[1]Department of Dental Materials and Prosthodontics, Araraquara Dental School, Paulista State University.
[2]Department of Materials Engineering, Engineering School of Sao Carlos, University of Sao Paulo.
[3]Department of Physical Chemistry, Araraquara Institute of Chemistry, Paulista State University.

Zirconia (Y-TZP) is a material used in metal free prostheses made by CAD/CAM technology, however after the manufacturing process, adjustments are often necessary and can cause changes in their properties. Studies for the elaboration of a less aggressive grinding protocol for zirconia are relevant, so the aim of this study was to evaluate the Y-TZP surface after grinding with diamond stone with and without irrigation in relation to the crystalline content and surface morphology. Y-TZP specimens (Lava™) were divided in four groups (n=5): pre-sintered (PS), sintered (C) (8 mmx8 mmx1.2 mm), dry grinding (DG) and wet grinding (WG) (8mmx8mmx1.5mm). Grinding of 0.3 mm was performed on the specimen surface in a standardizing device using stone diamond (MasterCeram®) at low speed. Surfaces were evaluated by scanning electron microscopy (SEM) and X-ray diffractometer (XRD). The SEM images were submitted to descriptive analysis. The XRD data were refined by the Rietveld method and percentages of monoclinic phase (*m*) and tetragonal (*t*) were: PS – *m*= 8.7, *t*=91.3; C – *m*=0.0, *t* =100.0; DG – *m*=3.3, *t* = 96.7 e WG – *m*=5.6, *t*=94.4. Sintering eliminated the monoclinic phase of the specimens of the PS group. There was an increased in the amount of monoclinic grains in WG group when compared to DG. SEM indicated growth and accommodation of grains after sintering for PS group, and in DG and WG groups the presence of longitudinal risks, parallel to the grinding direction, without disclosure of the grains; WG group showed deeper valleys. It was concluded that the grinding with stone without irrigation promotes lower surface changes and lower *t-m* transformation, being more appropriate than the grinding with irrigation.

D071 - Treatment on teeth with defective or incomplete enamel development

Marcela Angelico QUINTO[1]; Ana Carolina Nunes e SILVA[1]; Joao Felipe BESEGATO[1]; Rafaela GHELLER[1]; Adrieli BUREY[1]; Marcio Grama HOEPPNER[1]

[1]Department of Restorative Dentistry, Londrina State University.

With the evolution in Dentistry, society has been increasingly worried about obtain an harmonic and esthetic smile. Though, some clinical situations are able to provide esthetic disharmony and damages to the patient, like the teeth with defective or incomplete development of enamel's case. The defective or incomplete development of enamel is an structural alteration caused by defective formation of the tissue organic matrix. By means of a correct and early diagnosis, added with the commitment level of the dental structure, the realization of several care protocols is possible. Also, it aims to present the diagnosis and the esthetics restorer treatment for teeth with defective or incomplete development of enamel of a patient ("J.A."), male gender, 20 years old, that has come to the University seeking help, complaining about a white stain at 21th tooth. When the clinical examination was performed, was noticed that the white stain was profound and well defined, just as well generalized color alteration on every teeth. Initially, was chosen the homemade technique of dental whitening, under supervision during 15 days, using trays and an agent of whitening based on hydrogen peroxide, with an additional of nanoparticles made of titanium dioxide (H_2O_2 + TiO_2) photosensitized with high-powered laser. Then, a mechanical removal of the altered enamel was made, using a Diamond ball nose (number 1013, KG Sorensen). Subsequently, a restorer esthetic treatment was made using composite resin A1 and B1 (Vitalescence) and translucid (Amelogen), stratified technical ("1º RC Dentin and 2º RC Corpo"), in different opacity degrees. The treatment was concluded with finishing and polishing. Afterwards, can be concluded that both, esthetic than harmony of the smile was restored, bringing satisfactory results to the patient.

D072 - Digital analysis of dental aesthetic parameters

María Cecilia Pimentel PUGA[1]; Patricio Aníbal Proaño YELA[2]

[1]Faculty of Dentistry, University of Guayaquil.
[2]Department of Restorative Dentistry, Faculty of Dentistry, University of Guayaquil.

The Dental Aesthetic Parameters are established principles for the dental aesthetic analysis which help the dentist to diagnose and design their treatments.The purpose of this study was to establish by Digital Analysis the prevalence of Aesthetic parameters, among students of the School of Dentistry at the University of Guayaquil, Ecuador. A descriptive cross-sectional study of 200 students (127 women and 73 men) of first, second and fourth semester. Direct measurements from the upper right central incisor were recorded with a digital caliper (Radioshack)® and 3 photographs, by each participant, were taken, 2 portrait frontal images and one of the lower third of the face. For statistical analysis, the SPSS software 22nd version was used along with the method of linear regression. For both genders, the predominant smile type of the study was medium, the maximum width of the upper right central incisor registered was 10.39 mm, and the minimum width was 6.17 mm. The maximum length registered of the upper right central incisor was: 12.02 mm and the minimum length were: 6,63 mm. The average of the dental proportion was 88% .The most characteristic tooth shapes of this study were ovoid and squared. We also found from the gasp majority of participants the coincidences between the dental midlines, the facial and the dental midlines, and parallelism between the horizontal reference lines. The most dominant curvature was consonant. The predominant type of the buccal corridor was narrow type. Amplitude of smile: over 80% of participants exposed 10 to 12 teeth at smiling. Finally over 60% of participants showed predominance of the maxillary central incisors when smiling. It is concluded that digital analysis of aesthetic parameters is an indispensable guide for dental treatments in which the aesthetic of any patient is involved.

D073 - Effects of a universal adhesive system applied on dentin

Maria Luísa de Alencar e SILVA LEITE[1]; Diana Gabriela de Sousa SOARES[2]; Carlos Alberto de Souza COSTA[2]; Rosângela MARQUES[3]; Ana Karina Maciel de ANDRADE[3]

[1]Department of Dental Materials and Prosthodontics, Araraquara School of Dentistry, Univ. Estadual Paulista.
[2]Department of Phisiology and Pathology, Araraquara School of Dentistry, Univ. Estadual Paulista.
[3]Department of Operative Dentistry, Federal University of Paraiba.

The bond strength (BS) and the cytotoxicity of the adhesive system Single Bond Universal (SBU) were assessed after applying it on wet or dry dentin surface, according to the etch-and-rinse (ER) and self-etching (SE) protocols. The following groups were established: G1- SBU: ER/wet; G2- SBU: ER/dry; G3- SBU: SE/wet; G4- SBU: SE/dry; G5- Adper Single Bond 2: ER/ wet (positive control ER); G6- Clearfil SE Bond: SE/wet (positive control SE); G7 - No treatment (negative control). The specimens for microtensile bond strength were obtained 24 hours after restorative procedure (ANOVA/Tukey; α=0.05). To evaluate the trans-dentinal cytotoxicity, odontoblast-like MDPC-23 cells were seeded on the pulpal surface of dentin discs (0.4 mm) adapted to artificial pulp chambers. The hybridization techniques were performed on the occlusal surface of the discs according to the pre-stablished experimental conditions, followed by 24 hour incubation period. Thereafter, the cell viability (Alamar Blue) and morphology (SEM) were assessed (Kruskal–Wallis/Mann–Whitney; α=0.05). The groups G1, G2 and G5 featured higher BS values than the other experimental groups, with no significant difference among them. The G1-G6 groups showed significant reduction in cell viability (±88%) compared to G7, with no significant difference among them, associated with severe reduction in the number of cells adhered to dentin. Therefore, the adhesive system Single Bond Universal caused intense trans-dentinal cytotoxic effect on odontoblast-like cells, regardless of dentin wettability and hybridization protocol. The self-etching protocol affected negatively the bond strength between material and dentin; however, dentin wettability had no effect on this parameter.

D074 - New dental implant design to facilitate the surgical procedure

Mariana Lima da Costa VALENTE[1]; Denise Tornavoi de CASTRO[1]; Antonio Carlos SHIMANO[2]; Andréa Candido dos REIS[1]

[1]Department of Dental Materials and Prosthodontics, University of São Paulo, Ribeirão Preto School of Dentistry.
[2]Department of Biomechanics, Medicine, and Rehabilitation of Locomotive Apparatus, University of São Paulo, Ribeirão Preto School of Medicine.

Implant design is a determining factor for primary stability, a key parameter for the success of treatments. Therefore, the main objective of this in vitro study was to assess and compare the performance of modified implants with the conventional models, for primary stability using the insertion torque and pullout test. A total of 36 implants (Neodent®) with two formats (n=18): Alvim CM (Conical morse taper, Ø 4.3 mm x 10 mm length) and Titamax CM (Cylindrical morse taper, Ø 4.0 mm x 11 mm length), of which nine were selected from each group to produce the proposed design change, before the insertion into polyurethane blocks (20 and 40 PCF). The primary stability was verified by the insertion torque (IT) and maximum pullout strength (PS). The data were analyzed by One-way ANOVA followed by the Tukey test (α=0.05). Pearson's correlation test was used to verify the correlation between the methods. Taking into consideration the insertion torque in the polyurethane of 20 PCF, there was similarity for the conventional and modified Alvim CM implants (p=1.000), and also for the Titamax CM (p=0.274). In the polyurethane 40 PCF, both formats showed greater insertion torque after the design change (p<0.05). There was no statistically significant difference in pullout resistance for the conventional and modified models, when the polyurethane 20 PCF was used (p>0.05). However, in the 40 PCF polyurethane, the modified Alvim CM implants (p=0.000) and modified Titamax CM (p=0.021) had significantly lower means. The findings suggest that the modified implants induce satisfactory primary stability; showing advantages which reduce surgical time and facilitate the technical procedure and bone density affects the performance of implants.

D075 - How the handling of adhesives may affect the adhesion to dentin

Mariana Ribeiro dos SANTOS[1]; Rafaela PASCON[1]; Marina Ciccone GIACOMINI[1]; Maria Angélica Silvério AGULHARI[1]; Ana Flávia Sanches BORGES[1]; Linda WANG[1]

[1]Department of Operative Dentistry, Endodontics and Dental Materials, Bauru School of Dentistry, University of São Paulo.

No systematic manipulation of dentin bonding systems (DBS) by the operator can interfere on their adhesive quality to the dentin substrate. The aim of this study was to simulate routine conditions on clinical practice regarding the bonding strength (BS) to dentin, taking into account the null hypothesis that there is no difference on BS of two no-simplified dentin bonding systems to dentin regarding their manipulation. Two no-simplified denting bonding systems, Adper Scotchbond multipurpose (MP) and Clearfil SE Bond (SE) were tested, in comparison to a two-step etch-and-rinse bonding system (Adper Single Bond Universal-SBU). Simulations involved four conditions: At room temperature (C), aged in laboratory (AL) and aged in clinical routine during 2 weeks (AC). Sound human third molars were selected and prepared to bonding according to the described groups (three DBSs and three manipulation conditions), which were restored to obtain sticks after 24 hours. Data was tested to verify normal distribution and homogeneity to be analyzed with two-way ANOVA and Tukey tests (p<0.05). Data revealed that condition (p<0.0001) and DBS (p=0.0048) were statistically significant, as well as the interaction between factors (p=0.0038). The condition CONT-SBU showed greater values of BS. On the other hand, the tested conditions EC-SE, EL-SE and EL-SBU showed the minimum values, however with no difference to EC-MP, CONT-SE, EL-MP and EC-SBU. Bonding systems based on MDP monomer showed more impact on the reduction of bonding strength when artificially or clinically challenged.

D076 - The influence of ethanol in bending and modulus of elasticity of resin

Mariana Vieira BALLA[1]; Mhayara Tupinambá ANDRADE[2]; Ruth Pantoja RODRIGUES[2]; Cecy Martins SILVA[2]; Carmen Gilda Barroso Tavares DIAS[2]; Renata Antunes ESTEVES[2]

[1]Department of Clinical Dentistry, Centro Universitário do Pará. [2]Department of Clinical Dentistry, Dental School, Pará Federal University.

The aim of this study was to evaluate the influence of ethanol on the flexural strength (FS) and elasticity modulus (EM) of different resin cements (Enforce®, RelyX ARC® and RelyX U 200®). The specimen were prepared (n=10) from bipartite metallic matrix (10x2x1 mm). The cement was manipulated and introduced into the matrix in a single increment, sandwiched between glass slides, and photo activation with 800 W² for 20 seconds. The prepared specimens were divided into two groups: Group 1: Specimen stored for 24 hours (37ºC); Group 2: Specimen stored in 75% ethanol for 60 days. The tests were performed after the respective periods of storage. For the experiment, we used a mechanical testing machine (Model 5565, Instron Corp., Canton, USA), through bending test at three points, 1000 N of load cell and the loading speed of 0.5 mm/minute until fracture of the specimen. All results were submitted to ANOVA and Tukey's test (α=0.05). In all variables, statistical difference was found for all groups. In descending order the FS values found before and after immersion, respectively were: ARC® (123.7±16.9 and 59.6±5.0)=Enforce® (117.2±9.7 and 67, 8±17.0); U200® (98.4±14.6 and 54.8±6.8). The EM values are: ARC® (3.6±0.6 and 2.3±0.4)=Enforce® (4.0±0.3 and 2.5±0.5); U200® (2 8±0.3 and 1.7±0.2). In conclusion, within the limits of this study, the immersion in ethanol can reduce FS and EM of all resin cements studied.

D077 - Cementing fiberglass pins using self-adhesive cement

Marina Martins de MOURA[1]; Tatyane Borges BRIGAGÃO[1]; Thais Freitas RIBEIRO[1]; Rafael SILVA[1]; Camila Cristina VILELLA[1]; César POMACÓNDOR-HERNÁNDE[1]

[1]Department of Restorative Dentistry, School of Dentistry, National Institute of Higher Education and Graduate Padre Gervasio, Pouso Alegre/MG.

At present, glass fiber posts represent a good alternative to traditional cast posts in the rehabilitation of endodontically treated teeth. To achieve bonding of the glass fiber post into the root canal, cementation must always be performed using a resin cement. This study aimed to carry out a literature review on the cementation of glass fiber posts using self-adhesive resin cements, addressing issues such as step by step of clinical protocol, the *in vitro* and *in vivo* efficacy of this technique according to the literature, as well as the characteristics, adhesion mechanism, advantages, indications and trade names of self-adhesive resin cements. A search of articles in MEDLINE and SciELO databases from 2000 was conducted using the keywords "self-adhesive resin cement" and "glass fiber post." The adhesive resin cements were introduced in Dentistry in 2002 and has become an attractive option for the general practitioner in the cementation of glass fiber posts, because they eliminate the steps of acid etching and application of primer and adhesive in the root canal. *In vitro* studies related that glass fiber posts cementation using self-adhesive resin cements is equal or more effective than traditional resin cements. These results can be explained because the smaller the number of steps of a clinical protocol, the less chance of error in the procedure, particularly in situations such challenging and sensitive as conducting adhesive protocol within the root canal. Clinical trials are still scarce in the literature. It can be concluded that the use of self-adhesive resin cements could improve retention of glass fiber posts in the root canal.

D078 - Biomechanics and aesthetic reconstruction of fractured incisors

Matheus Henrique Dozzo MICHELATO[1]; Fabio SENE[1]

[1]Department of Restorative Dentistry, State University of Londrina.

Anterior teeth extensively fractured are a major challenge in restorative dentistry, because usually have great mechanical and biological impairment. Thus, the aim of this study is to report a case of rehabilitation extensively fractured central incisors. FM male patient sought dental care due to trauma and fracture of teeth 11:21, after anamnesis and clinical examination there was extensive fracture with pulp involvement element 11. Initially a provisional restoration in composite resin and splinting by palatine was held, after 3 weeks of control the patient returned with the loose splinting. It was shown, for mechanical reasons endodontic treatment of the tooth 11 for placement of the core, but the patient refused initially. Spent 3 months, the patient returned with the central completely destroyed and extensive gingivitis, endodontic treatment was then performed in the tooth 11, the broken crown portion was removed and placed pin and core glass fiber (exact / reforcore - Ângelus) for mechanical anchoring of tooth crown itself, which has been cemented in place. After 3 weeks was carried facets composite resin (Opallis - FGM) for reconstruction of the elements 11 and 21. It was then found that the correct biomechanical procedure is essential for the restoration of anterior teeth widely fractured.

D079 - Direct veneer in a central incisor with composite resin

Mayara Manginelli FREITAS[1]; Fábio SENE[1]; Gabriela Menegazzi CASEIRO[1]

[1]Department of Restorative Dentistry, Londrina State University.

Changes in the color and in the form on the upper incisors are very common and a problem for dental aesthetics. One of the most efficient ways to solve these is the direct facet in composite resin. Therefore, the aim of this study is to report a case where a direct facet composite resin in the tooth 11 was done on a female patient, 28 years old, who sought dental care for tooth whitening and remodeling of her tooth 11. Initially, it was made a bleaching with 7.5% hydrogen peroxide (white class FGM), after 1 month, the facet was planned. The element 11 was subjected to a preparation for the facet, and then the entire adhesive technique was conducted. The resin used in this case was Opallis-FGM. Initially, it was made the palatal portion with the resin Trans Blue. A first layer of opaque resin (OPAQUE PEARL), was applied to dentin and then A1 colors in the cervical and A 0,5 in the medium thirds and incisal. Then this resin was characterized with dyes and

to finish a high value enamel (VH) was applied. An early finish was done and after 15 days the color control and the final polishing with Jiffy rubbers (Ultradent) and Diamond Flex discs (FGM) was made. At the end, it can be seen that the composites are an excellent choice in terms of aesthetic result, longevity and cost-effective, to restore anterior teeth to change color and shape.

D080 - Esthetic and biologic effects of a chemically-activated bleaching gel

Natalia MARCOMINI[1]; Diana Gabriela de Sousa SOARES[1]; Carla Caroline de Oliveira DUQUE[1]; Josimeri HEBLING[2]; Carlos Alberto de Souza COSTA[1]

[1]Department of Physiology and Pathology, Araraquara Dental School, Univ. Estadual Paulista.
[2]Department of Orthodontics and Pediatric Dentistry, Araraquara Dental School, Univ. Estadual Paulista.

The aim of the present study was to assess the effect of chemical catalysis of hydrogen peroxide (HP) on the bleaching effectiveness and trans-enamel and trans-dentinal cytotoxicity of a 35%-HP bleaching gel. The following groups were established: NC - no treatment (negative control); PC - 35%-HP (positive control); HP/PR - 35%-HP + peroxidase; HP/CT - 35%-HP + catalase; HP/MH - 35%-HP + manganese hydrochloride. Enamel/dentin discs were adapted to trans-wells devices. Each set was individually placed in wells of 24-well plates, in which odontoblast-like cells MDPC-23 were attached to the bottom. Then, the dentin surface of the discs remained in contact with the culture medium and the bleaching gel was applied on the enamel surface (45 min). Immediately thereafter, the cell viability (MTT assay) and oxidative stress (H2DCFDA) was evaluated. The amount of HP present in the culture medium was quantified (leuco crystal violet assay) and the enamel color change (ΔE) was assessed (24 h after bleaching/ CIE L*a*b*) (ANOVA/Tukey; p=5%). Considering NC group as 100% of cell viability, it was observed for groups PC, HP/PR, HP/CT and HP/MH significant reduction of cell viability by 56.9%, 38.1%, 53.1% and 34.3%, respectively. Significant difference was observed when HP/PR and HP/MH groups were compared with PC. These groups also showed significant lower oxidative stress and HP diffusion in comparison to PC. The HP/PR group featured the highest ΔE value. Based upon the scientific data obtained in this study, it was possible to conclude that chemical catalysis of the 35%-HP gel with peroxidase reduces the diffusion of HP through enamel and dentin structures, decreasing the cytotoxic potential of the product and enhancing its whitening effectiveness.

D081 - Whitening: endogenous associated with exogenous – case report

Olívia Paiva PARIZOTTO[1]; Tamiris de Almeida PINTO[1]; Rafael de Almeida Mendonça NONATO[1]; Fabiane Lopes TOLEDO[2]; Luis Anselmo MARIOTTO[2]; Gustavo Lopes TOLEDO[3,4]; Miriam Graziele MAGRO[5]

[1]Department of Dentistry, University of Marília.
[2]Department of Operative Dentistry and Dental Materials, University of Marilia.
[3]Department of Stomatology and Anesthesiology, University of Marilia.
[4]Department of Biological Sciences, Bauru School of Dentistry, University of São Paulo.
[5]Department of Endodontics, University of Marilia.

The objective of this work was to perform a whitening tooth, which got dark by trauma, of a patient with sixteen years old that came at the clinic of Restorative Dentistry in University of Marília – UNIMAR. Bleaching agents were used by technique of immediate whitening endogenous associated with exogenous whitening to soften the darkening of a nonvital tooth. In the first session was taken the making color of the corresponding tooth before the process get started, then a crown was made to allow opening and removal procedure so we could fabricate the cervical stop. Started the whitening process, endogenous and exogenous, for this procedure was made a gingival barrier (TopDam – FGM), applied Hydrogen Peroxide 35% (Whiteness HP - FGM) across the inner and outer of the dental crown, leaving it for a period of thirty minutes, repeating this procedure for three more times each session and a temporary sealing with Coltosol. In the two following sessions, spaced seven days each session, it was made endogenous and exogenous whitening again totalizing five sessions to obtain the desired progress in the case. Also in the third session, after the use and removal of bleaching agents, filled up the entire interior of the dental crown with calcium hydroxide paste, leaving it in the cavity for seven days, in the last session the case was finished with a esthetic restorative. Through the procedure made we could see significant progress of the tooth color (nonvital) by the use of 35% hydrogen peroxide, in the first session the tooth presented at color C4 (Vita scale) and on the last session was restored using resin in color A1. It is concluded that the endogenous whitening made by technique of immediate whitening associated with exogenous whitening has effective action on the tooth color and can be used as an esthetic treatment, promoting professional and patient satisfaction.

D082 - Lithium disilicate veneers in the absence of lateral incisors

Pedro Henrique MAGÃO[1]; Giuliana de Campos CHAVES[2]; Bárbara Margarido BRONDINO[3]; Angélica Feltrin dos SANTOS[1]; Fabrícia CARDOSO[1]; Rafael Francisco Lia MONDELLI[1]

[1]Department of Operative Dentistry, Endodontics and Dental Materials, Bauru School of Dentistry, University of São Paulo.
[2]Department of Orthodontics, Social Promotion Society of Cleft Lip and Palate.
[3]Department of Prosthodontics, Bauru School of Dentistry, University of São Paulo.

In the case of esthetics rehabilitation, ceramics are the material of choice because of its excellent mechanical and optical properties that promote clinical success and patient satisfaction. The present case report aims to present the esthetic and functional rehabilitation of the

smile, due to the absence of the elements 12 and 22 by orthodontic extraction and with direct composite resin veneers, deem unsatisfactory on the 11, 21, 13 and 23 elements. After analysis of color and golden ratio with the help of Levin grids, the molding was made for the waxing diagnosis. Based on the same analysis, the mock up treatment was made with bisacrylic resin to be approved by the patient. The preparations have been carried out in such that the molding was made with retraction cord and silicone. The veneers were made of lithium disilicate IPS e.max Press color A2 HT (Ivoclar-Vivadent). They were conditioned internally with hydrofluoric acid 10% prior to the application of the silane Prosil (FGM) and Amber adhesive system (FGM). The dental substrates were conditioned with 37% phosphoric acid and the same adhesive system applied on the veneers was used. The resin cement, Allcem Veneer (FGM) was applied and all the excess was removed from the cervical region before all polymerization stages. The case was completed after occlusal adjustment and the results provided a more harmonious and satisfactory smile for the patient.

D083 - Are dental caries and dental erosion exclusive events for the same patient?

Rafaela PASCON[1]; Marina Ciccone GIACOMINI[1]; Maria Angélica Silvério AGULHARI[1]; Tamires de Lucca BUENO[1]; Diana Ferreira Gadelha de ARAÚJO[1]; Rafael Francisco Lia MONDELLI[1]; Heitor Marques HONÓRIO[2]; Linda WANG[1]

[1]Department of Operative Dentistry, Endodontics and Dental Materials, Bauru School of Dentistry, University of São Paulo. [2]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.

Caries and dental erosion are the most common demineralizing events that affect the tooth structure. Etiologically, both diseases are multifactorial, in which the presence and activity of the bacterial biofilm favors the onset of caries. Therefore, correct diagnosis is critical for the effectiveness of the therapeutic approach, involving the etiologic factors. The objective of study is to emphasize the importance of the correct diagnosis, regarding the etiological factors and clinical characteristics of the lesions. In this clinical case, a female young-adult patient looked for dental treatment in 2011 presenting aesthetic and functional reestablishments of the anterior teeth as her main complaint. At this stage, it was observed the predominance of dental erosion lesions than carious lesions. During anamneses, patient reported having undergone bariatric surgery and high daily consumption of cola-based drinks. After restoration of anterior teeth, patient did not attend later sessions, returning only in 2015, with the main complaint of pain and general discomfort. After clinical examination, carious lesions involving severe compromising of tooth structure was noticed. Facing this oral condition, a preview planning was purposed for the control of the involving factors simultaneous to the oral environment adequacy with restorative glass-ionomer for subsequent restoration and rehabilitation procedures. In this case, it is also highlighted the lack of the patient's cooperation, which makes the treatment hard. It was concluded that both. Carious lesions as the dental erosion can happen concurrently, not being an exclusive of the other. However, the predominance of an event on the other may vary at different times. Therefore an accurate diagnosis is critical to provide the patient not only treatment that restores the structural loss, but also allows stopping the evolution of tooth loss.

D084 - UV light effect and microscope use in replacement of composite restorations

Samuel Kaik Alves de LIMA[1]; Renata Corrêa PASCOTTO[1]

[1]Department of Dentistry, State University of Maringá.

Trying to minimize unnecessary wear on the replacement of composite restoration, it was recently introduced in the market a system of auxiliary UV light coupled in a high speed turbine which evidences the fluorescence of the restoration material in contrast with the dental structure. Considering that the use of the operative microscope during this stage is also a resource that could favor the preservation, the goal of this study was to evaluate the use of magnification in vitro as well as the use of the auxiliary illumination system linked to a high speed dental hand piece turbine, on the increase of the cavity dimensions during the composite resin replacement. Six artificial anterior teeth (13 to 23) assembled on a mannequin head. Class III cavities were made on the mesial surfaces using vestibular access and restored with composite resin of medium fluorescence (Z250, 3M ESPE). Were divided into 4 groups (n=24): G8xSL (n=6) under magnifying removal (8x) with the conventional high speed dental hand piece turbine – no light; G8xUV (n=6) under magnifying removal (8x) with the aid of the auxiliary light system coupled to a high speed dental hand piece turbine (Cobra Ultra Vision System, Gnatus®); GSL (n=6) unaided eye removal using the conventional high speed dental hand piece turbine; GUV (n=6) unaided eye removal using the auxiliary light system. The teeth were weighted on a precision analytical scale after the cavity preparation and after the removal of the restorations, in order to evaluate if the association of the magnification with an UV light provides a major preservation of the healthy structure. The difference between the initial weight and final, after being submitted to the Kruskal-Wallis tests ($p<0.05$), showed no statistical significance between the groups ($p=0.928$). Therefore, the use of the magnification or the auxiliary light system did not provide greater preservation of the dental structure than the traditional no accessory illumination technique.

D085 - Bonding to enamel after dental bleaching and use of antioxidants

Stefany Akemi Fabris ISHIKAWA[1]; Ana Beatriz Franco FERNANDES[1]; Cintia Gaio MURAD[2]; Renata Corrêa PASCOTTO[3]; Marcos Luciano BRUSCHI[3]; Sandra Kiss MOURA[1]

[1]Departmento of Dentistry, University of Northern Paraná. [2]Department of Dentistry, University Center of Maringá. [3]Department of Dentistry, State University of Maringá.

The aim of this study was to evaluate the influence of 20% sodium ascorbate gel application after home bleaching with 10% and 20% of carbamide peroxide, on bonding to enamel. The occlusal surface of 40 third molars were cleaned and the teeth divided into 5 groups (n=8): G1 35% H3PO4 35% + Single Bond Universal + Filtek Z350XT restoration (positive control), G2 10% carbamide peroxide bleaching + 14 days into artificial saliva + restoration as G1; G3 20% carbamide peroxide bleaching + 14 days into artificial saliva + restoration as G1; G4 Bleached as G2 + 60 min application of 20% sodium ascorbate gel+ restoration as G1; G5 Bleaching as G3 + 60 min application of 20% sodium ascorbate gel+ restoration as G1. Light curing was performed using Radii-Cal LED (1200

mW/cm²), the restored teeth kept stored in distilled water (37 ºC/24 h) following sectioning into 0,8 mm² samples (sticks). The samples were tested n tensile in a universal testing machine (Emic DL2000, 0.5 mm/min), the mode of failure was classified into adhesive, cohesive is mixed types. For statistical purposes, the tooth was considered the experimental unit and the data were analyzed by Two-Way Analysis of Variance and TuKey's tests (α=0.05). There was no difference for dental bleaching (p=0.6208) and type of antioxidant (p=0.2403). The mean (standard-deviation) bond strength for the tested groups in Mpa were: G1 25.63(4.75); G2 24.88(4.68); G3 23,72(5.13); G4 24,57(8.59); G5 27,03 (6.44). Mixed failures were prevalent (85%G1; 78%G2; 77.7% G3; 82.5 G4 e 87%G5). It was concluded that the application of 20% sodium ascorbate gel after home bleaching with carbamide peroxide was able to restore the bonding to enamel.

D086 - Effectiveness of Biosilicate® incorporation on zirconia surface

Suelen Aline de Lima BARROS[1]; Diana Gabriela de Sousa SOARES[2]; Fernanda Gonçalves BASSO[2]; Carlos Alberto de Souza COSTA[2]; Gelson Luís ADABO[1]

[1]Department of Dental Materials and Prosthodontics, Araraquara Dental School, Univ. Estadual Paulista.
[2]Department of Phisiology and Pathology, Araraquara Dental School, Univ. Estadual Paulista.

In the present study, the effectiveness of several binders on incorporation of the bioactive glass Biosilicate® (BS) to the surface of zirconia discs (Zr) was assessed. The following experimental groups were established according to the tested binders: G1 - isopropyl alcohol/distilled water (1:1); G2 - isopropyl alcohol/acetate varnish (1:1); G3 - acetone/acetate varnish (1:1); G4 - distilled water/acetate varnish (1:1); G5 – zirconia glaze; G6 - silane primer; G7 (negative control) - no binder. The BS was mixed to the binders (60 mg/mL) and 20 µL of these solutions were applied onto the surface of Zr discs (7.2 mm diameter), followed by heating at 1,100°C for 20 min. The discs' surface was analyzed by SEM (scanning electron microscopy) associated with EDX (energy dispersive X-ray) (12 Kv). An amorphous material was observed covering Zr surface subjected to the treatment with BS for all tested binders. EDX analysis detected the presence of Si, Na, O and Ca within this material composition, which are components of the BS structure. A thick and uniform layer of BS covering the entire surface of the discs (140x SEM) was detected on groups G1 to G4. High magnification analysis (SEM 4,500x) allowed the observation of micro crystals of BS in these groups. The presence of these structures was also detected in G5; however, uncoated Zr areas were observed. Only a thin layer of BS, poorly distributed onto Zr surface was observed in G6. It was concluded that binders composed by water/alcohol, alcohol/varnish, water/varnish and acetone/varnish allow the incorporation of a homogenous and well distributed layer of BS micro crystals onto Zr surface.

D087 - Importance of fluorescence in aesthetic restoration of fractures

Tamires Alves Pereira da SILVA[1]; Maria Angélica Silvério AGULHARI[1]; Tamires de Luccas BUENO[1]; Ligia ANDREATTA[1]; Rafael Francisco Lia MONDELLI[1]

[1]Department of Operative Dentistry, Endodontics and Dental Materials, Bauru School of Dentistry, University of São Paulo.

Coronary fractures in anterior teeth compromise the aesthetics and function. To provide a natural restoration for the patient, it is important to observe the anatomy, color, texture and other specific features of the teeth. In this context, the selection of a composite resin with similar fluorescence to the dental remnant is important. The tooth structure´s fluorescence is mainly determined by the dentin and is easily visualized in ultraviolet light. Different tricks may be used to select the correct fluorescence, such as black light lighting or the use of optical fluorescence. The present study reports a clinical case of a patient, male, 20 years old, who attended the clinic of operative dentistry at the Bauru School of Dentistry complaining about broken tooth. After anamnesis and clinical examination, a fracture in the incisal edge of element 21 was observed. Two methods were used to evaluate the fluorescence: black light lighting and the use of optical fluorescence (Evince, MMOptics – LED light wavelength 400 nm). The Filtek Z350 (3M ESPE) composite resin was selected because it presents similar fluorescence to the tooth structure. A diamond-tipped 3118 (KG Sorensen) fashioned a bevel in the entire extension of the fracture, followed by acid etching and Scotchbond MultiPurpose Plus (3M ESPE) adhesive system. To reproduce the palatine surface, the A1 enamel resin was used, followed by an increment of A1 dentin resin. The buccal surface was finished with an increment of A1 enamel resin. After a week, the finishing and polishing of the restoration was performed. The result obtained was satisfactory for the patient and dentist. The two methods used appropriately selected the tooth structure fluorescence, however, the Evince provided high sensitivity, technical simplicity, being fast and accurate in obtaining the data.

D088 - Veneers in composite resin for remodeling of the upper incisors

Thais Moraes CARMO[1]; Fabio SENE[2]

[1]State University of Londrina.
[2]Department of Restorative Dentistry, State University of Londrina.

Composite resins are materials of extreme excellence and versatility for dental remodeling and aesthetic correction of teeth. The objective of this study is to report a case of faceting, with composite resins, upper incisors with change of color and form. Female patient 30 years, sought dental care for aesthetic improvement of the teeth, particularly of the upper incisors. After anamnesis and clinical examination, it was established the planning initially by using a whitening gel based on 7.5% hydrogen peroxide (White Class-FGM), for 1 hour daily. After 3 weeks we have reached the saturation point. At that time, he was diagnosed waxing and restorer simulation bisacrylic resin, and then the restorative procedure planned. In the teeth 21 and 22 made deeper tooth preparation was made due to darkening of the substrate, and the teeth 11 and 12 only an abrasion of the enamel. The palate was made initially with resin Trans Blue (Opallis-FGM). In the teeth 21 and 22 was initially applied one Opaque White resin

(Opallis-MGF) and layered with dentin A1 (Opallis-FGM) in cervical and Bleach Dentine (Opallis-FGM) in the middle and incisal thirds. Finally, the High Value enamel (VH Opallis- FGM) was applied, obtaining, after finishing and polishing an excellent cosmetic result. Facets in composite resins, when well planned, indicated and worked, offer an excellent cosmetic result, with extreme naturalness, longevity and cost-effective for the patient.

RO001 - Antimicrobial analysis of disinfectant solutions by DNA checkerboard

Mauricio Malheiros BADARÓ[1]; Marcela Moreira SALLES[1]; Vanessa Maria Fagundes LEITE[1]; Carolina Noronha Ferraz de ARRUDA[1]; Viviane Cássia de OLIVEIRA[1]; Cássio do NASCIMENTO[1]; Raphael Freitas de SOUZA[1]; Helena de Freitas Oliveira PARANHOS[1]; Cláudia Helena SILVA-LOVATO[1]

[1]Department of Dental Materials and Prosthodontics, Ribeirão Preto Dental School, University of São Paulo.

The study aimed to evaluate the antimicrobial activity of disinfecting solutions on microorganisms identified in denture biofilm of patients with or without candidiasis by DNA checkerboard method. 64 participants with (n=24) or without (n=40) candidiasis were instructed to brush their prostheses with specific brush and neutral soap 3 times/day for 3 minutes and immerse them in the solutions (0.25%-S1 and 0.5%-S2 sodium hypochlorite; 10%-S3 *Ricinus communis*; Saline-S4: control) for 20 minutes, once a day. The solutions were used for 7 days in a crossed and randomly form, with washout periods of equal duration. Samples of biofilms were collected at baseline and after each experimental period for the detection of micro-organisms by hybridization technique of DNA-checkerboard. The comparison of the total amount of microorganisms (pool) after use of the solutions was performed by a general linear model and the quantity of each species, the Friedman test ($p < 0.05$). 43 microorganisms were identified. There was no difference between groups with and without candidiasis ($p=0.748$) or interaction inflammation/solution ($p=0.979$). Among solutions ($p=0.041$) G3 (488.72) caused a similar reduction of G2 (461.45) and G1 (365.93) in total microorganisms count. There were differences between solutions to 34 of the 38 species of bacteria and 01 of *Candida spp.* Since *R. communis* presents effectiveness similar to that of sodium hypochlorite against various microorganisms, it shows clinical feasibility of use for conventional complete dentures or overdentures and removable partial dentures.

RO002 - Evaluation of elastic toughness of the different post and core systems

Bruna Gonçalves RODRIGUES[1]; Isadora Mecca MARTINELLI[1]; Clóvis Lamartine de Moraes MELO NETO[1]; Rodrigo Lorenzi POLUHA[1]; Sérgio SÁBIO[1]

[1]Department of Dentistry, State University of Maringá.

The purpose of this *in vitro* study was to investigate the linear-elastic fracture toughness of endodontically treated teeth after restoration with prefabricated post systems against root restored with metal cast post-core. Thirty two maxillary canines with similar anatomic characteristic were sectioned to obtain the same length for all specimens. Group I consisted of 8 roots restored with FibreKor system; Group II consisted of 8 roots restored with C-Post system; Group III consisted of 8 roots restored with metal cast post-core (the diameter was similar FibreKor system); and Group IV consisted of 8 roots restored with metal cast post-core (the diameter was similar C-Post system). Specimens were cemented with dual-cure bonding agent (Dual-Cement and Unibond). These specimens were then mounted in acrylic blocks and tested in a universal testing machine (Kratos). Each sample was angled at 135° to the long axis of the root. A constantly increasing force was applied until the root fracture. Means (kilogram force, kgf) and standard deviations for four groups were found to be: Group I, 31.01 (2.08), Group II, 41.32 (3.44); Group III, 49.17 (2.09); Group IV, 47.65 (2.94). The present research indicated that root restored with metal post was statistically significant ($p<0.05$), more resistant to fracture over root restored with nonmetal post.

RO003 - Oral health on quality of life of patients with total prostheses

Camila Evangelista da Silva PERFEITO[1]; Ana Lúcia Pompeia Fraga de ALMEIDA[1]; Karin Hermana NEPPELENBROEK[1]; Giovanni Aguirra LIBERATTI[1]; Simone SOARES[1]

[1]Department of Prosthodontics, Bauru School of Dentistry, University of São Paulo.

The aim of this study was to evaluate oral health impact on people's quality of life before and after delivering upper and lower dentures. 30 patients aging from 50 to 89-years-old were interviewed and treated at the Dental Prosthesis clinic of the Bauru School of Dentistry of the University of São Paulo. This was a prospective and observational study, performed through personal interviews and applying Brazilian version of the OHIP-14 and OHIP – EDENT. These questionnaires were applied before and after a month from the delivery of the new dentures, however not at the same day. Descriptive statistics analysis and correlation test were made among the questionnaires. On the assessment of the questionnaires, additive method was used: the sum of the questionnaires values would score until 56 and 38 points, OHIP-14 and OHIP – EDENT, respectively. For correspondence analysis among questionnaires, Spearman's rank correlation coefficient was employed. There was perception of the satisfaction on the oral condition with improvement on the evaluated patients' quality of life, with OHIP-14 and OHIP – EDENT questionnaires. After dentures delivery, improvement on patients' oral quality of life was confirmed. As to gender, OHIP-14 and OHIP – EDENT values showed better to female than to male patients, therefore lower OHIP values represent a better quality of life. In relation to questionnaires correspondence, there is a positive linear correlation among them. According to the data presented, this study shows that the rehabilitation treatment has the function to improve the perception of quality of life of patients, and an effective tool for this is the questionnaire OHIP - EDENT, which contains specific questions for the edentulous patient and answers more objective, facilitating the general understanding of the perception of quality of life.

RO004 - Laminate veneers as an option for the rehabilitation of the smile

Camila GOMEDI[1]; Daniel Sartorelli Marques de CASTRO[2]; Gabriela MENEGAZZI[1]; Mayara Camara BUSS[2]; Jozely Francisca Mello LIMA[3]

[1]Department of Dentistry, State University of Londrina.
[2]Department of Prosthodontics, State University of Londrina.
[3]Department of Prosthodontics, Bauru School of Dentistry, University of São Paulo.

Esthetic Dentistry is responsible for one of the most expressive tools of human natural beauty, the smile. This case report aims to emphasize that restorative procedures may reverse unfavorable esthetic situations

using fixed prostheses and laminate veneers, which are an important esthetic resource to provide smile harmony. Patient SMA, 39 years old, presented bilateral crossbite, extensive restorations of resin composite; tooth #12 presented a zirconia crown (Procera®) that was not esthetically favorable. It was planned the execution of laminate veneers in teeth #15 to 24, and in tooth #12 an all-ceramic crown. The selected material was lithium disilicate (IPS e.max Press, Ivoclar Vivadent), which has a good esthetic quality combined with a high flexural strength (400 MPa). Teeth were prepared and an impression was performed with addition silicone (Virtual, Ivoclar Vivadent). The crowns were cemented using resin cement (Variolink veneer, Ivoclar Vivadent). Considering the initial condition of the case and its esthetic demands, a satisfactory result was achieved, returning a harmonic smile and patient self-esteem, thus showing that in current dentistry a less invasive treatment is also a rehabilitation alternative.

RO005 - Aesthetic rehabilitation in anterior maxillary with zirconia and disil

Caroline Cantieri de MELLO[1]; Cleidiel Aparecido Araújo LEMOS[1]; Ronaldo Silva CRUZ[1]; Hiskell Francine Fernandes OLIVEIRA[1]; Joel Ferreira SANTIAGO-JUNIOR[2]; Victor Eduardo de Souza BATISTA[1]; Jéssica Marcela de Luna GOMES[1]; Fellippo Ramos VERRI[1]

[1]Department of Dental Materials and Prosthodontics, Araçatuba Dental School, Univ. Estadual Paulista.
[2]Department of Health Sciences, University of Sagrado Coração.

The aim of this study is to describe a case report of oral rehabilitation using different aesthetic materials to achieve success in rehabilitation treatment involving implants and metal-free restorations in the anterior maxillary region. Patient M.S.S. attended a rehabilitation clinic with aesthetic complaint of anterior region and discomfort by using of removable device, after grafting procedure prior to replace the 22 tooth in another professional. First, we requested a CT scan of the region, which showed sufficient bone tissue for implant placement. Thus, it was planned fabrication of aesthetic single crowns on 13 to 23 teeth being an implant-supported crown on tooth #22 region. After discussing with the patient that accepted the treatment was performed aesthetic planning through diagnosis waxing that was used to analyze the predictability of rehabilitation treatment and preparation of guides to aid in esthetics of provisional crowns. Initially, it was installed a morse taper implant of 3.5x13 mm in region of tooth #22, which was osseointegrated for 6 months (2-stage surgical technique). After old crowns were removed and it was necessary to use glass fiber post in the 11 and 21 teeth and also a core build-up with mini screw metallic pin in the 12 tooth, before final preparation and fabrication of provisional restoration with bis-acrylic resin. Then, the impression was carried out for the manufacture of lithium disilicate restorations in the 13, 12, 11, 23 and 24 elements and implant-supported zirconia restoration in the 22 tooth. After cementation of crowns, the case has been finalized resulting in a good harmony and aesthetic despite of the gingival smile and slightly advanced level of gingival retraction of canines as well as favorable emergence profile and good periodontal health. The patient was very satisfied with the realized procedures and had no related problems to the rehabilitation after 1-year follow-up.

RO006 - Biocompatibility of Ag_2MoO_4 nanoparticles coating biomaterials

Cláudia Viviane Guimarães PELLISSARI[1]; Yuri Vinicius Bruschi SANTANA[2]; Carlos Eduardo VERGANI[1]; Elson LONGO[2]; Janaina Habib JORGE[1]

[1]Department of Dental Materials and Prosthodontics, Araraquara School of Dentistry, Univ. Estadual Paulista.
[2]Department of Biochemistry and Chemical Technology, Institute of Chemistry, Univ. Estadual Paulista.

The objective of this study was to evaluate the cytotoxicity of silver molybdate nanoparticles (Ag_2MoO_4) used in the prevention or elimination of biofilm formation, as biomaterials coating. The nanoparticle Ag_2MoO_4 was synthesized by the co-precipitation method and characterized by Scanning Electron Microscopy and X-rays Diffraction. The biomaterials coating, titanium (Ti), zircon (Zi), acrylic resin (RA) and silicon (Si), was made through the precipitation method with a suspension at a concentration of 1 mg/ml. To perform the cytotoxicity assay, 100 µL of suspension composed of $1.5x10^4$ cells/ml (HaCaT) were placed in each compartment of a plate with 96 wells, incubated in incubator with 5% CO_2 at 37°C for 24 hours. After this period, the culture medium was discarded, remaining adherent cells in the bottom plate. Then, 100 µL of culture medium containing the nanoparticles extracts were placed on each plate hole. The plate was incubated for another 24 hours. Cell proliferation was assessed by Alamar Blue, MTT and CytoTox-One. Data were tabulated and submitted to normality tests (Shapiro-Wilk) and homogeneity of variance (Levene). Analyses of variance were used complemented by multiple comparisons by Tukey test ($p<0.05$). Among the tested biomaterials, silicone was more toxic than other materials when uncoated. It was observed that all biomaterials coated were statistically different from group uncoated samples, however, no difference in cytotoxicity of nanoparticles as a coating for most biomaterials.

RO007 - Effect of fixation systems and splinting of crowns by MEF-3D

Cleidiel Aparecido Araujo LEMOS[1]; Fellippo Ramos VERRI[1]; Joel Ferreira SANTIAGO JUNIOR[2]; Caroline Cantieri de MELLO[1]; Ronaldo Silva CRUZ[1]; Hiskell Francine FERNANDES E OLIVEIRA[1]; Jéssica Marcela de Luna GOMES[1]; Eduardo Piza PELLIZZER[1]

[1]Department of Dental Materials and Prosthodontics, Araçatuba Dental School, Univ. Estadual Paulista.
[2]Department of Health Sciences, University of Sagrado Coração.

The aim of this study was to evaluate the influence of fixation systems (cemented x screwed) and design of prostheses (single-unit x splinted) of fixed prosthesis (FP) over implants of 3-unit for stress distribution to the implant and supporting structures by non-linear 3D finite element analysis (3D FEA). Four 3D models were simulated by aid of software Invesalius and Rhinoceros 3D having a bone block with 3 Morse taper implants simulated for reposition of teeth 14,15,16 with 4.0mm of diameter and lengths of 10 mm, 8.5 mm and 7.0 mm respectively, supporting FP of 3 units. The models were processed by aid of software FEMAP and NeiNastran by non-linear analysis using 400 N axial and 200 N oblique loadings distributed between crowns and applied on internal surfaces of them. The results were plotted in von Mises stress maps for implants and components analysis and maximum principal stress for bone tissue

analysis. The stress on the bone tissue also was submitted to analysis of variance (ANOVA) and Tukey post-test, with significance level of 5%. The results showed that cemented prostheses have better stress distribution in the implants and components, only for oblique loading, while the splinted crowns favored lower stress for last implant (1st molar). Regarding stress distribution on bone tissue, the cemented prostheses showed better stress distribution than screwed prosthesis ($p<0.001$); however, the splinting was significantly only to screwed prostheses ($p=0.009$), with no influence under cemented prostheses ($p=0.107$). Thus, it was possible to conclude that implant-supported cemented prostheses are more favorable for stress distribution to the implants, components and bone tissue; however, the splinting of crowns was only effective in screwed prostheses under oblique loading.

RO008 - Photoelasticity of infrastructures made from different materials

Danilo ZAPAROLLI[1]; Denise PUPIM[1]; Marcelo Bighetti TONIOLLO[1]; Raniel Fernandes PEIXOTO[1]; Ana Paula MACEDO[1]; Maria da Glória Chiarello de MATTOS[1]

[1]Department of Dental Materials and Prosthodontics, Ribeirão Preto Dental School, University of São Paulo.

This study aimed to compare the stress distributed by mandibular implant-supported prosthesis due to the variation of materials and production techniques of the prosthesis framework by a qualitative photoelastic analysis. In an acrylic model simulating the mandibular curvature, four implants 4.5 mm x 6 mm with locking taper connection were positioned. From this planning was made a framework of resin reinforced with fiber by CAD/CAM which served as base for manufacturing the two other frameworks in CAD/CAM of Ti and CoCr and cast of CoCr, totaling four frameworks on which standardized denture acrylic resin were prepared. The photoelastic model was made based on the master model. The photoelastic test was performed at loads in total occlusion versus antagonist, anterior bite, posterior bite and punctual at the cantilever. All prostheses with metal frameworks transmitted stress forces to the cervical region of the implants, and the machined framework of CoCr showed the worst pattern of stress distribution. The fiber-reinforced resin bar showed adequate stress distribution and can be a viable alternative for the oral rehabilitation with mandibular implant-supported denture.

RO009 - Pain in the tooth, but not toothache: case reports

Dyna Mara Araújo Oliveira FERREIRA[1]; Paulo César Rodrigues CONTI[1]

[1]Department of Prosthodontics, Bauru School of Dentistry, University of São Paulo.

Toothache, of pulp and periodontal origin, is the main reason why patients seek dental care. However, there are numerous non odontogenic sources that may be responsible for the pain felt in the teeth. As dental pain is commonly treated in the dental office, non odontogenic pain is often inadequately treated with dental procedures before being correctly diagnosed. Often, only after failure of various treatments, even dental extraction, the diagnosis of non odontogenic dental pain becomes apparent. This work highlights the importance of the differential diagnosis of dental pain. We report, with the aid of videos, two cases of patients with non odontogenic dental pain that undergone dental treatment without success in pain improving. After careful evaluation, the patients were diagnosed with orofacial migraine and atypical odontalgia. The cases presented confirm the diagnostic challenge of non odontogenic dental pain in the dental practice and the need for knowledge by dentists of the conditions that mimic dental pain.

RO010 - Diagnostic methods and treatment of temporomandibular dysfunction

Emily Souto MARTINS[1]; Ana Paula Ribeiro RABELO[1]; Kívia Lima Mendes AGUIAR[1]; Laís Vieira PINTO[1]; Patrícia Fernanda Gonçalves BESSA[1]

[1]Department of Oral Rehabilitation, State University of Montes Claros.

Temporomandibular disorder (TMD) it is a complex disorder, cyclical or temporary, requiring interventions holistically associated with the full knowledge of its implications. Through a medical history, clinical examination and imaging, it is possible to identify predisposing factors, chaperones and perpetuators that allow the development of treatment plans that aims to control the DTM. This study aims to present a case addressing diagnostic and treatment methods used justifiably through studies and existing information on DTM. Patient C.O.M, 23 years old, female, attended the clinic of Oral Rehabilitation of the State University of Montes Claros – UNIMONTES, whose main complaint consisted of pain, discomfort when chewing and ATM pain on the right side of the face. Diagnostic methods included: anamnesis, clinical examination (muscular, articular and intra-oral) and radiographic examination. They evaluated levels of anxiety and depression through HAD and hypermobility test using the Beighton test. The muscle test was found familiar pain in the masseter (average). The intraoral examination revealed the presence of wear facets on the upper and lower arch. Small discrepancy of the right condyle size when compared to the left was found in radiographic examination. The scale of anxiety and depression was normal although it has been observed historic in a period of stress and anxiety. Treatment was established to making an occlusal splint, application of thermotherapy, therapeutic exercises and awareness of the relationship between stress, parafunctional habits and their importance in controlling the DTM. The treatment plan had as objective to restore the quality of life of the patient, where, after the interventions weekly, the patient reported having observed the regression of pain and symptom remission.

RO011 - Evaluation of an experimental silicone for maxillofacial prosthesis

Frank Lucarini BUENO[1]; Marina Peris VOMERO[1]; Juliana Barchelli PINHEIRO[1]; Marina PAULINI[1]; Viviane de Cássia OLIVEIRA[1]; Helena de Freitas Oliveira PARANHOS[1]; Cláudia Helena Lovato da SILVA[1]

[1]Department of Dental Materials and Prosthodontics, Ribeirão Preto Dental School, University of São Paulo.

The aim of this study was to analyze the color change, Shore A hardness and tensile strength of an

experimental silicone (Bio-Skin - BS) submitted to different pigmentations and aging methods, compared to silicone MDX4-4210. One hundred and twenty specimens of each material were divided into 4 groups: IP - Intrinsic pigmentation; OP - opacifier; IPO - IP + OP association; WP - without adding IP or OP, which underwent three aging methods: natural light (NL, n=10), ultraviolet light (UV, n=10) and without light (C, n=10). The trial period was 12 months. The change of color was observed with the aid of a spectrocolorimeter and CIE L*a*b*. For hardness a Shore A durometer was used and the tensile analysis was conducted in the universal test machine. Data were submitted to analysis of variance and Tukey test ($p<0.05$). There was interaction between all the factors ($p<0.05$) and both materials have varied depending on the pigmentation and aging methods. For color change, the experimental silicone (BS) showed the lowest color variations. Both materials showed increased hardness compared to all conditions, and the BS silicon showed the greatest variation. The experimental silicone showed superior tensile strength to MDX in all situations. The combination of intrinsic pigmentation through makeup powder opacifier, protected silicon of the color change has been acceptable and changes in mechanical properties of the materials. All processes of aging induced variations in material properties.

RO012 - Oral rehabilitation of a patient with oroantral communication

Gabriela Caroline ALONSO[1]; Fernanda ALVES[1]; Beatriz Helena Dias PANARIELLO[1]; Janaina Habib JORGE[1]; Ana Cláudia PAVARINA[1]

[1]Department of Dental Materials and Prosthodontics, Araraquara Dental School, Univ. Estadual Paulista.

Oroantral communications may result from trauma, carcinomas, pathological changes, radiation burns or surgery. These defects predispose the patient to hypernasal speech, leak of fluid into the nasal cavity and loss of masticatory function. The production of prostheses for the repair of such defects aims to restore masticatory function, swallowing, speech and aesthetics, in addition to improving psychosocial aspects. The aim of this study is to describe a case of oral rehabilitation through removable partial denture involving oroantral communication after surgical removal of squamous cell carcinoma. Female patient, 48 years old, white, with a history of squamous cell carcinoma in the palate, sought rehabilitation treatment at the Araraquara Dental School/ UNESP, 06 months after surgical removal of the tumor. On examination it was found that as a result of surgery for tumor removal with safety margins, the patient acquired an oroantral communication on the right side of 2 cm diameter palate, with loss of teeth #14, 15, 16, 17, 45, 46 and 47. Due to lack of bone structure, it was decided to fabricate maxillary and mandibular removable partial dentures. As a result, the maxillary removable partial denture occluded the oroantral communication, with good retention and stability and together with the mandibular partial dentures, returned to the patient to mastication and swallowing. It was also noted that the treatment provided significant improvement in facial aesthetics and nasal voice, allowing the patient to return to daily activities. The patient is under regular follow-up.

RO013 - Pontic and cantilever analysis in FPD of 3-unit by FEA-3D

Hiskell Francine Fernandes OLIVEIRA[1]; Victor Eduardo de Souza BATISTA[1]; Cleidiel Aparecido Araujo LEMOS[1]; Caroline Cantieri de MELLO[1]; Ronaldo Silva CRUZ[1]; Joel Ferreira SANTIAGO JUNIOR[1]; Eduardo Piza PELLIZZER[1]; Fellippo Ramos VERRI[1]

[1]Department of Dental Materials and Prosthodontics, Araçatuba Dental School, Univ. Estadual Paulista.
[2]Department of Health Sciences, University of Sagrado Coração.

The aim of this study was evaluate the influence of use of central pontic and mesial and distal cantilever in fixed partial dentures (FPD) of 3-unit in maxillary posterior region, verifying stress and strain distribution in abutments, implants, fixation screw and cortical bone by 3D finite element analysis (3D-FEA). 4 models were simulated referring to the first premolar to the first molar (#14 to #16), with 2 or 3 hexagon implants of 4x10 mm, supporting a 3-unit metal-ceramic prosthesis, being: M1- 3 implants supporting 3-unit splinted prosthesis; M2- 2 implants supporting 3-unit prosthesis with central pontic; M3- similar to M2 presenting mesial cantilever; M4- similar to M2 presenting distal cantilever. The loading applied was 400 N in the axial and 200 N in the oblique direction applied at cusp tips. It was used the von Mises criteria for abutments, implants and fixation screws analysis and Maximum Principal Stress and Microstrain criteria for bone tissue. The softwares InVesalius, Rhinoceros, SolidWorks, FEMAP and NeiNastran were used for modeling and discretization of finite element simulation. The results indicate that the decrease of implant numbers lead to increase of stress distribution in the analyzed structures, mainly in the region of posterior implant. Among rehabilitations with prostheses supported by two implants the M2 model showed stress and strain distribution more favorable for supporting structures. The use of cantilever showed unfavorable biomechanical behavior, overloading supporting structures mainly near from more distal implant in distal cantilever situation. Using this methodology it was possible to conclude that use of three implants presented lower values of stress and strain on the analyzed structures and is the best biomechanical performance for rehabilitation. Prostheses configuration with two implants showed unfavorable biomechanical behavior in the analyzed structures, mainly for distal cantilever configuration.

RO014 - Color stability of acrylic resin after immersion in disinfectant soaps

Jacqueline de Oliveira ZOCCOLOTTI[1]; Eduarda Carolina da Silva PEREIRA[2]; Caroline FRANCO[2]; Caroline Stefanie Gomes ESTEVES[2]; Janaina Habib JORGE[1]

[1]Department of Dental Materials and Prosthodontics, Araraquara Dental School, Paulista State University.
[2]University Center Araraquara, Araraquara Dental School.

Knowing the disadvantages of chemical agents used for the disinfection and reduction of dentures biofilm, new studies have been needed. This study intends to evaluate the color change from a denture base acrylic resin (Vipi wave) after immersion in disinfectant liquid soaps, in different time periods. Specimens of this resin were made (14 mm diameter and 1.2 mm thick) and were divided into groups according to the type of solution (n=5): AD: Color stability was evaluated after 0, 7, 14 21 and 28

days of immersion in distilled water at 37°C and distilled water changed daily (control group); SD: Color stability was evaluated after 0, 7, 14, 21 and 28 days, with daily cycles of immersion in Dettol liquid soap, at 0.39% for 8 hours, at environment temperature, followed by immersion in distilled water for more 16 hours, at 37°C, simulating the night disinfection of dentures and being the disinfecting solution and distilled water changed daily; SP: Color stability was evaluated after 0, 7, 14, 21 and 28 days, with daily cycles of immersion in Protex liquid soap, at 3.12%, as described above to the SD group. SL: Color stability was evaluated after 0, 7, 14, 21 and 28 days, with daily cycles of immersion in Lifebuoy liquid soap, at 0.78%, as described above to the SD group. The dilution of each soap was previously determined according to their minimum inhibitory concentration for *Candida albicans*. The data were subjected to ANOVA two- way parametric test followed by Bonferroni *post hoc* test and LSD and the significance level α=0.05. From the analysis of the results of this study it was possible verify that all the values of NBS units were between 0.27 and 0.58 indicating unnoticeable or mild changes for all groups. As conclusion, immersion in disinfectant liquid soaps could be considered a new option for the disinfection of partial or full dentures.

RO015 - Stresses in implant prostheses: different internal connections

Letícia Cerri MAZZA[1]; Abbas ZAHOUI[2]; Aldiéris Alves PESQUEIRA[1]; Marcelo Coelho GOIATO[1]; Sandro Basso BITENCOURT[1]; Rodrigo Antonio MEDEIROS[1]; Daniela Micheline dos SANTOS[1]

[1]Department of Dental Materials and Prosthodontics, Araçatuba Dental School, Univ. Estadual Paulista.
[2]University of Sagrado Coração.

The accurate fit between the dental implant and the prosthetic abutment is responsible for the stability of system, and provides better distribution of the occlusal load to the surrounding bone. This study aimed to investigate the stress distribution in screwed implant-supported prosthesis with different implant-abutment connections by using a photoelastic analysis. Eight photoelastic models were fabricated in PL-2 resin and divided according to the different types of internal connections: morse taper (MT), internal morse hexagon (IMH), morse taper hexagon (MTH) and frictional morse taper (FMT) with implants (3.75 x 11.5 mm), and the number of crowns (single and 3-unit piece). Models were positioned in a circular polariscope and 100-N axial and oblique (45 degrees) loads were applied in the occlusal surface of the crowns by using a universal testing machine. The stresses were photographically recorded and qualitatively analyzed using a software (Adobe Photoshop). Under axial loading, the number and distribution of high-intensity fringes did not differ among groups for both crowns types (single and splinted 3-element). Low stress values located at the implant apex were noted. The oblique loading increased the number of fringes for all groups. The internal connection tested in this study did not affect the number and distribution of stress in both crowns (unit and 3 elements) and provided a good stability of the prosthetic implant system, providing good stress distribution when the abutment is subjected to forces. Oblique loading promoted higher stress concentration than axial loading.

RO016 - Transmittance of ceramics and degree of conversion of resin cements

Luana Menezes de MENDONÇA[1]; Ilana Santos RAMALHO[1]; Livia Aguiar Santos Nogueira LIMA[1]; Laís Alcântara PIRES[1]; Luiz Fernando PEGORARO[1]

[1]Department of Prosthodontics, Bauru School of Dentistry, University of São Paulo.

The aim of the present study was to evaluate the transmittance (T) of different ceramic types and shades and their effects on the degree of conversion (DC) of two dual-cure resin cements. Sixty discs were fabricated with IPS e.max ceramic and divided into three groups (n=20): LT, MO and Z. For LT and MO groups discs were fabricated with low translucency (LT) and medium opacity (MO) lithium disilicate ceramic, respectively. Discs from Z group were manufactured of zirconia. Each group was divided into five subgroups (n=4), according to the ceramic shade: A2; A3.5; B2; C2; D3. In the LT group, specimens were heat-pressed in shades cited above and in the MO and Z groups; the discs were initially fabricated as core materials and then veneered with veneer ceramic in the same shades. A spectrophotometer UV-1800 Shimadzu was used to determine the transmittance percentage of each ceramic specimen (2.0-mm-thick). For DC measurements, the resin cements (Variolink II and Rely X U200) specimens (thickness: 100 μm) were photocured under the ceramic discs (2.0-mm-thick) for 40 s. Specimens photocured without the ceramics discs were used as control group. ATR/FTIR spectrometry was used to evaluate the extent of polymerization for all cement specimens immediately after photocuring. The results were submitted to one-way ANOVA and Tukey test (α=5%). The %T was less than 1% and the LT group had the highest transmittance values. The %DC of Variolink II cement was not influenced by the ceramic disc interposition. For Rely X U200 cement, the interposition of some ceramics types/shades (LT A3.5, MO A2, MO A3.5 and Z A3.5) significantly decreased the %DC compared to control group. It was concluded that the %T and %DC were influenced by the ceramics types/shades. However, only the LT group, using the Rely X U200, showed a negative correlation between %T and %DC.

RO017 - Evaluation of mismatch of intermediates obtained by CAD/CAM

Luciane Solange Arévalo OSORIO[1]; José Ribamar de Almeida CERQUEIRA FILHO[1]; Wilson Silva AMARAL[1]; Valter Antonio Ban BATTILANI FILHO[1]; Marco Dapievi BRESAOLA[1]; Joel Ferreira SANTIAGO JUNIOR[1]; Hugo NARY FILHO[1]

[1]School of Dentistry, University of Sagrado Coração.

The objective of this research was to evaluate microscopically the vertical mismatch between individual pillars on implant evaluating the milling system CAD/CAM compared to conventional components casting methods. 4 groups were prepared: Titanium and Zirconia (milling), Casting and Overcasting with 10 specimens each group. An optical microscope was used to examine the marginal vertical mismatch in 6 regions distributed equidistant way with 3 measurements for each area. The measurements were made at a magnification (50x) in a microscopic measurement software (SCapture VERSION 3.7.8, Xintu Phototonics, Tucsen, China). The results showed a significant difference between the groups analyzed ($p<0.001$). It was observed that the lowest mismatch values were found for the infrastructure prepared by

milling method Zirconia (mean 2,552 µm), followed by titanium groups (mean 2.69 µm), but a significant difference in the comparison was not identified (p=0.998). Groups with casting from calcinable and overcasting cylinders (CoCr) showed higher mismatch values and significant difference (p<0.001, average 18.12 µm and average 6.06 µm respectively). It was concluded that the process of manufacture of prosthetic components by CAD/CAM technology was significantly higher in the item vertical marginal adaptation when compared to conventional methods.

RO018 - Integrated planning for anterior oral rehabilitation

Maria Sílvia Maurício RIGOLIN[1]; Raphael Ferreira de Souza Bezerra ARAÚJO[1]; Luiz Antônio Borelli BARROS FILHO[2]; Lélis Gustavo NÍCOLI[2]; Luiz Antônio Borelli BARROS[3]; Francisco De Assis MOLLO JUNIOR[1]

[1]Department of Dental Materials and Prosthodontics, School of Dentistry at Araraquara, Univ. Estadual Paulista.
[2]Department of Diagnosis and Surgery, School of Dentistry at Araraquara, Univ. Estadual Paulista.
[3]Department of Social Dentistry, School of Dentistry at Araraquara, Univ. Estadual Paulista.

The success of oral rehabilitation in the anterior maxilla region depends on the aesthetic integrated planning specialties such as orthodontics, implantology, prosthetics and thus reaching treatment aims added the patient's expectations. Female patient attended the clinic with aesthetic dissatisfaction complaint. Planning involved orthodontics for better placement of the teeth, but mainly to gain bone height in the region of central, thus favoring the subsequent installation of the implants. This was followed by the extraction of central incisors, it made conservatively and in the same surgery were installed cone morse taper (MT). Straight abutments and provisional prostheses were installed with support on the implants. But after reevaluating the position of the implants, the exchange of straight abutments for angulated ones was chosen. After gum complying with the provisional prostheses, custom abutments and universal screws were installed. Preparations were performed in the lateral incisors and canines, and then the aesthetic rehabilitation included ceramic pieces for veneers and crowns on implants. Through a proper integrated planning and execution and correct choice of techniques and materials, it was obtained success of oral rehabilitation, restoring aesthetics and function combined with patient satisfaction. In order to obtain a successful oral rehabilitation combined with patient's satisfaction, it is mandatory to follow an integrated planning to achieve aesthetics.

RO019 - Rehabilitation of anterior teeth using CAD/CAM technology

Mariana Elias QUEIROZ[1]; Carlos Augusto Munhoz ARAUJO[1]; Eduardo DALLAZEN[1]; Marcio CAMPANER[1]; Ricardo SHIBAYAMA[1]

[1]Department of Prosthetic Dentistry, State University of Londrina.

The search for aesthetic has become a reality in the dental clinics nowadays. For this reason, aesthetic dentistry is still in progress requiring the upgrade of professionals, as well as the development of restorative materials that can meet the expectations of the dentists and patients. Among the excellent restorative materials that exist today, there are dental ceramics that have good optical characteristics, as well as biocompatibility and resistance to corrosion. Ceramic restorations have been produced by CAD/CAM, which is a system that captures and records data on the area to be restored and then designs and produces restoration. This work has as objective to report a clinical case of a patient with the aesthetic of her smile compromised. In this case were realized ceramic facets made by the Emax CAD system and all ceramic crown with Zirconia copping and cover with ceramic by layering technique. First, the diagnostic wax-up on the study model and the mock-up was performed, giving the patient a simulation of the result without performing dental wear-off. During the next session, color choice of the ceramic pieces was made, followed by the confection of preparation for facets in teeth #13 to 23, except on #21, where a total peripheral preparation for making unit fixed prosthesis was made. The casting was prepared in the same session, using addition silicon associated with gingival retraction technique of double wire. In the last session, the proof and the cementation of pieces with the cement Relyx Veneer were accomplished. Considering the presented clinical case, it was possible to conclude that the CAD/CAM technology allows fast and practical obtaining of ceramic pieces, causing a revolution in prosthetic rehabilitation treatments. However, it is up to the dentist to acquire knowledge on this technology so that the professional can apply it in dentistry.

RO020 - Bone grafting materials associated with low intensity laser

Milena Steluti MARQUES[1]; Ana Lúcia Pompeia Fraga de ALMEIDA[1]; Luís Augusto ESPER[1]

[1]Department of Prosthodontics, Bauru School of Dentistry, University of São Paulo.

This study aimed to evaluate histologically and histometrically the process of bone healing in critical-size defects surgically created in calvaria of rats and treated with autogenous bone or bovine bone alone, or low level laser irradiated (LB). Sixty rats were randomly divided into 6 experimental groups (n=10) [control (C) were used; Low intensity laser (LB); Bio-Oss® (BO); autogenous bone (OA); Bio-Oss® + low intensity laser (BO+LB); autogenous bone + low intensity laser (OA+LB)]. In the calvaria of each animal a critical size defect of 5mm in diameter was made. Laser (Theralase DMC) was applied to 5 points of the surgical wound, totaling 30 J/cm^2. Animals were euthanized at 60 postoperative days for histological and histometric analyses. There was no significant inflammatory infiltrate in any of the specimens. New bone (AON) was formed in variable length toward the center of the surgical defect, but in none of the specimens was complete closure and restoration of original calvaria thickness. In the OA group, OA+LB, BO and BO+LB were found remaining particles (APR) into the surgical defect. Statistically significant differences were observed in AON and APR comparisons between groups. When comparing the means of AON Group C with the other, all groups showed statistically significant differences, except the BO group. BO+LB group showed higher mean AON the BO group. It can be concluded that LB provided greater bone formation when used alone or linked to BO after 60 days of healing.

RO021 - Rehabilitation through implant-supported facial prosthesis after SCC

Rafael Zetehaku ARAUJO[1]; Marcos Martins CURI[1]; Camila Lopes CARDOSO[1]

[1]Department of Maxillofacial Surgery, University of Sagrado Coração.

Squamous cell carcinoma (SCC) is the second most common type of skin cancer, surpassed only by basal cell carcinoma. It usually occurs in areas exposed to the sun and is related to chronic sun damage, or damage to the accumulation of ultraviolet radiation on the skin throughout life. The most appropriate treatment for SCC, as well as other types of skin cancer is surgery with a safety margin for tumor removal. However, this tumor when present in the face and treated in advanced clinical stages can result in extensive and complex functional and cosmetic deformities. This condition represents a major challenge for the rehabilitation multidisciplinary team. This clinical case illustrates the facial rehabilitation of an 85 years-old patient who had been treated of SCC on right cheek with surgery (maxillectomy and right orbit exenteration) and postoperative radiotherapy (65Gy/33 sessions). After 1 year of the end of the radiotherapy, the patient underwent to installation of 3 dental implants (10x3.75 mm; Mk III Brånemark System) in orbital margin region associated with another implant on the remaining right maxilla. After 6 months of osseointegration period, it was made an extensive midfacial implant-supported prosthesis in silicone to provide aesthetic and functional rehabilitation of the patient. The reconstructive plastic surgery has limitations in extensive facial deformities due to the specificity of the anatomical region of the area to be rehabilitated. The implant-supported prosthesis is a realistic alternative rehabilitation, with satisfactory aesthetic and functional results, and specifically in oncology, allows its removal for clinical control of possible local recurrence of the tumor.

RO022 - Immediate loading of bimaxillary total fixed prosthesis

Raphael Ferreira de Souza Bezerra ARAÚJO[1]; Maria Silvia Mauricio RIGOLIN[1]; Luiz Antônio Borelli BARROS-FILHO[2]; Luiz Antônio Borelli BARROS[3]; Lelis Gustavo NICOLI[2]; Francisco de Assis MOLLO-JUNIOR[1]

[1]Department of Dental Materials and Prosthodontics, Araraquara Dental School, Univ. Estadual Paulista.
[2]Department of Diagnosis and Surgery, Araraquara Dental School, Univ. Estadual Paulista.
[3]Department of Social Dentistry, Araraquara Dental School, Univ. Estadual Paulista.

A correct and careful planning is necessary to achieve the desired success in an oral rehabilitation with implants, including surgical and prosthetic procedures. Some characteristics of the implants (number, size, surface, and abutment) should be evaluated in the case planning for the most appropriate treatment each is possible resulting in a fully satisfactory for the patient. The purpose of this case was to describe an oral rehabilitation with immediate loading of bimaxillary total fixed prosthesis. The patient attended the clinic and clinical examination was observed: unsatisfactory provisional removable prosthesis and not favorable prognosis of some teeth. After tomographic evaluation immediate loading of complete fixed prosthesis in the both arches was defined. In rehabilitation of the maxilla: a surgical guide was made following the principles of denture to guide the surgical-prosthetic procedures. Therefore, surgical preparation with teeth extractions and implants installation were performed. After the surgical procedures, abutments were selected and an impression was made using the surgical guide to confection a provisional total fixed prosthesis supported by implants. The rehabilitation of the mandible was performed the following procedures: implants placement for a total fixed prosthesis, selection and installation of the abutments, impression and subsequent installation of the final mandible total fixed prosthesis. After 6 months, some superior abutments were exchanged and a final upper prosthesis was made. It was concluded that a correct surgical-prosthetic planning makes the immediate loading prosthesis technique becomes easier to be performed and predictable, minimizing complications and the chances of failure.

RO023 - Systematic review: intracanal retainers

Daniele Menegassi PESTANA[1]; Clóvis Lamartine de Moraes MELO NETO[1]; Rodrigo Lorenzi POLUNHA[1]; Tarso LORGA[1]; Sérgio SABIO[1]

[1]Department of Dentistry, State University of Maringá.

When using core intracanal retainers many factors must be evaluated, for example, the amount of remaining dentine, type of core to be used, aesthetics, etc. Another important aspect in planning is the type of material used. Given the large amount of new material released, an analysis of the conducted clinical assessments is necessary. The objective of this study was to evaluate the long-term success rate of molten metal cores (NMF) and glass fiber pins (PFV). Using various databases (PubMed, LILACS, Google Scholar, etc.) 55 articles were collected on molten metal core and glass fiber posts from 1982 to 2011 with prospective and retrospective randomized studies, which after a rigorous selection according to their methodologies, 6 articles were capable of analogies. These articles reported clinical success in teeth 1 mm ferrule for both GFP and for MFN when they were not prosthetic abutment teeth of other modes such as partial dentures for example. The possibility of using glass fiber pins in these cases can be an advantage because it reduces the clinical treatment time beyond favor the aesthetics of the case. Therefore, both cores evaluated may have good long-term behavior since surgical techniques and the amount of remaining dentine is sufficient to use one type of root canal filling discussed in this study.

RO024 - Cleaning effect on the roughness of the acrylic resin

Maurício Malheiros BADARÓ[1]; Maria Gabriela Hodniki RIUL[1]; Viviane Cássia de OLIVEIRA[1]; Helena de Freitas Oliveira PARANHOS[1]; Cláudia Helena SILVA-LOVATO[1]

[1]Department of Dental Materials and Prosthodontics, Ribeirão Preto Dental School, University of São Paulo.

This laboratorial study assessed the effect of the combined method of hygiene on the surface roughness of a heat acrylic resin (Classic) for base dentures. Sixty specimens (90x30x4 mm) were made with a polished face and the other unpolished, to simulate the surface of the denture. The specimens were divided into 6 groups (n=10) according to the solution: Sodium hypochlorite

0.25%; sodium hypochlorite, 0.5%; 10% *Ricinus communis*; saline; distilled water; artificial saliva). The maintenance protocol established mechanical brushing of the specimens for 7 and 43 minutes followed by immersion for 140 and 400 minutes simulating 50 and 345 days, respectively. Reading roughness was performed at baseline and after the hygiene protocols. The results were analyzed using ANOVA and Tukey test ($P<0.05$). The roughness of the polished surface was not altered by the period ($p=0.56$), but there was a difference between the solutions ($p=0.03$). Sodium hypochlorite 0.25% produced the greatest changes (0.13±0.04). The others showed no significant difference between them. The roughness of the unpolished surface was not influenced by factors period ($p=0.08$) and the solution ($p=0.2$). The interaction between the factors was not significant ($p>0.05$). It was concluded that there is feasibility of using *Ricinus communis* for prosthesis hygiene since it does not influence the roughness of the acrylic resin. However, other variables need to be evaluated.

RO025 - Papilla formation between tooth and implant: a case report

Aline Martins Licheski do BOMFIM[1]; Roberto Massayuki HAYACIBARA[1]; Andressa Gimenes NAREZI[1]; Eduardo KURIHARA[1]

[1]Department of Dentistry, State University of Maringá.

A major challenge for esthetic result of a prosthetic treatment on single implant is the formation of papilla between the implant itself and the adjacent tooth. It is known that to achieve this purpose a predetermined three-dimensional space is needed during the professional planning. The interdental papilla is a dense connective tissue coated of oral epithelium that provides esthetic, contributes to the phonetic and also acts as a barrier to food impaction. Its absence forms black space that compromise aesthetics. These are important steps for formation of the papilla: distance between the point of contact of teeth and bone crest should be up to 5 mm; condition of the periodontal tissue and the implant; prosthesis well done and adapted. The aim of this study is to report a case that was chosen to wait for papilla formation spontaneously instead of closing the "black space"; with acrylic resin. A.R.S patient, 34 years old, appeared in a private dental clinic located in Maringá-PR, with a provisional adhesive tooth on the element 11, with esthetic and functional complaint. After the clinical and radiographic evaluation, was indicated the surgery to place implant Straumann bone level Regular Crossfit (RC). After 60 days of surgery, the provisional prosthesis made of acrylic resin with oval format was installed in the region of tooth #11. The deliberate result of a black space was obtained after the installation of the temporary crown, allowing the papilla formation in that region and after 3 months was observed the presence of papilla between tooth and implant. Due to the rare condition for papilla formation between tooth and implant, many professionals choose to eliminate black space with acrylic resin already on provisional tooth. Although rare, it is possible to achieve a more esthetic result in spontaneously way.

RO026 - Expectation versus functionality: elderly patient considerations

Andressa Gimenes NAREZI[1]; Eduardo KURIHARA[1]; Roberto Massayuki HAYACIBARA[1]; Aline Martins Licheski do BOMFIM[1]; Carlos Henrique Baptista PAVANI[2]

[1]Department of Dentistry, State University of Maringá.
[2]Department of Dentistry, Ingá College.

The success of restorative treatment involves many factors, from the dentist planning even the expectation and patient satisfaction. Elderly patients may show needs for their rehabilitation which is not always consistent with the result that it is possible to be reached to rehabilitate them functionally and esthetically. With advancing age, physiological changes are happening and the stomatognathic system also undergoes changes such as temporomandibular joint (TMJ). With aging, TMJ has a reduced vascularization and disc elasticity, bundles of collagen fibers become more dense and compact, and cartilaginous tissue may suffer calcifications. The patient shall have impaired function and the mandibular joint movements become less comprehensive, and therefore the teeth should follow the decrease of the space in which movements occur, and present cusps and lower incisal edges. The purpose of this presentation is to report a case of a patient who sought a private clinic in Maringá-PR. M.S. patient, 82 years old, female, wishing to install implants. Two implants had been installed with the aim of an overdenture. After six years she came back to the clinic with the intention of replacing the dentures since the teeth were worn and her demand was new artificial teeth with incisal and clear cusps edges. The overdenture was installed according to the requirements of the patient; however, with a week usage she reported an occlusal discomfort. Since the amplitude of chewing becomes reduced with aging, the esthetic desire of the patient may not be the best regarding functional aspects. Therefore, it is only possible to obtain the same results that patients desire if they are settled with professional's planned result and the objective clinical findings.

RO027 - Splinting analysis of 3-unit prosthesis over tilted implants by 3D-FEA

Caroline Cantieri de MELLO[1]; Daniel Augusto de Faria ALMEIDA[2]; Cleidiel Aparecido Araújo LEMOS[1]; Ronaldo Silva CRUZ[1]; Hiskell Francine Fernandes OLIVEIRA[1]; Pedro Yoshito NORITOMI[3]; Eduardo Piza PELLIZZER[1]

[1]Department of Dental Materials and Prosthodontics, Araçatuba Dental School, Univ. Estadual Paulista.
[2]Department of Dentistry, Camilo Castelo Branco University.
[3]Department of 3D Technology, Renato Archer Research Center.

The aim of this study was to evaluate the influence of prosthetic splinting on stress distribution of cemented crowns supported by tilted implants (0º, 17º and 30º) in the maxillary posterior region by non-linear 3D finite element analysis (3D-FEA). Six 3D models were simulated using modeling softwares InVesalius, SolidWorks 2010 and Rhinoceros 4.0. The models were constituted of 3 morse taper dental implants of 4.0 mm of diameter and lengths of 10 mm, 8.5 mm and 8.5 mm at the regions of teeth #14, #15 and #16, respectively, and supporting cemented prosthesis of three-unit in single and splinting configurations varying implant tilting at 0°, 17° and 30°.

After modeling, the models were imported to pre- and post-processing software of finite elements FEMAP 10.2 for mesh generation and configuration of restrictions and loading conditions. It was applied axial load of 400 N and oblique of 200 N on each cusp tip of occlusal surface. Analyzes were configured in the sofware FEMAP 10.2 and exported to math calculation on finite element software NeiNastran 9.2 being the results imported again to FEMAP 10.2 for post-processing by plotting von Mises maps for implant and prosthetic components analysis and maximum principal stress maps for bone tissue analysis. It was observed that stress in the implant reaches moderate levels, as well as for the prosthetic components, mainly in the coronal third. Results of bone tissue showed higher stress concentration to tilted implants supporting single crowns and under oblique loading. However, the splinting of crowns was more beneficial in relation to the peri-implant stress concentrations on bone tissue for simulated models with tilted implants. Within the limitations of this study it was possible to conclude that inclination of the implants lead to higher biomechanical risk for bone tissue and prosthetic components. However, splinting was beneficial to the stress distribution of inclined implants.

RO028 - Oral rehabilitation after injury by firearm shooting

Cleidiel Aparecido Araujo LEMOS[1]; Daniel Augusto Faria ALMEIDA[1], Rosse Mary FALCON-ANTENUCCI[1], Joel Ferreira SANTIAGO JUNIOR[2]; Caroline Cantieri de MELLO[1]; Ronaldo Silva CRUZ[1]; Hiskell Francine Fernandes e OLIVEIRA[1]; Fellippo Ramos VERRI[1]; Eduardo Piza PELLIZZER[1]

[1]Department of Dental Materials and Prosthodontics, Araçatuba Dental School, Univ. Estadual Paulista.
[2]Department of Health Sciences, University of Sagrado Coração.

The aim of this study was to report a clinical case of oral rehabilitation of a removable partial denture associated and retained by dental implants in a patient who suffered injury after being hit by firearm shooting. Patient C.R.A., male, 19 years, appeared in the emergence of public health service in the Valparaíso-SP city after being hit by a bullet in the right side of the face, affecting the structure of the teeth #12 up to 16. The surgery to remove the teeth debris and bullet was performed. The surgical team opted for installation of implants to rehabilitate the patient. However, due to extensive loss of alveolar bone, as well as the refusal of bone grafting procedure, were installed only 3 tilted implants (2 Ø 3.75x8.5 mm and 1 Ø 3.75x10 mm) due to the availability bone tissue. After surgical recovery, the patient was referred to the Araçatuba Dental School - UNESP for the rehabilitation on the affected region. During the prosthetic phase was verified the difficulty of rehabilitation with fixed prostheses supported by implant. Thus, it was opted for rehabilitation with removable partial denture associated with implants. It was performed the splinting of implants throughout a prosthetic bar due to the extension of toothless area reducing the lever arm. Two retention systems ERA (ERA, Sterngold, Attleboro, MA, USA) were positioned in the bar to aid the retention of the removable partial denture. After installation of removable partial denture the necessary adjustments were made (occlusal and base) as well as instructions on cleaning and maintenance of this prosthesis passed to the patient. The patient stayed very satisfied with the final solution of the treatment. After 5 years of follow-up, we conclude that the use of removable partial denture retained by osseointegrated implants was effective for functional and aesthetic rehabilitation, favoring socialization and self-esteem of the patient.

RO029 - Oral rehabilitation over teeth: a less invasive alternative

Danilo ZAPAROLLI[1]; Carlos Eduardo ZAPAROLLI[2]; Edvard Fernando ZAPAROLLI[2]

[1]Department of Dental Materials and Prosthodontics, Ribeirão Preto Dental School, University of São Paulo.
[2]Dental Association of Ribeirão Preto.

The objective of this work was to describe the case of a patient who needed an oral rehabilitation, aesthetics and functional, however minimally invasive, with minimum surgical intervention. Patient came to the office after already have seen other dentists that offered treatments involving complex surgeries and too large clinical time, with multiple tooth extractions, bone grafts and implants. Since the patient was totally reluctant to surgical intervention and aiming the principles of minimum intervention and conservation, we proposed a treatment plan involving all teeth maintenance. It was conducted basic periodontal treatment, after the one it was found return of periodontal health and real possibility of all teeth maintenance, with exception of molars 16 and 26 that possessed injury furcation grade 3, however were not extracted but kept thanks to procedure of dental-section and removal of buccal roots, being kept the palatal root of both. With all the healthy teeth periodontally, we started the prosthetic part, with crowns of all teeth to restore lost OVD. After temporization and adjustments to obtain the physiological OVD more suited the patient, this was transferred the semi-adjustable articulator by individualizing the incisal table. The definitive crowns were made of ceramic coated zirconia. Patient proved extremely pleased to have the case resolved without surgery and with the maintenance of all teeth. Implantology is a great treatment option, but should not be over-stated because it has an easier implementation or higher financial return. For the patient, always the most favorable prognosis is the maintenance of his own teeth with minimally invasive procedures.

RO030 - Multidisciplinary rehabilitation treatment: 10-year follow-up

Debora Reis DIAS[1]; Andressa Bolognesi BACHESK[1]; Edna Araújo KHOURY[2]; Renata Correa PASCOTTO[1]; Roberto Masayuki HAYACIBARA[1]

[1]Department of Dentistry, State University of Maringá.
[2]Private Practice.

The restorative prosthodontic treatment often requires a multidisciplinary approach, making it possible to achieve stable functional and aesthetic goals. The objective of this study is to present a multidisciplinary clinical case of oral rehabilitation with 10 years of follow-up. A male patient, 38 years old, attended to the clinic presenting, among other problems, the absence of some dental elements with inadequate prosthetic spaces, parafunction and atresic arch. The planning integrated Orthodontics/Orthopedics, Periodontics, Implantology and Prosthodontics. Initially, it was made the combination of fixed orthodontic and orthopedic braces in order to expand the arch and improve the distribution of teeth, improving prosthetic spaces. Then implants were placed in the areas of 12, 22, 16, 36 e 46 (Straumann® Tissue Level) associated with biomaterial (Bio Oss®). With the provisional prosthesis it was observed the need of gingivoplasty in the area of teeth #21 and 22. After two months with radiographic control, it was released the making of the final prosthesis and the bite plate due to

parafunction. The patient keeps on with no complication, with good function and aesthetics after 10 years of clinical and radiographic follow-up. Thus, it can be concluded that with proper planning and regular monitoring is possible to obtain stability in cases of multidisciplinary rehabilitation.

RO031 - Antimicrobial action and cytotoxicity of denture cleansers

Eliézer GUTIERRES[1]; Andréa Lemos Falcão PROCÓPIO[1]; Juliana HOTTA[1]; Ana Lúcia Pompéia Fraga de ALMEIDA[1]; Vanessa Migliorini URBAN[2]; Karin Hermana NEPPELENBROEK[1]

[1]Department of Prosthodontics, Bauru School of Dentistry, University of São Paulo.
[2]Department of Dentistry, State University of Ponta Grossa.

This study aimed to evaluate the long-term residual antimicrobial action and cytotoxicity of solutions of 1% sodium hypochlorite (NaClO), and 2% chlorhexidine digluconate (CHX) incorporated into a denture acrylic resin after successive cycles of daily overnight soaking. Discs (10 mm x 1 mm) from heat-polymerized acrylic resin (Lucitone 550) were submitted to three daily immersion (8 h/each) in NaClO, CHX or distilled water (control) for 91 (T91) or 183 days (T183), simulating the period of 9 months or 1.5 year daily overnight immersion. Half (n=5) of the disks of each experimental condition was inoculated with *Candida albicans* (Ca) or *Staphylococcys aureus* (Sa) and incubated at 37°C for 24 h, 7 and 14 days for determination of the absorbance values and percentages of microbial inhibition. Cytotoxicity was determined by the colorimetric assay MTT after the human gingival fibroblasts (L929) being exposed for 24 h to the samples (n=18) previously immersed in the solutions for T91 or T183. Data of cellular viability were submitted to 1-way ANOVA and Tukey HSD (α=0.05). The CHX progressively inhibited microbial growth over the 14 days for both immersion times (Ca:19-73.58%; Sa:0-87.08%). NaClO resulted in a slight microbial inhibition only in the 14-day period (T91-Ca:0%; Sa:2.70%; T183-Ca:8.50%; Sa:15.08%). Both chemical solutions resulted in reduction in cell viability when compared to the negative control (cells propagated only in culture medium) (p<0.002). The CHX resulted in the lowest cell viability in both immersion periods (p<0.018). Samples immersed in water or NaClO in T91 and T183 showed cell viability similar to non-immersed samples (p>0.05). These results suggest that, even at low concentrations recommended for overnight immersion of removable dentures, the residual antimicrobial action of denture cleansers for prevention and adjunct treatment of denture stomatitis may result in some degree of toxicity to the denture bearing mucosa.

RO032 - Anatomical aspects of clinical significance for the diagnosis of OSAHS

Fernanda Costa YOGUI[1]; Paulo Renato Junqueira ZUIM[2]; Karina Helga Leal TURCIO[2]; Stefan Fiuza de Carvalho DEKON[2]

[1]Department of Basic Sciences, Araçatuba School of Dentistry, Univ. Estadual Paulista.
[2]Department of Prosthodontics, Araçatuba School of Dentistry, Univ. Estadual Paulista.

Due to the great demand for the treatment of primary snoring and obstructive sleep apnea hypopnea syndrome (OSAHS), etiological studies have addressed increasingly more detail than in the past were neglected. This study aims to evaluate the anatomical aspects that favor the appearance of primary snoring and OSAHS. A bibliographic research was performed on the basis of data SciELO, PubMed, BBO and Google Scholar with keywords "primary snoring" and "SAHOS", and sleep medicine and dentistry books. Primary snoring is characterized by a turbulence of the upper oropharyngeal tissue in breathing during sleep. OSAHS is respiratory arrest caused by the collapse of the pharyngeal walls blocking the passage of air for a few seconds. Regarded as one of the main etiological factors, overweight is an aggravating factor for the predisposition of this condition. However, changes in craniofacial anatomical features, such as hypoplasia of the maxillary, mandibular retroposition and anatomy of the oropharynx are also extremely relevant factors. For diagnosis, polysomnography is considered the gold standard, but Modified Mallampati Index, Sleepiness Scale Epworth and neck circumference should be evaluated during the clinical examination, besides the cephalometric examination with tracing for snoring and apnea, which allows the evaluation of the pharyngeal air space in different positions mandibular. There are several therapeutic measures for the treatment for this syndrome, but the intraoral devices are well accepted due to easy manufacture, low cost and efficiency. Craniofacial changes, characteristics of the upper respiratory tract and obesity are predisposing factors to the development of primary snoring and OSAHS and treatment with intra-oral devices have been increasingly appreciated.

RO033 - *Ricinus communis* in different concentrations for denture hygiene

Frank Lucarini BUENO[1]; Maurício Malheiros BADARÓ[1]; Letícia De Sá EVELIN[1]; Edward Wagner SASAKI[1]; Camila Borba de ARAÚJO[1]; Laís Ranieri MAKRAKIS[1]; Viviane de Cássia OLIVEIRA[1]; Helena de Freitas Oliveira PARANHOS[1]; Cláudia Helena Lovato da SILVA[1]

[1]Department of Dental Materials and Prosthodontics, Ribeirão Preto Dental School, University of São Paulo.

This study evaluated the hardness and color change of acrylic resin polymerized for dentures (Classic) after immersion in sodium hypochlorite solutions (HSG), 2% *Ricinus communis* (RC2G) and 10% *R. communis* (RC10G). Immersion in water was used as control group (CG). Forty discoid-shape specimens (14x4 mm) were divided into 4 groups (n=10) according to cleansing solutions (n=10). Hardness and color change tests were conducted immediately before (T0) and after 5 days of immersion (FT), simulating 20-minute immersions daily for one year. Solutions were changed every 3 days depending on the pH. Knoop hardness was measured with Microhardness Tester Shimadzu with 25 g load for 5 seconds and the

color using a portable spectrocolorimeter (Commission Internationale de l´Eclairage - CIE L*a*b*) and the National Bureau of Standards (NBS). Data were analyzed by ANOVA and Tukey p<0.05. There was a significant decrease in hardness as a function of immersion time (p=0.03; T0: 17.60±1.3; FT: 15.4±1.3). The solutions showed no significant differences among themselves as to the effect on hardness (p=0.395). As for color, the RC2G groups (4.19±0.57) and RC10G (3.83±0.79) caused greater color change (p=0.00) compared to HSG (1.55±0.87) and control group (2.19±1.19) by CIE L*a*b*. However, the NBS analysis, all cleansing solutions caused changes between remarkable and appreciable. Time is an important factor in the change of hardness. The evaluated solutions promoted clinically significant color change, since change can be detected visually according to the classification of the NBS system.

RO034 - Ability of *Candida albicans* biofilm formation after aPDT *in vivo*

Gabriela Caroline ALONSO[1]; Juliana Cabrini CARMELLO[1]; Gabriela Maria Balista FERREIRA[1]; Ewerton Garcia de Oliveira MIMA[1]; Antônio Cláudio TEDESCO[2]; Ana Cláudia PAVARINA[1]

[1]Department of Dental Materials and Prosthodontics, Araraquara Dental School, Univ. Estadual Paulista.
[2]Department of Chemistry, Group of Photobiology and Photo Medicine, Faculty of Philosophy and Science at Ribeirão Preto, University of São Paulo.

Oral candidiasis is the most common fungal infection in humans being *Candida albicans* the main causative agent of the disease. These micro-organisms can organize themselves into biofilms, clinging and invading tissues, promoting the infection. In this context, antimicrobial photodynamic therapy (aPDT) has been suggested as an alternative treatment. This study evaluated the ability of *C. albicans* biofilm formation after successive applications of aPDT mediated by phthalocyanine chloroaluminum formulated in nanoemulsion (ClAlP-NE 31.7 µM) in association with LED light (660 nm) at 100 J/cm² in a murine model of oral candidiasis. The evaluated groups were: animals treated with aPDT (P+L+), animals treated only with light (P-L+) or ClAlP-NE (P+L-), treated with Nystatin (NIS) and control group (P-L). After treatment, the cells of *C. albicans* were recovered from the animals and it was submitted to analysis of total biomass using the crystal violet assay. For this, the cell suspensions were washed with RPMI and incubated at 37°C for 90 min (adhesion phase). Then, the cells were washed twice with PBS, added to RPMI and incubated for 48 hours at 37°C for biofilm formation. Following, biofilms were washed twice with PBS, fixed with methanol for 15 minutes. 1% crystal violet dye was added and after 5 minutes removed with 33% acetic acid. An aliquot of this resulting product was transferred to a plate reader (ELISA), which was measured using the spectrophotometer at 570 nm filter (Thermo Plate/TP Reader). Data were submitted to ANOVA and Tukey post hoc (α<0.05). It was observed a reduction in the total biomass equivalent to 79% and 67% for the groups PDT (P+L+) and NIS, respectively, when compared to control. Application of light or ClAlP-NE alone did not cause any effect on the total biomass of biofilms. Thus, it may be suggested that aPDT mediated by ClAlP NE reduced the ability of biofilm formation of *C. albicans in vitro*, submitted to aPDT *in vivo*.

RO035 - Rehabilitation of anterior esthetic region with implant/ceramic gum

Hiskell Francine Fernandes OLIVEIRA[1]; Cleidiel Aparecido Araujo LEMOS[1]; Caroline Cantieri de MELLO[1]; Ronaldo Silva CRUZ[1]; Jéssica Marcela de Luna GOMES[1]; Joel Ferreira SANTIAGO JÚNIOR[2]; Carolina dos Santos SANTINONI[1]; Fellippo Ramos VERRI[1]

[1]Department of Dental Materials and Prosthodontics, Araçatuba Dental School, Univ. Estadual Paulista.
[2]Department of Health Sciences, University of Sagrado Coração.

The aim of this study was to report a case of oral rehabilitation in anterior maxilla using an implant-supported prosthesis with ceramic gum. Patient O.T.G., female, age 53, attended in oral rehabilitation clinic complaining of unfavorable aesthetic in the anterior teeth region. After clinical and X-ray exams was observed dental implants on the regions of teeth #11, 12 and 21, with maladjustment crown, and significant marginal bone loss, and short cast metal post with unpleasant color crowns, and need for periodontal treatment. After discuss the case with the patient, it was planning the periodontal treatment with scrap on the four quadrants, replace convicted cast metal posts make crowns on teeth and implants. The rehabilitation included diagnostic with wax-up, change casts metal posts and doing temporary prostheses following the diagnostic wax-up, and finally the prosthetic phase included CAD/CAM system and ceramic prostheses with digital scanning. The modification of the treatment was splinting implant crowns, because due to bone loss did not indicate the use of single crowns. When the treatment was completed, the patient was very satisfied, reporting that aesthetics was satisfactory even with ceramic gum, which was already planned from the wax-up phase. In addition to the periodontal aspect that improved with treatment, the splinted prostheses become very aesthetic for the possibility to reproducing satisfactorily the gingival area, and improving the distribution of occlusal loads when compared to unitary prostheses. The case is already with about 1 year follow up.

RO036 - Hardness of acrylic resin after immersion in disinfectant soaps

Jacqueline de Oliveira ZOCCOLOTTI[1]; Caroline Stefanie Gomes ESTEVES[2]; Eduarda Carolina da Silva PEREIRA[2]; Janaina Habib JORGE[1]

[1]Department of Dental Materials and Prosthodontics, Araraquara Dental School, Univ. Estadual Paulista.
[2]Araraquara Dental School, University Center Araraquara.

The aim of this study was to evaluate the change on hardness of a denture acrylic resin (Vipi wave), after immersion in disinfectant liquid soaps, in different times. Specimens of this resin were made (14 mm diameter and 1.2 mm thick) and were divided into groups according to the type of solution (n = 5): AD: hardness was measured at 0, 7, 14, 21 and 28 days of immersion in distilled water at 37°C and distilled water changed daily (control group); SD: hardness was measured at 0, 7, 14, 21 and 28 days, with daily cycles of immersion in Dettol liquid soap, at 0.39%, for 8 hours environment temperature, followed by immersion in distilled water for more 16 hours at 37°C, simulating the night disinfection of prostheses, being the disinfectant solution and distilled water changed daily; SP: the hardness was measured at 0, 7, 14, 21 and 28 days, with daily cycles of immersion Protex liquid soap,

at 3.12%, as described above to the SD group. SL: the hardness was measured at 0, 7, 14, 21 and 28 days, with daily cycles of immersion Lifebuoy liquid soap, at 0.78%, as described above to the SD group. The dilution of each soap was previously determined according to their minimum inhibitory concentration for *Candida albicans*. Data were subjected to ANOVA two-way parametric test followed by Bonferroni *post-hoc* test and the significance level α=0.05. Results showed that the disinfectant soap Lifebuoy decreased significantly the hardness values of acrylic resin regardless of the storage time. After 21 and 28 days of storage there was significant increase in the hardness values of the acrylic resin regardless of the type of soap used. It can be concluded that the type of soap and storage time changed the hardness of the tested acrylic resin.

RO037 - Fractures of full-arch implant-supported prostheses

Letícia Cerri MAZZA[1]; Sandro Basso BITENCOURT[1]; Fernanda Pereira de CAXIAS[1]; Aldiéris Alves PESQUEIRA[1]; Marcelo Coelho GOIATO[1]; Eduardo Piza PELLIZZER[1]

[1]Department of Dental Materials and Prosthodontics, Araçatuba Dental School, Univ. Estadual Paulista.

The purpose of this work was to review the literature of the last ten years to record the fractures occurred and their treatments performed. A comprehensive review of the literature was carried out, covering the period 2006-2016, in the databases PubMed/Medline, Embase, Scopus e Cochrane Library with the following combinations of uniterms: "full-arch implant-supported OR full-arch fixed prostheses OR complete-arch implant-supported OR implant-supported fixed prostheses AND fracture". Studies that did not show fractures in full-arch implant-supported prostheses were excluded. A total of 17 studies were identified for synthesis of data. 766 patients were evaluated in this review, where 3,935 implants were installed and 801 full-arch implant-supported prostheses were fabricated. Cases of fractures and their treatments were allocated in table and analyzed. A review of the current literature indicated that the presence of fractures in this prosthesis is evident, regardless of the material used. Different types of fractures and treatments were found to solve them. This study reveals the presence of fractures in this type of prosthesis, gathering data on the type and extent of the fracture, in addition to the treatment options used.

RO038 - Aesthetic and functional rehabilitation with zirconia adhesive prosthesis: case report

Lígia Saraiva BUENO[1]; Fernanda FERRUZZI[2,3]; Brunna Mota FERRAIRO[2]; José Henrique RUBO[2]; Accacio Lins do VALLE[2]; Ana Flávia Sanches BORGES[1]

[1]Department of Operative Dentistry, Endodontics and Dental Materials, Bauru School of Dentistry, University of São Paulo.
[2]Department of Prosthodontics, Bauru School of Dentistry, University of São Paulo.
[3]Department of Dentistry, Ingá University.

Nowadays, dental ceramics are in constant evolution, allowing satisfactory functional and aesthetic treatments to patients. As a high crystalline ceramic, zirconia features better mechanical properties in comparison to other ceramics, as also a satisfactory aesthetic result, increasing its application in the last years. The aim of this study was to present a case report with an adhesive prosthesis in zirconia in diastema area. A female patient attended the Bauru School of Dentistry (FOB-USP) with the main complaint of deficient aesthetic and extensive space, especially in the anterior region. After clinical and radiographic exams, there was severe absence of posterior areas, several unsatisfactory restorations and large diastema between central incisors. The treatment plan was implant installation, prosthetic crowns and a zirconia adhesive prosthesis in the diastema area, after discarding other treatments such as orthodontics. Zirconia was the material chosen because of good coloration and high flexural resistance. Appropriate techniques were used to recover function and aesthetics. Patient was very glad with the final result. A correct treatment plan and choice of appropriate materials, associated to suitable preparation techniques and cementation, lead to lasting success treatment.

RO039 - Step-by-step of an oral rehabilitation: clinical report

Luana Menezes de MENDONÇA[1]; Laís Alcântara PIRES[1]; Ilana Santos RAMALHO[1]; Livia Aguiar Santos Nogueira LIMA[1]; Adolfo Coelho de Oliveira LOPES[1]; Luiz Fernando PEGORARO[1]

[1]Department of Prosthodontics, Bauru School of Dentistry, University of São Paulo.

Purpose: To report, share and assemble experiences during an Oral Rehabilitation clinical case. Case report: A 56 year-old woman presented to the Postgraduate Clinic at Bauru School of Dentistry - University of São Paulo, reporting that "the anterior tooth changed its position". Her medical history revealed that she was hypertensive. Intra and extraoral examinations, periapical and panoramic radiographs, intra and extra oral photos were performed. Models for mounting on articulator and computed tomography for diagnosis and treatment planning were also made. Treatment was started through oral hygiene instruction, scaling and root planing and removal of plaque retentive factors. Then temporary crowns, restorations, periodontal surgery, work impression, final crowns and occlusal splints were made. Results: The treatment was performed carefully, resulting in a work with aesthetic and functional features that provided satisfaction to the patient. Conclusion: Treatment of diverse clinical cases of oral rehabilitation involving teeth and/or implants may take too long, presents many details and usually unforeseen aspects appear during the conduction, thus forcing the dental surgeon to adapt to every situation. Therefore, besides the knowledge of materials and techniques that will be used in the treatment, it is necessary that the professional is aware of aesthetic, periodontal and occlusal concepts to be able to plan and execute the work properly.

RO040 - CAD/CAM: analysis of direct and indirect technique for making crowns

Luciane Solange Arévalo OSORIO[1]; José Ribamar de Almeida CERQUEIRA FILHO[1]; Wilson Silva AMARAL[1]; Wilson MARTINEZ JÚNIOR[1]; Marco Dapievi BRESAOLA[1]; Joel Ferreira SANTIAGO JUNIOR[1]; Hugo NARY FILHO[1]

[1]Dental School, University of Sagrado Coração.

This study evaluated the marginal vertical mismatch of feldspathic ceramics manufactured by the CAD/CAM CEREC AC system, with two different methods to obtain virtual casts, direct and indirect way. Given the two methods, the crowns were manufactured by the direct way in metallic encasings, laminated by a thin layer of titanium dioxide and plasterboard replicas in the same way in IV kind. Twenty feldspathic ceramics crowns were milled having the Cerec Blocks (Sirona Dental Systems GmbH Bensheim, Germany), 10 for each group. Using an optical microscope, the marginal vertical mismatch was examined in 6 points distributed in equidistant manner, with 3 measurements each, which were done in a magnification (50x) in a measurement microscope software (SCapture VERSION 3.7.8, Xintu Phototonics, Tucsen China). The results showed that the MD direct group (24.06±8.54 µm) and the indirect MI (24.85±7.44 µm) did not present any statistically significant difference ($p \geq 0.05$). According to the results, the differences were not significant between direct and indirect techniques according to the marginal vertical adaptation. Titanium dioxide laminate did not interfere with the marginal vertical mismatch.

RO041 - Planning for aesthetic solution of misplaced implant

Maria Sílvia Maurício RIGOLIN[1]; Raphael Ferreira de Souza Bezerra ARAÚJO[1]; Luiz Antônio Borelli BARROS FILHO[2]; Elcio MARCANTONIO JUNIOR[2]; Lélis Gustavo NÍCOLI[2]; Luiz Antônio Borelli BARROS[3]; Francisco de Assis MOLLO JUNIOR[1]

[1]Department of Dental Materials and Prosthodontics, Araraquara School of Dentistry, Univ. Estadual Paulista.
[2]Department of Diagnosis and Surgery, Araraquara School of Dentistry, Univ. Estadual Paulista.
[3]Department of Social Dentistry, Araraquara School of Dentistry, Univ. Estadual Paulista.

The purpose of this case report is to present an oral rehabilitation, with integrated planning, to decide unsatisfactory aesthetic caused by implant malposition in the anterior maxilla. The patient attended the School of Dentistry of Araraquara/UNESP with aesthetic dissatisfaction complaint in anterior maxilla. It was observed in the clinical examination implant malposition in the region of tooth #11 with lengthened clinical crown and unsatisfactory metal-ceramic restorations in the other anterior teeth of the maxilla and premolars. It was also observed absence of tooth #22 and the presence of pontic. The implant was removed and bone regeneration in the regions of teeth #11 and 22 with biomaterial Bio-Oss and resorbable collagen membrane was performed. After 6 months, implants were installed in areas grafted with the addition of connective tissue graft. After the osseointegration period of 6 months, there was gingival conditioning with provisional and rehabilitation was completed with abutments in zirconia and all-ceramic crowns. With bone regeneration, the proper placement of the implant and a favorable gingival biotype, it was possible to establish symmetrical clinical crowns, harmony of the gingival architecture with dentures, periodontal and peri-implant health. The integrated clinical planning offered satisfactory cosmetic results in addition promote the health of periodontal and peri-implant tissues.

RO042 - Overdenture with O'ring attachments and clip-bar: a case report

Mariana Elias QUEIROZ[1]; Carlos Augusto Munhoz ARAUJO[1]; Eduardo DALLAZEN[1]; Marcio CAMPANER[1]; Ricardo SHIBAYAMA[1]

[1]Department of Prosthetic Dentistry, State University of Londrina.

Edentulism is an oral problem associated to various aesthetic and functional disadvantages, among them the continuous alveolar bone resorption process. This in turn represents a critical point, taking into account the lack of retention and instability of the total prosthesis on residual reabsorbed edge. Furthermore placing implants becomes limited to the installation of implants in a few specific areas. With the improvement of prosthetic components and with the high success rate of dentistry implanting, treatments using a reduced number of implants can provide comfort and stability to the prosthesis of edentulous patient. Among these treatments, overdentures on implants using docking systems ball/O-ring and bar-clip, represent a mucous-supported or implant-retained prosthetic mode, which makes it possible to improve the aesthetic, phonetics and masticatory aspects. In addition to these, they present lower cost and are easy to clean. This study aims to present a clinical case of a patient who had been using bi-maxillary dentures for over 10 years and who complained about the stability and the aesthetic appearance of that. It was made a replacement of conventional bi-maxillary dentures for a new maxillary denture and a mandibular overdenture supported by dental implants in the area of dental elements 33 and 43, connected to the docking systems of the O'ring type and bar-clip. The treatment brought retention and stability of the prosthesis back to the patient. It also provided aesthetic qualities, eliminating the initial complaints of the patient.

RO043 - Fixed prosthesis of Branemark protocol - case report

Monique Cimão dos SANTOS[1]; Rodrigo Lorenzi POLUHA[1]; Clóvis Lamartine de Moraes MELO NETO[1]; Bruna Milhomens de SOUSA[1]; Luisa Moura FIALHO[1]; Sérgio SÁBIO[1]

[1]Department of Dentistry, State University of Maringá.

This present work aimed to describe the case report of a male patient, 62 years old, totally edentulous, who presented with 5 implants between mental foramina. The patient sought a stable prosthetic rehabilitation, functional and aesthetically pleasing. Thus, the proposed treatment plan included a new upper denture and a hybrid prosthesis Brånemark protocol type lower screw on the five implants. Five SynOcta pillars (Straumann) were selected, regular neck, height 1.5 mm. It was performed the molding work with the hood molding screw with integrated guide screw (Straumann), height of 21 mm. As an additional measure, a template of molding was made by use of the casting hood screwed to the implants. It was obtained a functional

jaw stone model. The next step consisted in the proof of chrome cobalt metal bar. Following SynOcta pillars were screwed on the implants, the bar was inserted passively in single axis and its perfect adaptation was observed. In the same appointment the intermaxillary record was executed. The teeth were selected Chroma-4 A1/DI6 (NEW DFL®), then the proof was mounted on the same wax base. After the necessary checks the application of acrylic resin was requested. At the day of delivery, SynOcta 1.5 mm pillars were placed on the implants and tightened at a torque of 35 Ncm. The lower hybrid fixed prosthesis was brought into position in the mouth and the patient received instructions on how to perform hygiene. The upper denture was adjusted. The patient showed satisfaction with the aesthetic and functional results. Therefore, it is concluded that the prosthesis with Brånemark protocol is a viable and effective alternative to implant-supported rehabilitation of edentulous patients, providing stability to the prosthesis, masticatory efficiency and aesthetics.

RO044 - Evaluation of different restraint systems used in overdentures

Murilo Rodrigues de CAMPOS[1]; Daniel Sartorelli Marques de CASTRO[1]; Fernando Henrique Chuery Gomes BARROS[1]; Hélion Leão LINO JUNIOR[2]; Jozely Francisca Mello LIMA[3]

[1]Department of Restorative Dentistry, School of Dentistry, State University of Londrina.
[2]Department of Oral Medicine and Pediatric Dentistry, State University of Londrina.
[3]Department of Prosthodontics, Bauru School of Dentistry, University of São Paulo.

The treatment of edentulous patients with overdentures, mainly mandibular, has been increasingly used in oral rehabilitation. Thus, the correct use mode of retention systems has high importance in the prognosis of these treatments. The objective of this study was to evaluate through a literature review, the clinical effectiveness of the main restraint systems used in implant-retained prostheses. Fajardo, Zingaro and Monti through a literature review concluded that system bar-clip seems to have greater retention and better masticatory efficiency. Hermann et al. considered that the ball system is most useful when considering the ease of removal and cleaning. Lang et al. reviewed several studies and concluded that the system bar-clip was superior to others in the most studies. Misch reported that the magnet system has poor stability and suffer from corrosion problems. Cakarer, Can and Yaltirik concluded that there was no statistically significant difference regarding the replacement of fixing fragments and fractures of overdentures. Karabuda and Yaltirik reported that patient satisfaction was similar in relation to the retainers. Payne and Solomons reported that there was no difference between the number of adjustments associated with different retainers. Sav abi, Nejatidanesh and Yordshahian mentioned that some of the disadvantages of a bar and its corresponding attachments are the higher cost and the clinical and laboratory procedures more complicated. The literature review revealed that most authors chose the use of bar-clip in for retention, the use of ball for ease of cleaning and the magnet system is the least used due to its lack of stability and its corrosion. The conclusion of this work is that bar-clip and ball systems are the most chosen in rehabilitations. However, the choice should always be guided seeking the improvement of oral health and patient satisfaction.

RO045 - Fixed oral rehabilitation with implant-supported and dental prosthesis

Raphael Ferreira de Souza Bezerra ARAÚJO[1]; Maria Silvia Mauricio RIGOLIN[1]; Lelis Gustavo NICOLI[2]; Luiz Antônio Borelli BARROS-FILHO[2]; Luiz Antônio Borelli BARROS[3]; Francisco de Assis MOLLO-JUNIOR[1]

[1]Department of Dental Materials and Prosthodontics, Araraquara Dental School, Univ. Estadual Paulista.
[2]Department of Diagnosis and Surgery, Araraquara Dental School, Univ. Estadual Paulista.
[3]Department of Social Dentistry, Araraquara Dental School, Univ. Estadual Paulista.

Oral rehabilitation consists of dental prosthesis treatments and aesthetics with the aim to re-establish: function, aesthetics and health. The success of this treatment involves a correct and careful planning of the case, usually involving multiple specialties such as endodontics, periodontics, implant dentistry, prosthodontics and operative dentistry. This treatment must be executed in order to suit the needs of each patient. The purpose of this case was to describe the sequence of a complete oral rehabilitation with conventional and implant-supported prosthesis. The patient attended the clinic complaining of aesthetic dissatisfaction and difficulty of chewing. In the initial radiographic and clinical examination it was noted that the patient had been using partial removable prosthesis supported by teeth #43 and 33, besides having superior metal-ceramic crowns with infiltrations and aesthetic deficiencies. As a treatment plan for this case it was proposed in the lower jaw: installation of 3 short implants on each side in the posterior region, confection of crowns supported by implants in the regions of teeth #44-47 and 34-37 and confection of conventional single crowns in the teeth #43, 42, 41, 31, 32 and 33. In the upper arch it was planned: installation of implant in teeth #13 and 23 and subsequent confection of single implant-supported prosthesis, gingivectomy in the region of teeth #11 and 21 to improve the tooth ratio and posterior confection of single crowns on all other superior dental elements. We concluded that an integrated planning (Implantology, Periodontology and Prosthodontics), adequate for rehabilitating an extensive case of oral rehabilitation, is fundamental to achieve the expected objective of treatment, thus restoring health, function, aesthetics and providing patient satisfaction.

RO046 - Anterior ceramic crowns: clinical case report

Renan Jhordan Mettelziefen dos INOCENTES[1]; Thereza Cristina Lira PACHECO[1]; Patrick Henry Machado ALVES[1]; Pedro Cesar Garcia de OLIVEIRA[1]; Accácio Lins do VALLE[1]; Luiz Fernando PEGORARO[1]

[1]Department of Prosthodontics, Bauru School of Dentistry, University of São Paulo.

Metal-ceramic crowns have been the golden pattern as restorative treatment in dentistry, due particularly to good aesthetic characteristics as well as the high mechanical resistance. However, the growing aesthetic requirements and further development of materials with high capacity to mimic the dental tissues with predictable results causes a change in the indication of materials used in the confection of crowns. This work is a case report on restoration of aesthetics and function in anterior teeth through the use of ceramic crowns (IPS e.max® Press, Ivoclar Vivadent, Schaan, Liechtenstein). A male patient,

24 years old, was brought to the oral rehabilitation clinic at FOB-USP complaining about the aspects of teeth #21 and 22. The patient stated that after a trauma due to a car accident these teeth fractured, so he treated them at a private clinic. It was noted that both teeth had been endodontically treated and got unsatisfactory composite resin restorations. Initially, in a more conservative way, both dental arches underwent teeth whitening, resulting in a satisfactory homogeneous coloration. Dental preparations were performed as well as cementing fiberglass pins, filling cores, and provisional crowns. Furthermore, the casting was done through double wire gingival retraction technique with the addition of silicon in just one step. Indeed, after definition of color and manufacturing of ceramic crowns, they were cemented with resin cement. Altogether, at the end of this case, the conclusion is that ceramic crowns, when well indicated, are an excellent way to restore the health and harmony of a smile.

RO047 - Fracture resistance of temporary prosthesis with glass fiber

Siliani de ALBUQUERQUE[1]; Rodrigo Lorenzi POLUHA[1]; Clóvis Lamartine de Moraes MELO NETO[1]; Bruna Milhomens de SOUSA[1]; Luisa Moura FIALHO[1]; Sergio SABIO[1]

[1]Department of Dentistry, State University of Maringá.

This study aimed to evaluate the fracture resistance of acrylic resin used in temporary prosthesis with an extension cantilever, using glass fibers treated with silane as reinforcement, varying the distribution and positioning within the matrix. Fifty specimens were produced and divided equally into five groups: Group I, without reinforcement; Group II, reinforced with continuous, concentrated and aligned fibers; Group III, enhanced with simple fiber laminate; Group IV, a doubly reinforced fiber laminate; Group V, reinforced with fibers surrounding the implants and parallel to the occlusal surface. After 72 hours stored in deionized water and oven at 37°C, the specimens were tested in a universal testing machine. Data were analyzed using ANOVA (two-way) and Tukey test ($p<0.01$). Tukey test revealed that groups III, IV and V increased significantly the fracture resistance when compared to Groups I and II. Evaluating the averages obtained by the groups, it was observed that the Group IV was the best performance, followed by the V Group, Group III, Group II and Group I respectively. However, there were no statistical differences between groups I and II; III and IV; III and V, IV and V ($p<0.01$). The results demonstrated that temporary prosthesis with an extension cantilevered reinforced with glass fibers treated with silane exhibited an increased resistance to fracture.

RO048 - Complex oral rehabilitation: a multidisciplinary approach

Adolfo Coelho de Oliveira LOPES[1]; Danielle dos SANTOS[2]; Rafael D'aquino TAVANO[2]; Estevam Augusto BONFANTE[1]; José Fernando Scarelli LOPES[2]

[1]Department of Prosthodontics, Bauru School of Dentistry, University of São Paulo.
[2]Department of Prosthodontics, Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.

With the large amount of planning in dentistry, usually it results in a complex relationship of specific knowledge that often requires a multidisciplinary approach involving several areas of dentistry. This multidisciplinary action in oral rehabilitation becomes an essential requirement for success in the treatment, providing quality of life to the patient. Observing this need among multiprofessional actions, a female patient (EGB), 41 years old, with pre-foramen unilateral cleft, presented at the clinic of prosthodontics at the Hospital for Rehabilitation of Craniofacial Anomalies (HRAC), University of São Paulo (USP). Treatment began in 2000 with orthodontics and plastic surgeries until reach the stage for the dental care in the sector of prosthodontics at the hospital for oral rehabilitation. The patient needed to go through some stages in the dental treatment, which were: installation of dental implants in region of teeth #44, 45, 46 and 47; reestablishment of Occlusal Vertical Dimension (OVD) with provisional crowns on implants to perform the orthognathic surgery to improve the interocclusal relationship since the patient had vertical excess of maxilla and mandibular deficiency as well as overbite; and later the surgical lengthening of the clinical crown of teeth #15-25 was made to reestablish the gingival contour. The case was finalized with the fabrication of veneers in the region of teeth #15 to 25 and the prostheses on implants in the region of teeth #44 to 47 to complete this complex oral rehabilitation.

RO049 - Treatment of aesthetic and functional change: a case report

Aliny BISAIA[1]; Raquel Dall'ara de MORAES[1]; Victor Prado CURVÊLLO[2]; Thais Marchini OLIVEIRA[3]; Simone SOARES[4]

[1]Bauru School of Dentistry, University of São Paulo
[2]Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.
[3]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.
[4]Department of Prosthodontics, Bauru School of Dentistry, University of São Paulo.

As a result of loss of function and aesthetics behavioral changes may occur and restore these conditions are basic principles for prosthetic rehabilitation. In complex cases, a multidisciplinary approach enables more adequate results that meet the aspirations of patients. The purpose of this case report was to achieve better functional an aesthetic conditions in a patient with generalized periodontal problem and unsatisfactory skeletal condition. The rehabilitation used was the immediate complete prosthesis technique. The completion of the case brought a new profile to the patient, the possibility of a new smile and improved the quality of life.

RO050 - Branemark protocol: bar adaptation

Ana Carolina Cabral ROQUE[1]; Wilson MATSUMOTO[1]; Rossana Pereira de Almeida ANTUNES[1]; Takami Hirono HOTTA[1]

[1]Department of Dental Materials and Prosthodontics, Ribeirão Preto School of Dentistry, University of São Paulo.

The objective of the present work was to present a case of lower protocol focusing on the bar adaptation on prosthetic components. A female patient, 56 years old, attended the Ribeirão Preto Dental School, University of São Paulo, with indication for installation of lower prosthesis, protocol

type, supported on five osseointegrated implants. In the upper arch the patient had a conventional denture. With a closed impression, the position of the implants was copied, and on the cast a joint board with wax to teeth assembly and later selection pillars was made. After the installation of the pillars the following procedures were performed: an open impression, plate joint with wax, teeth and a mounting bar with distal extension. In the clinical phase when proving the bar, it was verified a misfit on some pillars that prevented that one part had passive adaptation. We chose the sectioning of the bar and insertion of a welding point. After a grinding in the settlement of the bar, the prosthesis was completed. It was concluded that the bar adaptation on prosthetic components is a fundamental part for the success of implant-supported prostheses.

RO051 - Antimicrobial and antiadherent activity of *Equisetum giganteum*

Ana Paula Chappuis CHOCANO[1]; Roberta Ramos de Araujo PAULA[2]; Denise Gusmão de OLIVEIRA[1]; Rafaela Alves de ALVARCE[3]; Vinicius Carvalho PORTO[1]

[1]Department of Prosthodontics, Bauru School of Dentistry, University of São Paulo.
[2]Bauru School of Dentistry, University of São Paulo.
[3]Department of Stomatology, Bauru School of Dentistry, University of São Paulo.

Denture stomatitis is a common chronic inflammatory disease among users of dentures. This study evaluated the antimicrobial action of *Equisetum giganteum* in the concentrations of 50, 25, 16, 8 and 4 mg/mL and the antiadherent effect on *Candida albicans* biofilms. After collection, acquisition and identification of compounds by means of mass spectrometry from the hydroalcoholic extract of *E. giganteum*, it was determined the antimicrobial action by inhibitory minimum concentration, against clinical strains of *C. albicans* SC 5314, *Escherichia coli* O: 124 and *Staphylococcus aureus* ARCC 6538. The antiadherent effect of the extract on *C. albicans* biofilms over thermopolymerizable acrylic resins were established by immunofluorescence test (LIVE/DEAD) and by the analysis in a Confocal Laser Microscope Scanning. The effectiveness of the highest concentration of the extract (50 mg/mL) was comparable to the positive control group CTRL/NaOCl (100%) for all strains tested. At concentrations of 25 and 16 mg/mL, this action was similar to the CTRL/NaOCl on *C. albicans* and *S. aureus*, but in relation to *E. coli*, the antimicrobial effect was 87%. At low concentrations (8 and 4 mg/mL), the antimicrobial activity ranged from 25 to 50% for the test of three organisms. In antiadherent action, all extract concentrations resulted in biofilm mass statistically different when compared to control treatments (CTRL/PBS and CTRL/NaOCl), demonstrating that the extracts interfered in the adherence of *C albicans* over resin acrylic. Afterward treatment with the extract at a concentration of 50 mg/mL, the biofilm mass was lower when compared to 25 and 16 mg/mL groups. The different concentrations of the extract resulted in significant biofilm mass reduction when compared to untreated resin acrylic, demonstrating that the extract *E. giganteum* has the following properties: microbicide in relation to *C. albicans, E. coli and S. aureus* and antiadherent to *C. albicans* on thermopolymerizable resin acrylic.

RO052 - Resources to achieve gingival esthetics in anterior area

Ana Paula MATIAS[1]; Aloísio SABADIN[2]; Ivete Matias SARTORI[2]; Rodrigo TIOSSI[3]

[1]School of Dentistry, State University of Londrina.
[2]Department of Prosthodontics, Latin American Institute of Research and Dental Education.
[3]Department of Restorative Dentistry, School of Dentistry, State University of Londrina.

The restorative treatment of partially and totally edentulous patients has changed with the introduction of osseointegrated implants. The use of dental implants for the resolution of clinical cases for single-tooth replacement and for partially and totally edentulous areas made the esthetics of the rehabilitation critical for the clinical success of the treatment. Several factors should be considered, such as the bone tissue, the gingival tissue, and the prosthetic restoration, as well as how they relate to the surrounding tissues. Among the factors that are important for the long-term success of the implant treatment are the careful prosthetic planning, ideal position of the implants, correct use of the provisional restoration, and adequate surgical skills. The criteria to restore the esthetic region are: gingival type, form of the tooth that will be replaced, smile, amount of keratinized gingiva, and height of the surrounding gingival papilla. The presence of a healthy papilla that fills the space between teeth, leads to satisfactory esthetics and gingiva health. The provisional restoration should lead to favorable esthetic outcome by maturing and healing the soft tissues, favoring the formation of the papilla and maintenance of the gingival and bone tissues, thus leading to a satisfactory emergence profile.

RO053 - Ceramic abutment influence on peri-implant tension distribution

Aristeo Atsushi TAKASAKI[1]; Antonio Joaquim TERRAS NETO[1]; Eduardo VEDOVATTO[1]; Paulo Sérgio Perri de CARVALHO[1]

[1]Area of Implantology, São Leopoldo Mandic Dental Research Center.

The use of ceramic abutments for implants is a reality in today's dental clinic by favoring cases with high esthetic demands. However, studies evaluating the stress caused by these abutments to peri-implant tissues are scarce. The aim of this study was to evaluate the stresses generated to the implant and the adjacent peri-implant tissues by means of photoelastic qualitative analysis of four kinds of abutments for external connection implants were divided into groups: Metallic abutment (PM), made of cobalt/chrome; zirconia stabilized by yttrium abutment (PZ); zirconia abutment with titanium-base (PZT) and lithium disilicate abutment with titanium-base (PDLT). One photoelastic model made by epoxy resin was prepared and for the photoelastic analysis, each abutment was screwed into the model and a full crown made by lithium disilicate was cemented. Static loads of 100 N, 150 N and 200 N axial and perpendicular to the model were performed in 3 different points of the crown (center, crest mesial and distal) one at a time. For each load, images of the model were obtained for analysis of the standard distribution of the isochromatic fringes generated around the implants. The ceramic abutments generated tensions to peri-implant tissues in a manner similar to the metal abutment, with greater intensity at the apex and in the region of marginal ridge adjacent to the implant, intensified gradually with

the increase of applied loads, but tended to generate a higher and more punctual tension compared with the metal abutment. The load applied to the crown crests generated a greater stress in the marginal region of the ceramic abutments, independent of the use of titanium-base, in comparison with the metal abutment. Based on the results of this study, it was concluded that the ceramic abutments have little qualitative difference, but considerable in relation to distribution of peri-implant tension under loading compared to metal abutment.

RO054 - Materials for CAD/CAM systems: properties and indications

Bárbara Margarido BRONDINO[1]; Brunna Mota FERRAIRO[1]; Fernanda Furtado PIRAS[1]; Fernanda Ferruzzi LIMA[1]; Ana Flávia Sanches BORGES[2]; José Henrique RUBO[1]

[1]Department of Prosthodontics, Bauru School of Dentistry, University of São Paulo.
[2]Department Operative Dentistry, Endodontics and Dental Materials, Bauru School of Dentistry, University of São Paulo.

Over the last 40 years, CAD/CAM technology has been used in Dentistry and it is constantly improving. This technology was designed to provide natural appearance restorations manufactured by an accurate, fast and standardized process from high quality and standardized materials. Today, CAD/CAM systems are widespread and it is well-known by dentists and scientific community, what reflects an unremitting increase in the number of related studies. In addition, the scanning methods (optical, contact and laser scanning), virtual design programs, manufacturing processes and materials available contribute for the developing of CAD/CAM technology, being the latter the focus of this literature review. The aim of this study was to elucidate, through a careful review, the main properties and indications of the materials available for CAD/CAM systems. High strength metal alloys, ceramics with excellent optical properties can be mentioned, besides waxes for milling of patterns that exceed the computerized system and participate in the technique by injection. The wide variety of available materials and trademarks can make it difficult to select appropriate materials even for clinical uses or scientific designs. Good clinical results require adequate material selection, correct diagnosis, planning and professional skills. Therefore, it is important that the dentist possesses enough information to select the restorative material based on its characteristics, processing and indications, being the brand chosen in last instance.

RO055 - Glaze effect on adherence of *Staphylococcus epidermidis* to ocular prostheses

Bruna Egumi NAGAY[1]; Emily Vivianne Freitas da SILVA[1]; Agda Marobo ANDREOTTI[1]; Cristiane DUQUE[2]; Daniela Micheline dos SANTOS[1]

[1]Department of Dental Materials and Prosthodontics, Araçatuba Dental School, Univ. Estadual Paulista.
[2]Department of Infant and Social Dentistry, Araçatuba Dental School, Univ. Estadual Paulista.

The conditions of acrylic resin (AR) surfaces, such as microporosity and roughness, can promote a favorable environment for the adhesion of microorganisms, especially on ocular prostheses. This study evaluated the influence of the application of a photopolymerized glaze on adherence of *Staphylococcus epidermidis* to ocular AR surfaces, submitted to accelerated aging. Two hundred eighty-eight discs were fabricated and distributed into 8 groups (n=9), being G1 to G4 before, and G5 to G8 after accelerated aging: N1 AR without photopolymerized glaze (G1 and G5); Colorless AR without photopolymerized glaze (G2 and G6); N1 AR with photopolymerized glaze (G3 and G7); Colorless AR with photopolymerized glaze (G4 and G8). Groups without glaze were polished (up to 1200-grit sandpaper) and finalized with diamond solution with felt disk. Groups without glaze were polished (up to 800-grit sandpaper) and coated with photopolymerized glaze MegaSeal. The surface roughness was measured by a profilometer. Microbiological analysis was performed in triplicate (n=3), and in three independent experiments. Accelerated aging was performed for 1,008 hours in an aging chamber. The microbial growth was analyzed after 24 and 48 hours of incubation and colony counting was verified by analyzing the number of CFU/mL. Quantitative data of surface roughness analysis and bacterial adhesion were submitted to analysis of variance (ANOVA), Tukey test and the Student T test with significance level of 5%. Pearson correlation was performed to analyze the interaction between surface roughness and bacterial adhesion. Groups covered with glaze showed greater alteration in roughness after aging. There was no statistically significant difference for N1 and colorless AR, in the adherence of *S. epidermidis*, before and after accelerated aging. Glaze and accelerated aging do not influence in the adherence of *S. epidermidis* to AR surfaces.

RO056 - Silver molybdate: antifungal activity against *C. albicans*

Bruna Natália Alves da Silva PIMENTEL[1]; Camila Cristina de FOGGI[1]; Regiane Cristina de OLIVEIRA[2]; Ana Lúcia MACHADO[1]; Carlos Eduardo VERGANI[1]; Juan Andrés BORT[3]; Elson LONGO[2]

[1]Department of Dental Materials and Prosthodontics, Araraquara Dental School, Univ. Estadual Paulista.
[2]Department of Chemistry, Faculty of Chemistry, Federal University of São Carlos.
[3]Department of Physical Chemistry, University Jaume I de Castellon.

In recent years, there has been an increase in microorganism resistance to drugs, which makes necessary the development of new antimicrobial agents. This study evaluated the influence of different solvents in the chemical, morphology and antifungal activity of silver molybdate (b-Ag_2MoO_4) against *C. albicans*. b-Ag_2MoO_4 was synthesized by co-precipitation method (CP) at 90°C for 10 minutes, and to dilution of the precursors were used three different solutions: water, alcoholic solution (50%) and ammonia solution (pH 11). X-ray Diffraction (XRD), Raman spectroscopy, scanning electron microscopy (SEM), photoluminescence and spectroscopy in the visible ultraviolet region (UV-vis), characterized the samples. The microdilution method evaluated the antifungal activity, where the minimum inhibitory concentration (MIC) and minimum fungicidal concentration (MFC) was determined, along with the values relating to sub-inhibitory concentrations. The characterizations showed that in step b synthesis, morphologies were different for each solvent used, and all compounds showed cubic spinel crystalline structure without secondary phases. All microcrystals showed antifungal activity against *C. albicans*. MIC/MFC values were similar (7.81 mg/mL) to the solvents ethanol and ammonia, and were lower than

that recorded for the sample synthesized using water (15.62 mg/mL). In concentrations corresponding to half of the MIC/ MFC, significant reductions were observed in the growth and fungicidal viability, at least 2 logs compared to control. b-Ag_2MoO_4 has antifungal activity against *C. albicans*, and its effectiveness is dependent on the morphology acquired during the synthesis method.

RO057 - Implant-supported prosthesis: after ameloblastoma resection

Bruna Neves de FREITAS[1]; Wilson MATSUMOTO[1]; Takami Hirono HOTTA[1]; Rossana Pereira de Almeida ANTUNES[1]; Alexandre Elias TRIVELLATO[1]; Cássio Edvard SVERZUT[1]; Patrícia ZANON[1]

[1]Department of Dental Materials and Prosthodontics, Ribeirão Preto School of Dentistry, University of São Paulo.

Ameloblastoma is a benign odontogenic tumor of epithelial origin, with locally aggressive behavior, slow evolution that affects mainly the jaw and has recurrent character. The objective of this study was to report an ameloblastoma removal case in jaw reconstruction with iliac crest and rib and prosthetic resolution, provisional and definitive, on five dental implants. Female patient, 35, appeared to care and the clinical examination, it was found in the right hemimandible the presence of dental implants with abutments in position and a vertical drop when compared to the contralateral side, due to the withdrawal of an ameloblastoma. Bone reconstruction was from iliac crest and rib, and later, 6 implants. A prosthesis in acrylic resin was adapted, and this first moment, the aesthetic was not favored. The final prosthetic piece was made in a manner similar to the prosthesis Brånemark protocol with teeth stock and characterized gums. It was concluded that oral rehabilitation restored the function and provided a more natural look, favoring the aesthetics of the patient.

RO058 - Smile aesthetic rehabilitation with dental contact lens

Bruna Regina Rodrigues BEZERRO[1]; Valdey SUEDAM[1]

[1]University of Sagrado Coração.

The aesthetic rehabilitation of patients presenting anterior teeth with problems of shape, alignment and color, had as the protagonist for many years the direct resin composite restorations due to its low cost, ease application and immediate results. However, it is known that the ceramic materials have better characteristics of resistance, color stability and aesthetics, with proven clinical success. The objective of this paper is to describe a clinical case of a female patient, aged 25 years old, who needed care for aesthetic smile rehabilitation. In the initial analysis of the smile it was observed the presence of spaces between the teeth (11, 12, 13, 21, 22 and 23), where the teeth 11, 12, 21 and 22 with inappropriate anatomy. For aesthetics rehabilitation of the smile it was planned dental contact lens made of E.max - CAD, in the tooth elements 11, 12, 21 and 22. It was performed minimally tooth milling in enamel, an attempt was made to maintain the margin of all preparations in supragingival level. At the end of treatment, it was possible to achieve the correct tooth shape, color and texture. Based on the clinical results obtained, it is possible to conclude that E.max-CAD restorations are excellent options for smile aesthetic rehabilitation to present demonstrated durability and aesthetics, with a high degree of clinical success and patient satisfaction.

RO059 - CAD/CAM prosthetic restoration

Bruna Santos Honório TONIN[1]; Wilson MATSUMOTO[1]; Rossana Pereira de Almeida ANTUNES[1]; Takami Hirono HOTTA[1]

[1]Department of Dental Materials and Prosthodontics, Ribeirão Preto School of Dentistry, University of São Paulo.

This study demonstrates how intra-oral scanning and prosthetic restoration is made by CAD/CAM system. A 33 year old female patient presented herself for clinical care, in which she stated the crown of her tooth number 16 had been fractured. During the clinical examination, it was observed an extensive loss of the crown and change of color. A satisfying endodontic treatment was verified through radiographic examination. Initially, pre-manufactured dental pins (Europost) were placed in the root of the canal fillings and a core build-up with compound resin (Filtek Z350 XT - 3M ESPE and Charisma - Heraeus Kulzer) reestablished the coronary portion of the tooth. In order to maintain periodontal health, the preparation was made with trunk-conical diamond-tipped burs and a well-adapted temporary crown. Mouthwashes were prescribed two times a day with oral antiseptic until the patient's return. One week after, it was given precedence to the intra oral digital impression. After these procedures, retractor wires were adapted and removed a few moments before the covering of the teeth with titanium oxide spray. It was used a Blue-Cam (Sirona) digital intra-oral camera to scan the preparation. The adjacent teeth and antagonist teeth also had their images captured, in order to provide accurate information to the preparation ending of the interocclusal relationship. The images captured were sent to the dental laboratory to prepare the crown and a usual temporary dental restoration was adapted in the session. This crown, made of lithium disilicate, was tested for its adaptation and aesthetics and resent to the laboratory for sintering and makeover. The piece was fixed with resin cement (Relyx U200 – 3M ESPE). A well-adapted prosthetic piece was obtained with a much smaller number of clinical and laboratory procedures. In conclusion, CAD/CAM system allowed a much faster, accurate and confortable oral rehabilitation to the patient.

RO060 - Immediate total prosthesis: complex case report

Bruna Trofino GARCIA[1], Gabriel Mulinari dos SANTOS[1], Josely MELLO[1], Renato Yassutaka Faria YAEDÚ[2,4], Simone SOARES[3,4]

[1]Bauru School of Dentistry, University of São Paulo.
[2]Department of Stomatology, Bauru School of Dentistry, University of São Paulo.
[3]Department of Prosthodontics, Bauru School of Dentistry, University of São Paulo.
[4]Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.

Patient T. P. S. F., 30 years old, was diagnosed with generalized periodontitis and indication of extraction in remaining teeth. The aesthetic condition was so bad that there was impairment of social life with psychological deterioration. The recommended treatment was an upper and lower immediate total denture, that would benefit

aesthetic, functional and psychological conditions. A large number of teeth were presented in the oral cavity, and it was decided by the extraction of mandibular molars, but the vertical dimension of occlusion (VDO) was preserved. After two weeks began the manufacture of immediate total dentures, with anatomical and functional impression, transferred to a semi-adjustable articulator (SAA) for determining the spatial position of the occlusal plane, the surgery on the model, and the artificial teeth were mounted preserving the VDO. The prostheses were installed and the patient visited the dentist in follow-up sessions and new rebasing and hygiene instructions were reinforced. The immediate total prosthesis is to be used for a period of time for subsequent replacement by a conventional denture or definitive reline. After three months, alveolar ridge changes will decrease and it will be possible to perform a conventional denture best suited to the anatomy of patient. This immediate total denture gave back to the patient functional and psychological advantages.

RO061 - Rehabilitation with tilted implants: case report

Carla Gabaldo Pessoa dos SANTOS[1]; Paulo Linares CALEFI[1]; Luis Antonio Borelli BARROS[2]; Francisco de Assis MOLLO JUNIOR[2]; Rogerio MARGONAR[3]; Vinícius PEDRAZZI[1]

[1]Department of Dental Materials and Prosthodontics, Ribeirão Preto School of Dentistry, University of São Paulo.
[2]Department of Dental Materials and Prosthodontics, Araraquara Dental School, Univ. Estadual Paulista.
[3]Uniara School of Dentistry.

The objective of this case report was to demonstrate a rehabilitator procedure currently used since many studies advance the discovery of less invasive, more stable and lower cost alternatives, making it more accessible. In this case, two internal hexagon implants were installed, and the most distal in the region of tooth #26 required an inclination of approximately 30°. The rehabilitation aimed to correct the inclination without compromising the esthetics and biomechanics of the prosthesis. Therefore, castable UCLA abutments with Co-Cr base were chosen to allow for customization and cemented metal-ceramic prosthesis with satisfactory functional and aesthetic results.

RO062 - Evaluation of physical properties of tissue conditioners

Carolina Yoshi Campos SUGIO[1]; Janaina Gomes MACIEL[1]; Giuliana de Campos CHAVES[1]; Juliana HOTTA[1]; Heitor Marques HONÓRIO[2]; Karin Hermana NEPPELENBROEK[1]

[1]Department of Prosthodontics, Bauru School of Dentistry, University of São Paulo.
[2]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.

There are no international standards that determine acceptable limits of water sorption and solubility for tissue conditioners, besides the differences in the methodology of the studies. It was aimed to evaluate in a standardized manner these physical properties of tissue conditioners throughout their lives. Specimens (50x0.5 mm/ ISO-10139-2) of 7 materials (Coe-Comfort-CC, Softone-ST, Rite-Line-RL, Dura Conditioner, DC, Hydrocast-HC, Dentusoft- and DS Visco-gel-VG) were individually prepared and submitted to desorption until mass stabilization. Afterwards, they were immersed in distilled water at 37°C for 3, 5, and 7 days (n=10) to then be weighed, dried and reweighed. The data were obtained in percentages of sorption/solubility and statistically analyzed by 2-way ANOVA and Tukey's test (α=0.05). In all periods, VG (13.13±1.11%) showed the highest water sorption among the tested materials, with the lowest percentages observed for CC (2.53±0.35%) and ST (3.84±0.85%) ($p<0.05$). Intermediate values were presented by the other materials within 7 days (6.71±1.01%). CC, RL, HC and DT showed no significant change in the water sorption over 7 days ($p>0.05$). For VG and DC, there was increase in percentage sorption in 7 days compared to 3-day period ($p<0.05$). There was no significant change in average percentage solubility of the tested materials over 7 days ($p>0.05$). DC (0.36±0.29%), HC (0.40±0.16%), DS (0.75±0.74%) and RL (1.50±1.42%) had the lowest solubility values among the tissue conditioners ($p<0.05$). ST (4.28±1.34%) showed higher solubility than CC (2.05±0.41%), but the highest percentages among the tested materials were observed for VG (20.58±0.23%) ($p<0.05$). It is concluded that during the useful life period average of a tissue conditioner, the tested materials showed satisfactory behavior regarding water sorption and solubility, except for VG.

RO063 - Biomechanics of metal alloys for casting cores by MEF-3D

Caroline Chepernate Vieira dos SANTOS[1]; Marlice Hayumi Theles OKUMURA[2]; Cleidiel Aparecido Araújo LEMOS[2]; Caroline Cantieri de MELLO[2]; Ronaldo Silva CRUZ[2]; Hiskell Francine Fernandes e OLIVEIRA[2]; Joel Ferreira SANTIAGO JUNIOR[1]; Fellippo Ramos VERRI[2]

[1]Department of Health Sciences, University of Sagrado Coração.
[2]Department of Dental Materials and Prosthodontics, Faculty of Dentistry of Araçatuba, Univ. Estadual Paulista.

The aim of this study was to evaluate by three-dimensional finite element method (FEM-3D) different alloys (Au, AgPd, CuAl, NiCr) used for casting metal cores utilized to reconstruct a maxillary central incisor without ferrule. Four models (3D) with assistance from Rhinoceros 4.0 program were made presenting a bone block of the anterior maxillary region reconstructed from computed tomography by InVesalius software. In the bone block was inserted the central incisor with crown restored using Zirconia/Ceramics feldspathic coping varying the core material in Au, CuAl, AgPd and NiCr alloy. Axial and oblique load at 45 degrees of 100 N was applied at 2 mm near from incisal area to simulate real tooth contact point. Analyses were made in FEMAP 11 and NeiNastran 10 software. The results were viewed by means of the von Mises stress maps (vM) for the cores, maximum principal stress (MPS) for distribution of tensions in the tooth, and analysis of variance (ANOVA) and Tukey post-test considering $p>0.05$. In the axial loading, the NiCr alloy showed worse biomechanical behavior compared to other alloys ($p<0.001$), whereas the Au alloy showed a better stress distribution ($p<0.001$), followed by AgPd and CuAl alloys. Analyzing the stresses on tooth structure, the core of NiCr showed higher overload of tooth structure, especially in the vestibular region; however, with a significant difference only for the oblique load ($p<0.05$), it was not observed difference between the other alloys ($p>0.05$). It was concluded that the NiCr core introduced worst biomechanical behavior under the conditions of the study, while the Au core showed the best performance in

biomechanics, followed by AgPd and CuAl alloys.

RO064 - Comparative evaluation of BIC (bone to implant contact): a histologic study in dogs

Cristiane Marques DORCE[1]; Maria Angelica Rehder de ARAUJO[2]; Augusto César Rodrigues de SOUZA[3]; César Augusto Magalhães BENFATTI[2]; Renato de Oliveira Ferreira da SILVA[4]; Verena Souza da CUNHA[1]; Carlos dos Reis Pereira de ARAUJO[1]

[1]Department of Prosthodontics, Bauru School of Dentistry, University of São Paulo.
[2]Department of Dentistry, Federal University of Santa Catarina.
[3]Department of Surgery and Orthopedics, School of Medicine of Botucatu, Univ. Estadual Paulista.
[4]Postgraduate Unit, Ingá School.

Surface treatment has been proven to enhance the velocity of osseointegration and result in a more intense BIC (bone to implant contact). Because different dimensions of pits and irregularities on the surface produce distinct blood cell reactions, this study aimed to evaluate the effect of rugosity of nano dimension compared to rugosity that vary between 5 and 25 micrometers, obtained through sandblasting followed by acid etch, which has been proven effective and used thoroughly by many commercial international brands. 24 implants with 10 mm of length and 3.5 mm of diameter were installed in the mandibles of 6 mongrel dogs, according to adequate approval of the Ethics Committee of the Bauru School of Dentistry, USP, and after extractions of three premolars of each side of the animals jawbone. Twelve implants were commercial Neodent implants, with a known surface treatment, "Neoporos" which is obtained by blasting and etching. The other 12 implants were produced in a special lot by Neodent, but were sent to the department of Engineering of Materials of the Faculty of Engineering of the Federal University of São Carlos, where a special process was applied in order to turn the smooth machined surface into a nano texturized one. After three months of uneventful healing, animals were euthanized and samples were submitted to histologic processing according to Exakt Machine (Exact, Germany) protocol at the CIP, FOB-USP. Histomorphometry was performed by an independent investigator by means of special software, "Image J", and results permitted the conclusion that no statistical significant difference was found between the two surfaces, which justifies the Nano-texture utilization in what concerns to effectiveness of osseointegration.

RO065 - Cosmetic resolution: the importance of cement color selection

Débora Bressan GALAFASSI[1]; Adriana Cristina ZAVANELLI[1]; José Vitor Quinelli MAZARO[1]; Ricardo Alexandre ZAVANELLI[2]

[1]Department of Dental Materials and Prosthodontics, Araçatuba Dental School, Univ. Estadual Paulista.
[2]Department of Oral Rehabiliation, Dental School, Federal University of Goias.

In current Dentistry, patients and professionals requirements to aesthetic standards are becoming higher. Harmonic smile is considered essential for the beauty and personal fulfillment. Minimally invasive restorations using adhesive ceramics stand out in the dental market for their longevity, high strength and its excellent optical properties. This work aimed to present the adhesive cementation protocol highlighting the importance of cement color selection to aesthetics of contact lenses in anterior oral rehabilitation. Try-in are soluble paste proof in the same colors corresponding of cements to enhance color matching procedure to the final cements used for selecting the most suitable hues, and an indispensable item to give aesthetic predictability and minimize errors, since due to the reduced thickness prosthetic pieces, the color of the substrate has high influence on the outcome. It is the professional responsibility to perform correct diagnostic and treatment planning followed by an appropriate sequence for each specific case to achieve excellence in results. It was concluded that the establishment of a clinical protocol involving planning, execution and proper selection of resin cement color provide predictable results, highly aesthetic and meet the requirements and expectations of the patient.

RO066 - Unit rehabilitation on morse taper implant and cement crown

Débora Monteiro de LIMA[1]; Maria Sílvia Maurício RIGOLIN[1]; Raphael Ferreira de Souza Bezerra ARAÚJO[1]; Luiz Antônio Borelli BARROS FILHO[2]; Elcio MARCANTONIO JUNIOR[2]; Lélis Gustavo NÍCOLI[2]; Luiz Antônio Borelli BARROS[3]; Francisco de Assis MOLLO JUNIOR[1]

[1]Department of Dental Materials and Prosthodontics, Araraquara Dental School, Univ. Estadual Paulista.
[2]Department of Diagnosis and Surgery, Araraquara Dental School, Univ. Estadual Paulista.
[3]Department of Social Dentistry, Department of Diagnosis and Surgery, Araraquara Dental School, Univ. Estadual Paulista.

Rehabilitation with implants is an established process due to osseointegration predictability, and it is still a challenge to rehabilitate the single elements, due higher requirements of the biomechanics in the prosthetic implant-pillar ensemble. There is also the fact of occlusal forces being superior in posterior regions, where may occur a raise of overload, stress levels, and incomplete forces dissipation. The choice of the connection and retention types can assure one better prognosis for the treatment. Although screwed retentions allow reversibility, when they are cemented they present lower cost and more passivity, which can correct small discrepancies and help biomechanical stability and esthetics. In addition to the features of cemented-retained prosthesis, the mechanical principle of the morse taper connection (MT) allows one progressive blockage, being more stable over the years. Therefore, the aim of this work was to present a case about single tooth loss rehabilitation in morse taper implant and cemented crown in a patient who attended the clinic presenting fracture of tooth #26. It was performed extraction of the element and refilling of the alveolus with biomaterials, autogenous bone and keratinized tissue from tuber region. Six months later, it was performed in the same surgical site the installation of an implant (13x4.3 mm/MT) and sinus lift. After tissue healing, it was decided for the prosthetic component with switch platform, and the impression was taken to fabricate the prosthesis, which was subsequently cemented. The technique resulted in successful rehabilitation, restoring function and esthetics. In addition to the passive adjustment and maintenance of peri-implant architecture, the treatment provided longevity. The correct plan, taking into account besides the features related to each technique and three dimensional view of the implant, directed the best prosthetic retention option. For single tooth loss rehabilitation, morse taper presents great expectations, enabling optimal biomechanical results when cemented.

RO067 - Anti-inflammatory and cytotoxic potential of *Equisetum giganteum*

Denise Gusmão de OLIVEIRA[1]; Oscar Oswaldo MARCILLO[1]; Ana Paula CHAPPUIS-CHOCANO[1]; Rafaela Alves da Silva ALAVARCE[2]; Vinícius Carvalho PORTO[1]

[1]Department of Prosthodontics, Bauru School of Dentistry, University of São Paulo.
[2]Department of Stomatology, Oral Pathology, Bauru School of Dentistry, University of São Paulo.

Denture stomatitis (DS) treatment presents great relapse rates. Therefore, this study evaluated *Equisetum giganteum*, a medicinal plant that could be an alternative to DS standard treatment, regarding its anti-inflammatory and cytotoxic potential. To evaluate the anti-inflammatory effect, human monocytes were evaluated for reactive oxygen species (ROS) production. Monocytes were incubated with 5 different *E. giganteum* extracts (50, 25, 16, 8 e 4 mg/mL) for 1 hour. After, they were stimulated with dead *Candida albicans* SC5314 in 5:1 ratio and 5 µg/mL *E. coli* lipopolysaccharide (positive control), as well as culture medium only (negative control), for 3 hours. Measurement of ROS production was determined using Cell Rox Deep Red® reagent and a multiplate reader (640/665 nm). To investigate cytotoxic potential, monocytes and human palate epithelial cells (HPEC) were analyzed using MTT (3-[4,5-dimethylthiazolyl-2]-2,5-diphenyltetrazolium bromide) colorimetric assay (5mg/mL) and absorbance was determined by using a multiplate reader (500 nm), after exposure for 1, 12 and 24 hours in different extracts, distilled water (positive control) and medium (negative control). Experiments were performed in triplicates. Data of the anti-inflammatory effect and cytotoxicity experiments were evaluated using two-way ANOVA and one-way ANOVA, respectively ($p<0.05$). Measurement of ROS production in activated monocytes showed a return to baseline values, when treated with all extract concentrations. In addition, there was no statistical difference on cellular viability between 4 extract concentrations (50, 25, 16, 8 mg/mL) and negative control in all periods. Results indicate an anti-inflammatory effect of *E. giganteum* and the absence of cytotoxicity against monocytes and humane palate epithelial cells.

RO068 - Minimally invasive ceramic laminate veneers – clinical case report

Diully Rodrigues dos SANTOS[1]; Fernanda Araujo SAMPAIO[2]; Brunna Mota FERRAIRO[2]; Fernando ACCETTURI[3]; Eduardo TANAJURA[3]; Carolina Ortigosa CUNHA[1]

[1]Dental School, University of Sagrado Coração.
[2]Department of Prosthodontics, Bauru School of Dentistry, University of São Paulo.
[3]Private Dental Clinic.

The search for an aesthetic dental treatment has always been a challenge for dentists. Increasingly seeks to more conservative aesthetic resolutions, by both professionals and patients. Among the possibilities for adhesive restorations we can mention the "contact lenses" porcelain that are thin layer of ceramic bonded to the underlying tooth, mainly enamel. These allow functional excellence and aesthetic because it is a technique where there is minimal or no tooth preparation. Contact lenses are indicated in cases that require small changes in the incisal area, dental fractures, conoid teeth, and also diastema. The present study reports a clinical case of the patient G.O.S., male, 33 years old, who sought restorative treatment to improve the aesthetics of the upper front teeth that had old composite restorations. Initially, photographs and Digital Smile Design were performed for planning the case. It was planned 10 ceramic laminates veneers with an extension until bicuspids teeth to improve aesthetics and the small inverted smile curve of the patient. Before the preparation of the teeth was performed mock-up with bisacrillic resin. The teeth preparations were minimally invasive, with FF drills and sandpaper in interproximal area, removing large amount of the existing resin restorations, to better adequacy and settlement of the laminates. The impression was taken then these were sent to the laboratory and laminates were made with e-max systems lithium disilicate LTBL3. After dry proof of the laminates, they were cemented with Variolink Veneer, with final polishing. Minimally invasive ceramic laminate veneers are a conservative, aesthetic and functional alternative for restorative treatment with a long-term durability. But most cases require some type of tooth preparation to obtain a more satisfactory result and extremely aesthetic.

RO069 - Cognitive function: a new clinical significance for dentistry

Dyna Mara Araújo Oliveira FERREIRA[1]; Paulo César Rodrigues CONTI[1]

[1]Department of Prosthodontics, Bauru School of Dentistry, University of São Paulo.

The evolution of dental technologies, such as 3D image manipulation, CAD/CAM, new dental materials, has profound impact on the diagnosis and treatment of patients. However the fundamentals of mastication, which are crucial to optimize treatment outcomes, are often overlooked. The importance of rehabilitation that meets the aesthetic and functional requirements is gaining a new clinical significance. Recent research has shown that chewing helps in maintaining cognitive functions such as learning and memory. On the other hand, masticatory deficiency has been associated with chronic stress, reduced space memory and developing dementia. The purpose of this study was to review recent works on the influence of mastication on cognitive function. Researches show various mechanisms involved in this relationship, the ability of an improved chewing activity in reducing stress response and increase blood flow in brain areas, such as the prefrontal cortex and hippocampus, involved in cognitive abilities. The results suggest that masticatory activity plays an important role in cognitive function and its loss can be a risk factor for neurodegenerative diseases associated with aging.

RO070 - Biaxial flexural strength of Bulk Fill resins

Ernesto Byron Benalcázar JALKH[1]; Camila Moreira MACHADO[1]; Isabela BELTRAMINI[1]; Ronaldo HIRATA[2]; Estevam Augusto BONFANTE[1]

[1]Department of Prosthodontics, Bauru School of Dentistry, University of São Paulo.
[2]Department of Biomaterials and Biomimetics, New York University.

The aim of this study was to evaluate the biaxial flexural strength of composite resins conventional Bulk Fill, Bulk Fill Flow and micro-ceramic. One hundred twenty disc-shaped

specimens (6.5 mm of diameter and 0.5 mm thickness) were prepared and divided into 4 groups (n=30), according to composite resins: G1 - Tetric N-Ceram Bulk Fill (Ivoclar), G2 - 3M Bulk Fill (3M – Oral Care), G3 - 3M Bulk Fill Flow (3M – Oral Care) and G4 - Ceramage (Shofu). The discs were fabricated in increments of resin placed directly in a Teflon mold and light-cured for 20 seconds (Valo Led Curing Light - Ultradent, South Jordan, Utah, USA). Composite excess was removed with No. 15 scalpel blade and polishing was performed with 800, 1200 and 2000 grit wet abrasive sandpaper to achieve the desired thickness (0.5 mm), standardized using a digital caliper (Mitutoyo, Tokyo, Japan). Twenty-four hours after preparation of specimens, the Biaxial Flexural Strength Test was performed in a specific device until disc fracture in a universal test machine, at a cross-head speed of 0.5 mm/min (Kratos, São Paulo, SP, Brazil). Data were analyzed using Weibull distribution. Weibull modulus (m) and characteristic strength (η) were calculated and contour plot was used (m vs. η). The characteristic strength and Weibull modulus of G1 (η=19.92 N and m=6.73) was significantly lower, when compared with the other groups. G3 showed characteristic strength and Weibull modulus (η=23.29 and m=4.1) similar to G4 (η=23.95 and m=6.68), but lower Weibull modulus when compared to G2 (η=24.91N and m=9.55). Tetric N-Ceram Bulk Fill showed lower biaxial flexural strength compared with the other groups.

RO071 - Osteoporosis and Implantology: *in vivo* study and systematic review

Flávia Cristina Ferrari Libâneo de MEDEIROS[1]; Biane Gonçalves LEME[2]; Guilherme Abu Halawa KUDO[1]; Fellippo Ramos VERRI[3]; Gabriel Ramalho FERREIRA[4]; Leonardo Perez FAVERANI[5]; Roberta OKAMOTO[6]; Joel Ferreira SANTIAGO JUNIOR[1]

[1]Department of Health Sciences, University of Sagrado Coração.
[2]Department of Dentistry, Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.
[3]Department of Dental Materials and Prosthodontics, Araçatuba Dental School, Univ. Estadual Paulista.
[4]Department of Orthognathic Surgery, Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.
[5]Department of Surgery and Integrated Clinic, Araçatuba Dental School, Univ Estadual Paulista.
[6]Department of Basic Sciences, Araçatuba Dental School, Univ. Estadual Paulista.

The objective of this research was to perform two methods to study the impact of osteoporosis in loss of dental implants. In the first step, a systematic review to examine the failure rate of implant placed in patients with osteoporosis was designed. The databases PubMed, Cochrane, EMBASE were consulted in order to select area studies from specific descriptors: "Osteoporosis" and "dental implants". The Review Manager software (RevMan - Cochrane Group) was used for meta-analysis, considering $p<0.05$. The selected data indicated an initial sample of 266 items, which were subjected to inclusion and exclusion criteria of the sample. The main results indicated that the implant survival rate in patients with osteoporosis was lower than the survival rate of implants placed in patients in the control group. However, the meta-analysis did not indicate significant differences ($p>0.05$). In the second phase, *in vivo*, 24 Wistar adult female rats were divided into 4 groups (n=6), 12 rats subjected to extraction of the upper right incisor and euthanized with 28 days: 6 rats with osteoporosis (G1) and 6 healthy rats (G2). The other 12 rats received one implant of Titanium in each tibia and euthanized at 42 days being 6 rats in each group: G1 and G2. There was delay in repair after tooth extraction and around the implants in osteoporotic rats when compared with healthy rats. It was observed lower newly bone formed area in this group ($p<0.05$). It was concluded that clinical studies have indicated that osteoporosis is not a limiting factor for placing implants ($p>0.05$), however *in vivo* analysis showed lower quality bone in osteoporotic rats, which in the long term may imply in the survival rate of dental implants. Therefore, randomized clinical trials with long follow-up should be performed.

RO072 - Flexural strength of zirconia after grinding and heat treatment

Gabriel Rodrigues HATANAKA[1]; José Maurício dos Santos Nunes REIS[1]; Gabriela Scatimburgo POLLI[1]; Filipe de Oliveira ABI-RACHED[1]; Lígia Antunes Pereira PINELLI[1]; Gelson Luis ADABO[1]

[1]Department of Dental Materials and Prosthodontics, Araraquara Dental School, Univ. Estadual Paulista.

Adjustments in abutments and frameworks made of zirconia are common in clinical and laboratory practice; however there is no defined protocol for how to do them. The aim of this study was to evaluate the flexural strength (FS) of Y-TZP ceramic LavaTM (3M ESPE) after grinding with diamond bur or stone grinder and heat treatment. Zirconia bars (20×4.0×1.2 and 20×4.0×1.5 mm) were divided into 6 groups (n=10): control (C), control + heat treatment (CHT), grinding with diamond bur under irrigation (BI), grinding with stone grinder under irrigation (SI), grinding with diamond bur under irrigation + heat treatment (BIHT) and grinding with stone grinder under irrigation + heat treatment (SIHT). The grinding (0.3 mm) were performed in standardizer device with diamond bur (4Zr, Komet) in a high speed handpiece, or stone grinder (Master Ceram, Eurodental) in a laboratory micromotor (NSK Ultimate XL). CHT groups, BIHT and SIHT were subjected to heat treatment at 1,000°C for 30 minutes. Flexural strength tests, using four-point flexural fixture, were performed in MTS 810 machine (10 kN, 0.5 mm/min) in artificial saliva at 37°C. Data were analyzed by two-way ANOVA and Tukey HSD ($\alpha=.05$). The FS (MPa) of the groups not subjected to heat treatment was higher in the SI group (1151.54). There was no difference between C (762.02) and BI (758.87) groups. The same behavior was observed in the heat treated groups: SIHT (1006.56)>CHT (762.33)=BIHT (804.69). The heat treatment changed the FS only for the stone ground group. It was concluded that the FS of the Y-TZP can be changed by grinding with stone grinder and by heat treatment.

RO073 - Flexural fatigue limit of a Y-TZP ceramic after grinding procedures

Gabriela Scatimburgo POLLI[1]; Gabriel Rodrigues HATANAKA[1]; Filipe de Oliveira ABI-RACHED[1]; Lígia Antunes Pereira PINELLI[1]; José Maurício dos Santos Nunes REIS[1]

[1]Department of Dental Materials and Prosthodontics, Araraquara Dental School, Univ. Estadual Paulista.

The mechanical fatigue limit of yttria-stabilized zirconia (Y-TZP) needs more understanding, especially after adjustments to which this material is often subjected. The aim of this study was to evaluate the effect of grinding,

with or without cooling, on the flexural fatigue limit of Y-TZP LavaTM ceramic (3M ESPE). Sixty rectangular specimens were obtained: 20×4.0×1.2 mm (n=20) and 20×4.0×1.5 mm (n=40). The specimens of smaller height (1.2 mm) consisted of the control group (C), while those with greater height (1.5 mm) consisted of the ground group with a diamond cutter (4ZR, Komet-Brasseler) with irrigation (DI) or not (D). The staircase method (Dixon and Mood) was used for the evaluation of the samples; using a four-point bending device, in artificial saliva at 37±1°C, and subjected to 500,000 cycles at 10 Hz. Data (MPa) were statistically analyzed by two-way ANOVA and Tukey's test (α=.05). Grinding, with and without cooling, increased ($p<0.05$) fatigue limit of the samples (C=448.55, DI=510.44, D=520.92). It is concluded that the grinding increased flexural fatigue limit of Y-TZP, regardless of the presence or absence of irrigation.

RO074 - Integrated approach of extraction treatment and immediate aesthetic

Giovana Kuninari da CUNHA[1]; Marina Ferrari ARRADI[1]; Thiago Amadei PEGORARO[1]; Guilherme S. MOREIRA[1]

[1]Department of Biological Sciences, University of Sagrado Coração.

Rehabilitation in the anterior region of maxilla, involving aesthetic area, is a great challenge in cases where there is dental extraction followed by immediate implant installation, associated with buccal alveolar space-filling (gap) with biomaterial, and immediate temporary crown. The aesthetic result of immediate temporary crown is associated with atraumatic extraction techniques and implant installation in desirable position. The aim of this work was to present a clinical case whose right central superior incisor, with root fracture, was rehabilitated with immediate implant, buccal alveolar gap filling with biomaterial and submitted to immediate temporization. Patient A. C. P. sought the Dental Clinic with a complaint of pain and aesthetic problem in the right central superior incisor area. Clinical and radiographic examination showed root fracture. After periodontal probing, the presence of the buccal alveolar bone plate was noted, which is important for the indication of such treatment plan with: atraumatic extraction, immediate implant installation with Morse taper connection (Neodent, Brazil), filling in the buccal alveolar gap with bioactive glass biomaterial, prosthetic abutment installation (Neodent) and immediate temporary crown. Atraumatic extraction associated with implant installation, filling the buccal alveolar gap with biomaterial and immediate temporary crown proved to be a safe and effective technique for rehabilitation in the anterior maxilla region, immediately returning the aesthetic and allowing maintenance of peri-implant tissue. It was concluded that the installation of immediate implant and temporary crown in extraction alveolus has proven to be an excellent alternative to anterior aesthetics rehabilitation, because eliminates the need for a second surgical stage, keeps the gingival tissues at adequate levels, promotes psychological well-being and reduces the cost and time of treatment.

RO075 - Association between the chewing pattern and temporomandibular joint dysfunction

Giovanna Monteiro do Pinho ORLANDO[1]; Ana Lucia FRANCO-MICHELONI[1]; Karina Eiras Dela Coleta PIZZOL[1]; Nadia LUNARDI[1]; Heloisa Marcantonio BOECK[1]; Renata Michele CASTILHO[1]

[1]Department of Biological Sciences, University Center of Araraquara.

The aim of this study was to investigate the association between the chewing pattern (unilateral or bilateral) and the presence and characteristics of temporomandibular disorders (TMD). We selected 40 patients between 18-30 years and included only patients with normal occlusion, good general health, absence of skeletal dentofacial discrepancies and good periodontal and dental health. The chewing pattern was determined by direct observation of the mastication recordings of three different foods: almonds, chewing gum and bubble gum by three observers. For TMD analysis the Research Diagnostic Criteria for Temporomandibular Disorders (RDC/TMD) were used. The diagnoses obtained were grouped dichotomically considering the presence (yes/no), the degree of chronic pain (0 or mild/moderate and severe) and the depression and the non-specific physical symptoms (normal/moderate and severe). For data analysis, we performed descriptive statistics and associations of interest used the chi-square test and odds ratio (OR) with a confidence interval (CI) of 95% and 5% significance level. In the sample, comprised of 60% (n=24) women, 37.50% (n=15) presented unilateral and 62.5% (n=25) bilateral chewing. The results (power of 25%) showed no significant association between unilateral chewing pattern with none of the following characteristics evaluated: myofascial pain (OR=3.69; 95% CI=0.305 to 44.720); disc displacements (3.67; 0.729 to 18.439); arthralgia (2.67; 0.505 to 14.069); graduation of the chronic pain (2.11; 0.530 to 8.410); depression (2.250; 0.609 to 8.314) and non-specific physical symptoms (0.615; 0.168 to 2.252). We concluded that in the sample investigated, it was not identified significant association between unilateral chewing pattern and the presence and characteristics of TMD. However, methodological and statistical limitations suggest that other studies should be conducted for more accurate results.

RO076 - Resinous self-etching cements: systematic review

Guilherme Gonçalves de ESPÍNDOLA[1]; Cristiane Marques DORCE[1]; Jéssica Monique Lopes MORENO[1]; Samira Sandy Ferreira STRELHOW[1]; Carlos dos Reis Pereira ARAÚJO[1]

[1]Department of Prosthodontics, Bauru School of Dentistry, University of São Paulo.

The world is in constant evolution and inside that the dentistry comes growing in exponential form, especially in the subject of cementing forms. That includes from the self-etching to which cement to use. What if there was one cement which the clinical would use on his clinic to the cementation of the most varied metal-ceramic parts or metal-free parts? And what would be the cost to the clinical? The present cements are better than the cements from the past? And what to wait from the future? Will it be the age of the self-etching cements? Therefore, this work has the objective to take to the clinician a facilitated review about resinous cements, the clinic utility,

advantages and disadvantages of this new systems and how this contributes to the aesthetic future of dentistry. To perform this research, it was used the data base PubMed and Medline, the search made was "cements AND adhesives for all-ceramic restorations" and we obtained 11 articles, which after we filtrated the publications that dated from the last 5 years, a final number of 7 articles were chosen, being 1 clinical experience, 2 reviews and 4 laboratorial tests. The resinous cements are classified according to their mechanism of polymerization as photopolymerized resinous cement, double polymerization and chemical polymerization. They also can be classified according to the adhesive system as totally polymerized resinous cement, auto-polymerized and auto-adhesive. The binding strength varies between the cements, being the totally polymerized the one that gives the biggest retention; the auto-adhesive cements can give binding strength very similar to the auto-conditioning cements. The property of these materials seems to be in ascension, needing more studies, but we can conclude that the use and acceptance is growing by the professionals especially by the facility in the use of these materials that increasingly need more accurate techniques and use lower amounts of materials, which can lead to a smaller cost in the final work.

RO077 - Development of pathogenic oral biofilms on different surfaces

Guilherme Roncari ROCHA[1]; Elkin Jahir Florez SALAMANCA[1]; Flávia Zardo TRINDADE[1]; Marlise Inês KLEIN[1]

[1]Department of Dental Materials and Prosthodontics, Araraquara Dental School, Univ. Estadual Paulista.

Candida albicans is associated with *Streptococcus mutans* in biofilms recovered from clinical caries lesions. Thus, the present aim was to determine the effect of distinct surfaces in the formation of pathogenic biofilms. Mixed-species biofilms with *S. mutans* and *C. albicans* were formed on discs of hydroxyapatite (HA), Acrylic Resin (AR), Lava Plus Zirconia (Plus), Lava Frame Zirconia (Frame) and feldspathic porcelain with glaze (VM9 and VMK - VITA; Glaze: VITA AKZENT PLUS). The discs were placed in a vertical position and incubated with saliva (sterilized) during 30 minutes for acquired pellicle formation. *S. mutans* UA159 (106 CFU/ml) and *C. albicans* SC5314 (104 CFU/ml) were inoculated into tryptone and yeast extract broth culture medium with 1% sucrose, and incubated (37°C, 5% CO_2). The culture medium was changed twice a day and pH values of the spent media culture were checked after every change. After 67 hours, the biofilms were removed and processed for quantification of biomass and of the microbial population (CFU). Data were analyzed with the aid of statistical treatments (α=0.05). The analyses of biomass, UFC and pH of spent media showed no statistical differences between the distinct surfaces (p>0.05). The pH values of spent media varied from 4.2 to 4.5. Biomass quantities in mg were (average ± standard deviation): 3.17±0.37 HA; 2.34±0.07 RA; 2.21±0.18 Plus; 2.31±0.33 Frame; 2.60±0.66 VM9 e 2.68±0.48 VMK. *S. mutans* population detected as UFC was (average ± standard deviation): 3.11E+06±8.57E+05 HA; 3.05E+06±1.10E+06 RA; 3.31E+06±2.21E+05 Plus; 2.66E+06±3.05E+05 Frame; 2.65E+06±3.23E+05 VM9; and 2.03E+06±5.70E+05 VMK. However, the population of *C. albicans* was about 1 log less than *S. mutans* one: 3.65E+05±2.48E+05 HA; 2.30E+05±1.07E+05 RA; 2.69E+05±6.23E+04 Plus; 2.72E+05±2.25E+04 Frame; 2.82E+05±5.39E+04 VM9; and 2.26E+05±4.33E+04 VMK. Therefore, the pathogenic biofilm formed by *S. mutans* and *C. albicans* was able to grow similarly on distinct surfaces.

RO078 - Surface treatment and adhesion in experimental glass ceramics

Gustavo Henrique Barbosa de ANDRADE[1]; Accácio Lins do VALLE[1]; Edgar Dutra ZANOTTO[2]; Mariana de Oliveira VILLAS BOAS[2]; Viviane de Oliveira SOARES[2]; Hugo Alberto VIDOTTI[3]

[1]Department of Prosthodontics, Bauru School of Dentistry, University of São Paulo.
[2]Department of Materials Engineering, Federal University of São Carlos.
[3]School of Dentistry, University of West Paulista.

The objective of this study was to evaluate the influence of different surface treatments on ceramic materials bond strength to an adhesive cementation system *per* microtensile tests. Two experimental vitroceramic materials, one reinforced by lithium disilicate and other by lithium metasilicate were tested, another vitroceramic reinforced by lithium disilicate (e.max CAD - Ivoclar Vivadent) were used as a control group. Three surface treatments for each experimental ceramics were performed: 1- sandblasting with Al_2O_3 particles, 2- Acid Etching with HF 10% for 20 seconds and 3- Acid etching with HF 10% for 60 seconds. Five ceramic blocks (6.0x6.0x5.0 mm) were obtained for each group and bonded to a resin composites block of the same dimensions with dual-cure resin cement (RelyX ARC, 3M-Espe, EUA). The blocks were sectioned using a water-cooled diamond blade with a slow speed cutting saw. Nine microbars per block (1.0×1.0×20 mm) were obtained and submitted to a tensile force at a crosshead speed of 0.5 mm/min using a universal testing machine until failure. The mode of failure was determined using a stereomicroscope. Statistical analyses were performed with 1-way ANOVA and Bonferroni post-hoc test (P<0.05). The material based on lithium metasilicate, when treated with HF for 60 seconds, has bond strength results (37.078 MPa) statistically higher than the control groups and there was no statistical difference between the other groups. Considering the obtained data in this study, it is possible to suggest that the tested experimental materials have adequate bonding characteristics to the used adhesive cementation system.

RO079 - Marginal adaptation of processed ceramics in CAD/CAM

Heitor Ceolin ARAUJO[1]; Graziela Avila Prado GALHANO[1]; Deborah Bordinassi ANTUNES[1]; Isabella Gargantini de ALMEIDA[1]; Nathassya Xavier BRAUN[1]

[1]Presidente Prudente Dental School, University of West Paulista.

The type of dental ceramic used is directly related the success of metal free restorations. The zirconia (Zr) after being milled by CAD/CAM system must be brought to oven, resulting in a contraction that must be compensate at the time of milling. About the lithium-disilicate doesn't show contraction when subjected to crystallization after milling. This study aimed to evaluate the marginal adaptation of two materials processed by CAD/CAM system: Lithium disilicate and Zirconia. Ten models were made from a metal die whose scan was performed to obtain the virtual model for the processing of ceramic zirconia and lithium- disilicate for CAD/CAM technique. After, plaster models were obtained, which were scanned

and performed the design of the software infrastructure and milling to obtain the CAM/CAM ceramic (10 samples of each material). The analysis was taken from the marginal gap 12 spots in the edge of the metal die, and the values were submitted to the arithmetic mean obtaining a single average value for each crown. There was no statistically significant difference in marginal adaptation (p=0.7709) of the lithium disilicate copings (133.10 um±26.87 um) and zirconia copings (127.34 um±47.97 um). We concluded that the marginal discrepancy is similar between the milled ceramic lithium-disilicate and zirconia used in CAD/CAM system.

RO080 - Analysis of stress distribution in larger diameter implants

Izaldi Teixeira PEREIRA[1]; Jose Ribammar de Almeida CERQUEIRA FILHO[1]; Fellippo Ramos VERRI[2]; Daniel Augusto de Faria ALMEIDA[2]; Victor Eduardo de Souza BATISTA[2]; Cleidiel Aparecido Araújo LEMOS[2]; Joel Ferreira SANTIAGO JUNIOR[1]; Eduardo Piza PELLIZZER[2]

[1]Department of Health Sciences, University of Sagrado Coração. [2]Department of Dental Materials and Prosthodontics, Faculty of Dentistry of Araçatuba, Univ. Estadual Paulista.

This research aimed to analyze the stress distribution in implants with different types of connections, bone model, surface treatments and loads by means of finite element method (3-D). The different three-dimensional models (n=12) were developed using the InVesalius 3.0, Rhinoceros 4.0 and Solidworks 2011 programs. Each model has been structured in a bone tissue with implant (5.00x10 mm) using the external hexagon (EH) connection platform witching concept (PSW) and Morse taper (MT) platform. Furthermore, two bone types (Type III and IV) and two surface treatments were developed. The loading was of 200 N (axial) and 100 N (oblique). The main results were visualized by Maximum Principal Stress maps (MPa) and microstrain maps to cortical bone (με). Quantitative analysis was performed considering $p<0.05$. The results indicated that the PSW concept, under maximum principal stress, and bone type under maximum principal stress and microstrain did not show a significant difference when compared to the regular platform model ($p>0.05$). The surface treatment has expanded the areas of stress concentration when compared to untreated surfaces ($p<0.05$). The implant MT model showed the best pattern of stress distribution ($p<0.05$). Based on the data presented, it was concluded that the MT implants presented better stress distribution for the bone tissue, followed by Platform Switching concept. The surface treatment has expanded the areas of stress concentration and microstrains. All results were within physiological thresholds to the concentration of stresses and strains.

RO081 - Esthetic and functional rehabilitation in a patient with deep-bite

Janaina Gomes MACIEL[1]; Andréa Lemos Falcão PROCÓPIO[1]; Luis Fernando PEGORARO[1]; Karin Hermana NEPPELENBROEK[1]

[1]Department of Prosthodontics, Bauru School of Dentistry, University of São Paulo.

Class II division 2 malocclusion is characterized by molar Class II relationship associated with vertical or retroclined positioning of the upper incisors and usually an excessive vertical overlap (overbite), but with minimal horizontal overlap, resulting in an immediate disocclusion during eccentric jaw movements. The aim of this study was to report the correction of this condition by oral rehabilitation. Patient S.A.M.B., female, 52 years old, with hypertension controlled by systemic medication, sought Post-Graduate Clinic of Oral Rehabilitation of Bauru School of Dentistry (FOB-USP). Her main complaint was the dissatisfaction with her smile, even though she already has been subjected to various previous dental treatments. Intraoral and extra examinations, radiographs, intraoral and extra photographs and computed tomography were performed for case diagnosis. The planning of rehabilitation treatment involved an interdisciplinary approach with the performance of surgical, endodontic and periodontal procedures. The patient was initially rehabilitated with provisional crowns (teeth #16-26, 36, 45-47) after the determination of the new vertical dimension, aimed at reducing the overbite. After the adaptation phase with temporary crowns to the new position, rehabilitation with metal-free crowns in the maxillary arch (teeth #16-26) and implant-supported metal ceramic prosthesis in the lower arch (teeth #36 and 45 to 47) were performed. Integrated planning offered aesthetic and functional satisfactory results, in addition to the correction of the initial condition of deep overbite, meeting the expectations of the patient.

RO082 - Immediate treatment of dental trauma in permanent teeth

Jeanderson Costa PORTELA[1]; Michelle de Sousa NEVES[1]; Leandro Araujo FERNANDES[2]; Nádia Carolina Teixeira MARQUES[2]; Daniela Coelho de LIMA[2]

[1]Faculty of Dentistry, Federal University of Alfenas. [2]Department of Clinical and Surgery, Faculty of Dentistry, Federal University of Alfenas.

Crown and root fractures are common traumatic dental injuries in permanent teeth. Early diagnosis and intervention improve the prognosis of traumatized teeth. Clinical management varies according to the type of injury and the treatment aims to maintain the tooth in the oral cavity. The objective of this study was to report a case of dental trauma involving permanent incisors and immediate treatment of rehabilitation. Male patient, 36 years old, attended the Integrated Clinic I of the Faculty of Dentistry, Federal University of Alfenas, 30 minutes after suffering an accident in the workplace. In clinical and radiographic examinations were observed mobility and coronary fracture without pulp involvement of teeth #21 and 22. A multidisciplinary approach was adopted by performing endodontics and prosthetic treatment with intra-root pins and aesthetic rehabilitation. During treatment, prior to intra-root pin cementation session into tooth #22, a fistula in the periapical area, tooth mobility and root fracture not identified by previous X-ray examinations were noticed. Thus, antibiotic prescription was carried out with 0.12% chlorhexidine irrigation and curettage of fistula and gingival sulcus of tooth #22. After lesion regression the intra-root pin was cemented into tooth 22. However, the lesion recurred and the definitive regression occurred only after periodontal flap surgery for smoothing the edges of root fracture and antibiotic therapy maintenance. The tooth 21 received a ceromer crown and tooth #22 a temporary crown. Clinical and radiographic follow-ups revealed progressive decrease in the periradicular radiolucent areas and absence of pain and mobility in the teeth #21 and 22. Immediate intervention promoted repair of the affected area and consequent functional and esthetic rehabilitation of

traumatized teeth.

RO083 - Metallic reinforcement technique used for complete denture fabrication

Jéssica Marcela de Luna GOMES[1]; Cleidiel Aparecido Araujo LEMOS[1]; Fellippo Ramos VERRI[1]; Victor Eduardo de Souza BATISTA[1]; Caroline Cantieri de MELLO[1]; Ronaldo Silva CRUZ[1]; Hiskell Francine Fernandes e OLIVEIRA[1]; Eduardo Piza PELLIZZER[1]

[1]Department of Dental Materials and Prosthodontics, Araçatuba Dental School, Univ. Estadual Paulista.

The aim of this study was to report a case of maxillary complete denture fabrication with the use of metal reinforcement due to parafunctions of the patient who reported recurrent fractures, as well as fabrication of a Class I mandibular removable partial denture in order to obtain functional and esthetic rehabilitation. Patient A.A.N., 58 year-old, woman, attended the Oral Rehabilitation clinic with complaints of recurrent fractures in conventional maxillary complete denture and dissatisfaction with the aesthetic. In anamnesis and physical examination were observed due to high masticatory effort when the prosthesis in function, as well as wear featuring in the old prosthesis presenting fractures in the region of tooth 24 and palatal area. In addition, excessive wear was observed in the remaining lower teeth. The planning was based on the rehabilitation including fabrication of a maxillary complete denture with metal reinforcement and a conventional mandibular removable partial denture. The protocol for fabrication of the prostheses was followed by conventional impressions, establishment and record of maxillomandibular relationship followed by functional test. Both dentures were included in muffle, and after conducted the divestment has been performed the technique for making the metal bar (Co-Cr alloy) for reinforcement in the region corresponding to the artificial teeth of the maxillary complete denture. After laboratory steps to fabricate the reinforcement bar was performed the polymerization phase followed by adjustment and installation of them. After three years of follow-up it was verified that the patient was satisfied with the treatment and has been observed no fractures in any region of both prostheses. Thus, it can be concluded that the metal reinforcement technique for fabrication of conventional dentures provides aesthetics, comfort and recovery of satisfactory function, being a viable alternative for patients with high masticatory effort.

RO084 - Reestablishment of vertical dimension with overlay partial denture

João Victor Campos MINERVINI[1]; Daisilene Baena CASTILLO[2]; Elizeu INSAURRALDE[2]

[1]College of Dentistry, Federal University of Mato Grosso do Sul. [2]Department of Prosthesis, College of Dentistry, Federal University of Mato Grosso do Sul.

The absence of the occlusal contact due to loss of the posterior tooth elements generates a higher concentration of forces in the anterior region, resulting in excessive wear of the remaining teeth. This association is aggravated by the sharp decline in the Vertical Dimension (VD), increasing the complexity of the rehabilitation treatment. This review have as objective to describe the prosthetic rehabilitation to reestablishment of the vertical dimension of occlusion (VDO) of a partially edentulous patient and excessive wear on the anterior teeth through an overlay removable partial denture. Using a conservative, reversible, low cost and less clinical time method, it is expected to add to this literature rehabilitation an option to improve the quality of life of the patient, restoring masticatory function, phonetics, aesthetics and facial harmony. After the previous preparation of the mouth and treatment planning, provisional removable partial dentures were made to fit the new Vertical Dimension. The lower incisors were cemented copings short silver alloy, which are metal structures similar to core, with a portion that fits in the channel and another that gives marginal adaptation. The use of niches and support ensured the retention and stability of the final prosthesis. At the end of treatment, with the installation of overlay removable partial dentures to clamp upper and lower, the patient had a significant improvement in quality of life, confirmed by questionnaire. The result of this clinical case demonstrates the effectiveness of the use of overlay removable partial denture as a method to reestablish the VDO decreased, the main advantages the reduced cost to the patient and the reversibility of treatment capacity.

RO085 - Prosthesis supported by three implants in the jaw: a systematic review

Jorge Tomasio CABALLERO[1]; Simone SOARES[1]

[1]Department of Prosthodontics, Bauru School of Dentistry, University of São Paulo.

There is controversy in the literature regarding the number of implants that should ideally be used in the jaw to support a full fixed prosthesis. With this objective, we seek with this work through a systematic review to assess the available studies that anchor a total fixed prosthesis on three implants in the jaw. We used the PubMed database with the following keywords: Brånemark protocol - Three implants, fixed prosthesis in the jaw - three implants. 138 articles were found, of these only 9 were eligible or referred specifically on fixed prostheses in the jaw over three implants. Large divergence was observed in the results, but studies show that the survival rate of the implants and success of the prostheses are related to: prior assessment of the antagonist, sex and age of patients, type of food, bone quality and quantity, design features and implant surface and the distal slope, cantilever size, length of implants and economy. Longitudinal research has shown a survival rate between 87 and 99% for prostheses, and a survival rate between 91 and 98% for implants; even with immediate loading. It presents advantages such as reduction of surgical time (during and after surgery) and reduction of costs (not only of the connections, but also the components). Therefore, it was concluded that the installation of three implants in the jaw is feasible for implementation and fabrication of a fixed prosthesis, even making use of immediate loading; but more studies must be done, especially with periods of increased clinical monitoring.

RO086 - Oral rehabilitation in patients with cleft lip and cleft palate

Juliana Lujan BRUNETTO[1]; Fernando Scarelli LOPES[2]; Mônica Moraes Waldemarin LOPES[2]; Rafael D'aquino TAVANO[2]; João Henrique Nogueira PINTO[2]; Regina Magrini Guedes de AZEVEDO[2]

[1]Section of Prosthodontics, Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.
[2]Section of Clinical Integrated Prosthodontics-Implant, Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.

The visual exposition to which people currently are undergoing through the social media has increased aesthetic demands of the people and caused much discomfort to individuals born with facial malformation, such as cleft lip and palate. Aesthetic solutions in patients with cleft lip and palate are challenging due to the involvement of the alveolar ridge, dental absences and malformations, among other changes. Nowadays planning includes the use of ceramic veneers in aesthetic area, because they promote results with minimally invasive treatment in conoid, ectopic and rotated teeth, balancing and harmonizing the smile. The aim of this work was to report the case of a young female, 26 years old, with unilateral right pre-foramen cleft, shortened teeth, esthetic complaints and absence of tooth #12. In order to achieve a correct and functional planning waxing diagnosis, construction of condensation silicone guide, followed by mockup of acrylic resin used as a surgical guide in periodontal surgery increased clinical crown were performed. Therefore, it was necessary to conduct gingivectomy and osteotomy. In the same surgery, the installation of an external hexagon implant in region of tooth #12 was done. After 120 days, was started planning and preparation of teeth were started, which presented diastema, had disharmonious format and were rotated. The case was completed with five ceramic veneers reinforced with lithium disilicate and a prosthesis supported by an implant (PSI) in the region of tooth #12. Thus, it is concluded that treatment with veneers and implants should be considered as a very interesting aesthetic solution for individuals with cleft involving the alveolar ridge and this approach can achieve excellent results and be less invasive.

RO087 - Cementation techniques of fiberglass pins

Juliana Mendes da CUNHA[1]; Vanessa Xavier MARTINS[1]; Patrícia de Lima BARBOSA[1]; João Pedro Sampaio BENSI[1]; Mírian Galvão BUENO[1]

[1]Department of Oral Rehabilitation, National Institute of Higher Education and Graduate Father Gervasio.

The use of fiberglass pin consists of a suitable choice for the rehabilitation of fractured anterior teeth, resulting in a favorable aesthetic at a cost of more viable treatment for the patient. These pins present as an alternative to conventional cast metal. The pins have the function of retaining restorations in teeth with endodontic treatment and indirect restorations. The glass fiber pins have a content of 42% by volume of fibers; have high mechanical strength; modulus of elasticity similar to that of dentin, thereby minimizing the transmission of mechanical stresses to the dental structure; are phototransmitters due to their characteristic of translucency, allowing not only the transmission of light during the curing as well as not interfering with the light refraction of the final restoration environment. Its proven efficacy and a favorable biomechanical behavior make indication as root retainer in most clinical cases. Intraradicular retainers have the function to keep the final restoration in place. Cementing these retainers deserves special attention, since each type of intraradicular pin requires a specific type of cement. The adhesive cementation with resin cement is the technique of choice for these types of pin to form an effective union with the dentine, and strengthen the root structure weakened by endodontic treatment. The use of fiber posts for their biomechanical and aesthetic features for rehabilitation of endodontically treated teeth with extensive coronal destruction. New emerging techniques seek to preserve as much tooth structure as possible. The combination of glass fiber posts and resin cements form an assembly that homogeneously distributes tensions through the root. The proper combination of pins, cement and coronary reconstruction material allows the professional to perform restorations with minimal wear of tooth structure and clinical success.

RO088 - Prosthetic surgical planning for dental implants in cosmetic area

Kahena Rodrigues SOLDATI[1]; Rafael Scaf de MOLON[1]; Weber Adad RICCI[2]; Francisco MELLO JUNIOR[3]; Luiz Antônio Borelli BARROS FILHO[1]; Francisco de Assis MOLLO JUNIOR[4]; Daniela Leal ZANDIM-BARCELOS[1]; Luiz Antônio Borelli BARROS[2]

[1]Department of Diagnosis and Surgery, Araraquara Dental School, Univ. Estadual Paulista.
[2]Department of Social Dentistry, Araraquara Dental School, Univ. Estadual Paulista.
[3]Dental Laboratory.
[4]Department of Dental Materials and Prosthodontics, Araraquara Dental School, Univ. Estadual Paulista.

Rehabilitation of a single anterior tooth in the esthetic area requires management of biomechanical and/or biological etiologic factors. This clinical report presents the complex rehabilitation of a patient with needs involving esthetic dental implant restoration. The patient's past dental history was significant since she fractured the maxillary left central incisor some years ago and treated the root canal. Recently, she complained of the short clinical crown length and expressed interest in a definitive treatment plan. The clinical examination revealed compromised gingival architecture in disharmony with adjacent teeth and buccal bone plate absent due to the inflammatory process. The fracture was confirmed by means of Cone Beam Computed Tomography. The treatment plan included rehabilitation with dental implant after reestablishment of bone architecture. Immediately tooth extraction a ridge augmentation with autogenous buccal bone block graft was performed. Upon healing, the post-extraction site was exposed; the implant placed and then, a provisional crown was confectioned over a provisional titanium abutment to develop a proper emergence profile and natural tooth appearance. A zirconia custom abutment was made using CAD/CAM technology to create an esthetic contour at the gingival margin. Finally, porcelain crown was fabricated and cemented over the abutment to achieve the excellent esthetic results. This case has been followed up for 2 years, and the clinical and radiographic examinations show excellence esthetic and functional results. The rehabilitation of a maxillary central incisor tooth as the result of root fracture and the concomitant loss of surrounding bone creates a unique challenge for the surgeon and restorative dentist. This case emphasizes that to achieve the esthetic result, a multidisciplinary

approach is necessary.

RO089 - The positive impact of oral-health promotion in young adolescents

Karolyn Sales FIORAVANTI[1]; Jéssica Cristina Braz dos SANTOS[2]; Jose Ribammar de Almeida CERQUEIRA FILHO[1]; Renata Guilherme OLIVEIRA[1]; Lurian MINATEL[3]; Patrícia Pinto SARAIVA[1]; Karin Cristina da Silva MODENA[1]; Joel Ferreira SANTIAGO JUNIOR[1]

[1]Department of Health Sciences, University of Sagrado Coração.
[2]Public School Prof. Ada Cariani Avalone.
[3]Department of Prosthodontics, Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.

The aim of this study was to promote oral health among high school students (n=25). The research was conducted in three stages after approval by the ethics committee (nº 1.031.242). Initially, questionnaires related to the topics of 1) oral health self-perception, 2) basic care of prosthodontics, and 3) dental-trauma management applied. In the second stage, a lecture on oral-health promotion was performed and distributed booklets on the subject. In the last step, questionnaires were provided to the same sample. Data were tabulated and submitted to the statistical test, considering $p<0.05$. In the first step, the comparative analysis of oral-health perception identified a significant increase in the perception that speech is directly affected by mouth problems ($p<0.05$). Analysis in the second step showed that there was a conception that dentures could be used for more than 10 years; however, this score decreased significantly after the action of oral-health promotion ($p<0.05$). Furthermore, in the first period, 21% of the sample believed that a patient with a denture could use the same prosthesis for up to 10 years or more; however, in the second evaluation period, this context was reversed 100%. The third step assessed the management of dental avulsion and identified that the perception of the need for immediate care after tooth avulsion increased significantly after the activity was performed at school ($p=0.002$). Initially, the students considered the option of discharging the tooth or did not know how to react to this situation (54%). However, after training in oral health, this study identified that there was a significant reduction in this response option ($p=0.027$). It is concluded that promoting oral health in young adolescents from public schools is highly relevant, since these students act as disseminators of knowledge for society.

RO090 - Oral rehabilitation based on integrated treatment – case report

Karyn Sabrina Marinho UMBELINO[1]; Lívia de Souza TOLENTINO[1]; Roberta SABÓIA[1]; Samuel Kaik Alves de LIMA[1]; Gustavo Nascimento de Souza PINTO[1]; Flávio JUSTO[1]

[1]Department of Dentistry, State University of Maringá.

The multidisciplinary planning in Dentistry is a crucial step that anticipates any intervention and connects several professionals aiming at only one objective: reach a satisfactory result both aesthetically and functionally. The goal of the study was to show, through the case report, that the oral rehabilitation is not an easy project but it becomes more effective when different specialties and sometimes professionals are joined. This shows that when each specialty works just on its scope, and the project is done by gradual resolutions, a uniform, harmonious and satisfactory result is accomplished in the end. It was shown in this study, a clinical case in which a patient of the female gender had her oral rehabilitation based on integrated planning. The patient was 40 years old and showed complaints of not being satisfying with her smile, which were easily detected when the intraoral examination was done: not satisfactory gingival shape, dental agenesis of the upper lateral incisors, conoid teeth and microdontia. After thorough analysis of the case, it was chosen to perform the orthodontic treatment, in order to avoid movement of the teeth and keep spaces, extraction of the tooth with anomaly, implants, surgical periodontal treatment, prostheses and restorations for tooth reshaping. In conclusion, it was noticed the need to perform a treatment plan that integrates specialized professionals in different areas, thus becoming possible to reach the diagnosis, elaborate a plan, anticipate the prognosis and carry out the procedures of oral rehabilitation accordingly.

RO091 - Prefabricated bars for immediate provisional loading protocol

Leadiane Christine Guimarães SANDES[1]; Renato de FREITAS[1]; Jéssica Monique Lopes MORENO[1]; Thereza Cristina Lira PACHECO[1]; Cristiane Marques DORCE[1]

[1]Department of Prosthodontics, Bauru School of Dentistry, University of São Paulo.

The following report describes a case of provisional immediate loading using prefabricated Freitas and Viana bars on mini pillars, made of nickel-chromium. The purpose of the use of prefabricated bars was to confer resistance, prevent a possible fracture of the provisional protocol in its entire length, and represent a more economical alternative to the distal bars for reinforcement of the cantilever on the market (Neodent distal bar), besides eliminate the laboratory step providing faster treatment. Case Report: Female patient, L.R.A.M, 56 years old, edentulous, user of complete upper and lower denture, sought the course of prosthetic implant at Via Oral Clinic for dental treatment, complaining of lack of retention and lower prosthesis stability. Anamnesis and clinical examination were performed, and complementary exams were requested and the planning of the case was accomplished. Five Morse Taper implants (SIN Implant System/SW Morse) were installed, mini pillars were placed, suturing was performed and installation of guard. Then the fabrication of the provisional protocol prosthesis on the implants was initiated. The old prosthesis was captured on titanium cylinders, which were placed on the mini pillars. These were joined with Freitas and Viana prefabricated bars, used in cantilevered region and between the cylinders in the anterior region, and the bars were secured with wire 012. The prosthesis was worn by lingual until reach the correct position observing the occlusion. Finally, the finishing was made. The patient was satisfied with the alternative of more economical treatment, immediate aesthetic, and felt safe with the function of the prosthesis. The provisional protocol prosthesis remained without fractures until the fabrication of the final protocol, following the osseointegration of implants, confirming the resistance provided by the bars used from one end to the other in the protocol. The use of Freitas and Viana prefabricated bars allowed rigidity to the prosthesis providing safety for patients during their daily activities, strengthening the anterior region beyond the cantilevered region, lower cost when compared to existing bars on the market, and agility in treatment since it does not require technical dental laboratory.

RO092 - Predictability of immediate implant retained crown installation

Lincoln Ferreira GARCIA[1], Graziela GALHANO[1], Celso Sawaya NEVES[1], Henrique Augusto BANCI[1], Josiani Furini Salvador VIDOTTI[2], Hugo Alberto VIDOTTI[1,2]

[1]Faculty of Dentistry of Presidente Prudente, University of Western São Paulo.
[2]Private Practice Vidotti Dentistry.

To describe a technique modification of immediate provisional implant retained crown installation with the use of an aesthetic surgical guide. A 47-year-old female patient searched for treatment at the dental office to evaluate the maxillary right central incisor. Clinical examination showed pain on vertical percussion, tooth mobility and presence of a fistula in the region near the apex. Radiographic examination showed extensive root resorption. The patient opted for a tooth extraction and a dental implant installation. The tooth was extracted in the plaster model to build an aesthetic surgical guide that consisted of aesthetic acrylic resin facet, mimicking the morphology and color of the neighboring teeth, supported on the adjacent teeth by means of extensions. The occlusal adjustments were set in plaster models. The atraumatic extraction of the tooth and implant installation (13 mm height and 3.75 mm diameter, external platform regular hexagon) were performed. Palatal approach and particulate inorganic bone graft to fill the alveoli were carried out. The surgical guide was used for the proper positioning of the implant. Primary stability of 50 N.m was achieved. The guide itself was used to deliver the provisional immediate crown. It was supported on the teeth adjacent to the extraction site by its extensions and attached to a titanium cylinder (UCLA) for temporary crowns with acrylic resin. The palatal and cervical portions were buildup with light-cured resin. The extensions were removed and finishing and polishing were carried out. The temporary crown was installed and 20 N.m torque was applied. There was no need for occlusal adjustment. The provisional crown showed ideal aesthetics and occlusion immediately after its installation. The aesthetic surgical guide provided significant time saving and predictability in the clinical procedure that resulted in increased productivity for professional and patient comfort.

RO093 - Bond strength of zirconia after surface treatments

Livia Aguiar Santos Nogueira LIMA[1]; Pedro César Garcia de OLIVEIRA[1]; Fábio César LORENZONI[1]; Vitor Guarçoni de PAULA[1]; Ilana Santos RAMALHO[1]; Luana Menezes de MENDONÇA[1]; Laís Alcântara PIRES[1]

[1]Department of Prosthodontics, Bauru School of Dentistry, University of São Paulo.

This study aimed to evaluate the effect of bond strength and fracture modes of the Y-TZP under different surface treatments. 12 samples of Y-TZP were divided into 6 groups, according surface treatments: CR (Control); AP (Alloy Primer); ZP (Z-Prime Plus); NaOH (sodium hydroxide solution); NaOH-AP (NaOH solution and Alloy Primer); NaOH-ZP (NaOH solution and Z-Prime Plus). After the surface treatment and cementation (RelyX Unicem), the blocks were stored for 24 hours and then cut. The microtensile testing was performed 72 hours after the cutting procedures and after 6 months of aging (E). The specimens were analyzed in stereomicroscope to characterize the fracture mode. The 2-parameter Weibull distribution was used to calculate the survival probability function of the adhesive strength at 10 MPa, 15 MPa and 20 MPa. Comparisons between groups were also analyzed with Weibull modulus and characteristic strength (bond strength). Results showed that the immediate and after aging bond strength were: CR – 15.26 MPa and CRE – 12.15 MPa; AP - 13.82 MPa and APE - 10.72 MPa; ZP - 14.19 MPa and ZPE - 9.72 MPa; NaOH - 17.92 MPa and NaOHE - 13.15 MPa; NaOH-AP – 21.25 MPa and NaOH-APE - 18.13 MPa; NaOH-ZP – 16.25 MPa and NaOH-ZPE - 8.66 MPa. In the immediate groups, using the basic solution, alone or in association with primers the results showed an increased amount of mixed failures, but after aging, the adhesive failures were more frequent. It was possible to conclude that the NaOH solution associated with the Alloy Primer was the only surface treatment that showed the highest bond strength values before and after aging, with predominantly mixed fracture mode. The storage time promoted a reduction in survival probability function load of 10 MPa and 15 MPa for all treatments except for the NaOH-AP.

RO094 - Multidisciplinary treatment in implant-supported rehabilitation

Lívia Jacovassi TAVARES[1]; Erica Dorigatti de AVILA[1]; Oscar Fernando Muños CHÁVEZ[2]; Luiz Antonio Borelli BARROS FILHO[3]; Luiz Antonio Borelli BARROS[2]; Ana Claudia PAVARINA[1]

[1]Department of Dental Materials and Prosthodontics, School of Dentistry at Araraquara, Univ. Estadual Paulista.
[2]Department of Social Dentistry, School of Dentistry at Araraquara, Univ. Estadual Paulista.
[3]Department of Diagnosis and Surgery, School of Dentistry at Araraquara, Univ. Estadual Paulista.

The esthetics and functional integrity of the dental implants rehabilitation may be compromised, among them, by iatrogenic displacement during the surgery. Certain complications are purely due to lack of vigilant patient assessment and planning, surgical method, and placement. Thus, the purpose of this case was to report and discuss a multidisciplinary protocol for the treatment of a compromised maxillary anterior implant with a primary indication for implant removal. Case report: The patient presented with fistulas on the buccal side, indicating peri-implant abscess due to an excessive apical implant position. Surgical mucogingival flap elevation was performed followed by a meticulous debridement of the granulation tissue and implant surface decontamination. Additional connective tissue grafting at the time of second-stage surgery was placed to produce a favorable implant situation and then, the patient received temporary prosthetic restoration. Periapical radiographs were taken before and after surgery. A custom abutment was fabricated by CAD/CAM system to obtain a harmonious gingival contour around the prosthetic crown and to compensate the excessive depth of the implant. After 4 months, the final prosthetic crown was made. After a 2-year follow-up, a satisfactory aesthetic result was achieved with lower treatment time and morbidity. In case of the implant incorrectly positioned in relation to the adjacent teeth, it was demonstrated that the challenge to promote a harmonious mucogingival contours may be achieved with an interdisciplinary approach and with the placement of an appropriate custom abutment.

RO095 - Zirconia with cantilever: aesthetic and function rehabilitation

Luara Fernanda SIMÃO[1]; Fernanda Araújo SAMPAIO[2]; Vitor de Oliveira BALDO[3]; Henrique Muller de QUEVEDO[2]; Carolina Ortigosa CUNHA[1]

[1]School of Dentistry, University of Sagrado Coração.
[2]Department of Prosthodontics, Bauru School of Dentistry. University of São Paulo.
[3]Private Clinic.

Fixed partial denture (FPD) with cantilever is considered appropriate to replace missing anterior teeth. The Zirconia is a material that is currently being used in the manufacture of this kind of prosthesis since it has the hardness as characteristic. The increase in resistance obtained by the incorporation of zirconium oxide particles increases the material resistance to crack propagation. The present study reports a case of male patient, M.L., 43 years old, who sought treatment at the prosthodontic clinic of Bauru School of Dentistry reporting discontentment with his fixed partial denture (FPD) of the upper anterior region. Patient had an unsatisfactory metaloplastic FPD of 4 elements, with the abutments in the teeth #11 and #21 and cantilever on #12 and #22 teeth region. Before removing the prosthesis it was performed a Smile Digital Design (DSD) and subsequent diagnosis' waxing. The rehabilitation with implant was discarded because of the absence of enough mesiodistal space in the teeth region of tooth #12. The prosthesis was removed and an ameloplasty at the mesial side of teeth #13 and #23 was performed in order to increase the width of the space for the cantilevers. As the FPD presented two cantilevers in the lateral upper incisors, it was planned the manufacture of a Zirconia infrastructure for posterior ceramic coverage. Zirconia ensures hardness and resistance to the infrastructure of the prosthesis. The case after conclusion showed that the framework in Zirconia with cantilever in anterior teeth, #12 and #22, was highly satisfactory both aesthetically and mechanically for rehabilitation in the present clinical report. It also showed that the DSD is strongly recommended for rehabilitation cases with FPD in anterior teeth in both the waxing phase and in the ceramic application phase.

RO096 – Bond strength between dentin and composite resin CAD/CAM blocks

Lucas Fracassi de Oliveira LINO[1]; Estevam Augusto BONFANTE[2]; Camila MACHADO[2]; Gustavo ANDRADE[2]; Vitor Guarçoni de PAULA[2]; Paulo Guilherme COELHO[3]; Ernesto Byron Benalcázar JALKH[2]; Hugo Alberto VIDOTTI[2]

[1]Division of Prosthodontics, Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.
[2]Department of Prosthodontics, Bauru School of Dentistry, University of São Paulo.
[3]Department of Biomaterial and Biomimetics, College of Dentistry, New York University.

The objective of this study was to evaluate the bond strength of CAD/CAM fiber-reinforced composite (FRC) blocks bonded to the dentin of freshly extracted human third molars (n=45, 15 *per* group, up to 06 months after extraction), subjected or not to mechanical fatigue and/or thermal cycling by means of microtensile testing (ISO/TS 11405:2003). Bond strength between fiber-reinforced composite and dentin was evaluated in 3 different scenarios, as follows: 1) Immediate (24 hours after cementation); 2) Immediate + cyclic fatigue; 3) Immediate + thermocycling. FRC blocks were sandblasted with Al_2O_3, treated with CRB adhesive system (Shofu) and bonded to hybridized dentin (All Bond 3, Bisco) with C&B resin cement (Bisco). The bonded blocks were sectioned in 1 mm^2 beams and tested in a universal testing machine according to the ISO/TS 11405:2003. Weibull distribution was used for group comparison regarding adhesive bond strength, Weibull modulus, and probability of survival calculated as a function of the microtensile means observed throughout testing. Fractographic analysis was performed for identification of the interfaces involved in failure as well as for the detection of the direction of crack propagation. Weibull modulus and characteristic strength for the immediate group was significantly higher (m=3.31, eta=26.72 Mpa), relative to fatigue (m=2.17, eta=15.57 Mpa) and thermocycling (m=2.23, eta=14.10 Mpa). The probability of survival as a function of different tensile loads was consistently higher for the immediate compared to the other groups which were similar among each other. Conclusion: Interface aging by cyclic loading or thermocycling significantly reduced the bond strength between CAD/CAM FRC and an indirect composite resin.

RO097 - Biomechanical analysis of implant with platform switching concept

Lurian MINATEL[1]; Fellippo Ramos VERRI[2]; Guilherme Abu Halawa KUDO[3]; Daniel Augusto de Faria ALMEIDA[2]; Victor Eduardo de Souza BATISTA[2]; Cleidiel Aparecido Araujo LEMOS[2]; Eduardo Piza PELLIZZER[2]; Joel Ferreira SANTIAGO JUNIOR[3]

[1]Integrated Clinical Session of Prothodontics/Implant, Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.
[2]Department of Dental Materials and Prosthodontics, Araçatuba Dental School, Univ. Estadual Paulista.
[3]Department of Health Sciences, University of Sagrado Coração.

The objective of this research was to evaluate the stress distribution in implants with the platform switching (PSW) concept by method of three-dimensional finite element, as well as to compare this type of connection with regular platform and Morse taper. Four three-dimensional models were simulated using the second molar representation constituting the following groups (G) G1: external hexagon (EH) implant with 4x10 mm, regular platform (4.0 mm); G2: EH implant with 5x10 mm, regular platform (5.0 mm); G3: EH implant, 5x10 mm, PSW concept; G4: Morse taper implant, 5x10 mm. The InVesalius, Rhinoceros and Solidworks software were used for modeling. The FEMAP 11.0 finite element program was used for the development of finite element meshes, load conditions and restrictions using an axial load of 200 N and oblique load of 100 N were performed. Data processing was performed by Nastran software and analyzed by FEMAP software. The qualitative and quantitative analysis was performed by von Mises stress maps (MPa), Maximum principal stress (MPa) and microstrain (με). The main results indicated that implants with standard platform presented an efficient distribution of stress for large diameter models ($p<0.05$). The implant with the platform switching concept showed a distribution of stress and microstrain ($p<0.05$) more favorable for the peri-implant bone tissue, however, it was shown superior magnitude of stress in the region of screw-retained dental prosthesis ($p<0.05$). The Morse-taper implant type presented biomechanically more favorable when compared with other proposed designs ($p<0.05$). It was concluded that the platform switching implants showed a viable option biomechanically, especially for bone tissue, however it was identified that there was an increase in the concentration of stress to structures associated with

the implant- supported prosthesis.

RO098 - Adhesive luting of fiber posts: SEM analysis

Otavio Marino dos SANTOS NETO[1]; Adhara Smith NOBREGA[1]; José Vitor Quineli MAZZARO[1]; Rodrigo Sversut de ALEXANDRE[2]; Yara Matsu Torres ARIKAWA[1]; Ricardo Alexandre ZAVANELLI[3]; Adriana Cristina ZAVANELLI[1]

[1]Department of Dental Materials and Prosthodontics, Araçatuba Dental School, Univ. Estadual Paulista.
[2]Department of Restorative Dentistry, Araçatuba Dental School, Univ. Estadual Paulista.
[3]Department of Prevention and Oral Rehabilitation, School of Dentistry, Federal University of Goiás.

The restoration of endodontically treated teeth very often requires the use of posts and cores to provide retention. The fiber posts are significant restorative option and their longevity is directly related to adhesive cementation. This study aimed to review the literature to point out and illustrate the factors involved in obtaining the success of the longevity of the adhesive cementation of fiber posts. The following factors will be addressed: shaping of the root canal, C factor, polymerization problems, luting quality, thickness of the sealer and preparation of root dentin, illustrated and discussed based on the scanning electron microscopy analysis (SEM). The literature suggests that the most common failure refers to the post displacement inside the root canal - debonding -, being the post format and root anatomy, the type of used cement and luting technique the main factors that can affect retention. The extensive and irregular thickness of the cementation line around the posts is considered the weakest link in the system tooth/cement/post and can compromise the entire restorative system. SEM analysis reveals the flaws that may occur in the cementation of fiber posts, so it is suggested that the care in choosing the post and its exactness in the prepared conduit, as well as selecting the polymerization type of the resin cement used and luting technique should be judicious to obtain clinical success.

RO099 - Myofascial Pain Syndrome: approach in patients with orofacial pain

Priscila Borges Gobbo de MELO[1]; Karina Eiras Dela Coleta PIZZOL[1]; Oscar Fernando Muñoz CHÁVEZ[2]; Ana Lúcia FRANCO-MICHELONI[1]

[1]Department of Biological Sciences, University Center of Araraquara.
[2]Department of Social Dentistry, Araraquara Dental School, Univ. Estadual Paulista.

Myofascial pain syndrome (MPS) is a common cause of chronic musculoskeletal pain characterized by the presence of trigger points. Symptoms include body pain, usually of diffuse location on muscles, connective tissue and fascia, and may also affect the orofacial region. Although common, the MPS is underdiagnosed because the correct diagnosis depends on the clinical history and on the findings of the clinical examination, while complementary tests can help. The treatment includes multidisciplinary approach with doctors, dentists, physiotherapists and psychologists. It consists of the identification and control of predisposing/maintaining factors, pharmacological (NSAIDs, muscle relaxants, antidepressants) and nonpharmacological (home therapy, physiotherapy) interventions. The aim of this case report was to emphasize the importance of diagnosing MPS and of the dentist's and the neurologist's co-working to solve these complaints. VLSM patient, 61 years old, presented with severe complaints of pain and pressure in neck, head and face (on the masseter bilaterally. After several diagnostic hypotheses (sinusitis, pulpitis, and fibromyalgia) and drug treatments unsuccessfully used for controlling the orofacial complaints, drug treatment (Mioflex® A) was started for temporomandibular disorders (TMD) with myofascial pain and arthralgia, made an occlusal splint and counseled for home care. The patient was referred to a neurologist for further investigation due to the presence of other pain complaints in the body. Clinical examination and complementary thermography concluded the MPS diagnosis. Then, the medication was changed (Reconter®, 10 mg, 1x/night) and the patient started aquarobics and global postural re-education. Finally, we obtained greater success, in which the patient reported improvement in pain, in sleep and greater emotional stability. It was concluded that a multidisciplinary approach was essential for the effective diagnosis and control of the orofacial pain secondary to MPS presented by the patient.

RO100 - Mastication and disocclusion guidance in complete dentures

Priscila Mattos SCAVASSIN[1]; Norberto Martins de OLIVEIRA JÚNIOR[1]; Vivian Barnabé POLICASTRO[1]; Marco Antonio COMPAGNONI[1]; Ana Carolina PERO[1]

[1]Department of Dental Materials and Prosthodontics, Araraquara School of Dentistry, Univ. Estadual Paulista.

The establishment of appropriate occlusion in complete denture is essential for the proper functioning of the prosthodontics and the stomatognathic system. Despite the bilateral balanced occlusion (OBB) is the most widespread occlusal scheme, the literature has also proposed disocclusion guided by the canines (DC). This study evaluated the influence of disocclusion guide on the performance and masticatory ability of complete denture wearers. The sample was composed by nine edentulous subjects with normal jaw ridges wearing new complete dentures. It was established a cross over design, so that all the participants use the two occlusal schemes, OBB and DC, for consecutive periods of 30 days. Almonds were chewed and submitted to the sieves method for the evaluation of the masticatory performance, and a questionnaire about the ability and quality of mastication was applied, and these evaluations performed after each period of 30 days. The masticatory performance values were expressed as a percentage, and scores were calculated from responses to the questionnaire, based on a visual analog scale. The data were submitted to t test for paired samples (α=0.05). The results showed no difference in masticatory performance depending on disocclusion guide (OBB=30.58±19.31; DC=33.56±16.46; p=0.375); however, the questionnaire responses indicated increased masticatory ability to DC compared to OBB (OBB=84.56±36.91; DC=103.67±25.57; p=0.011). It was concluded that the disocclusion guide did not affect the masticatory performance of complete denture wearers with normal mandibular ridges, while DC provided to users, better quality and ability to chew during the study period.

RO101 - Orofacial dysfunction and quality of life in healthy patients

Raquel Dall'ara de MORAES[1]; Aliny BISAIA[1]; Natalia Cristina Reinaldo MARIANO[2]; Victor Prado CURVÊLLO[2]; Thais Marchini OLIVEIRA[3,4]; Simone SOARES[2,5]

[1]Bauru School of Dentistry, University of São Paulo.
[2]Sector of Oral Rehabilitation, Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.
[3]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.
[4]Sector of Pediatric Dentistry, Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.
[5]Department of Prosthodontics, Bauru School of Dentistry, University of São Paulo.

This study assessed the orofacial dysfunctions in healthy patients and correlated with quality of life. We selected 60 patients, 35-65 years in Bauru School of Dentistry. The selected patients were distributed equally regarding gender. Each patient underwent an interview and a clinical evaluation through NOT-S instruments (orofacial dysfunctions) and SF-36 (health related quality of life). The score was obtained and tabulated for each specific instrument. To correlate the instruments we used the Spearman correlation coefficient, 5% significance level was adopted for all statistical tests. The descriptive appraisal of the instrument SF-36 the lowest and highest average was for the domain State General Health (64.3±19.1) and Functional Capacity (86.8±17.8) respectively. The overall average of NOT-S was 0.6±0.9. By linking the instruments, there was a positive correlation in the domain General Health (p=0.047) of the patients. Regarding genders the SF-36 averages were lower for females compared to males, 70.5±7.34 and 78±6.08, respectively. It was concluded that there is a positive correlation between orofacial dysfunction and quality of life in the domain General Health and that females have lower levels of overall life quality when compared to males.

RO102 - Tension distribution analysis on prostheses for "Kennedy Class I"

Raquel Queiroz e SILVA[1]; Any Keila Mendes AFONSO[1]; Adriana Ferreira de Queiroz SILVEIRA[2]; Cleudmar Amaral de ARAÚJO[3]; Marcio Magno COSTA[4]

[1]School of Dentistry, Federal University of Uberlândia.
[2]School of Dentistry, University of Uberaba.
[3]Center of Exact Sciences and Technology, School of Mechanical Engineering, Federal University of Uberlândia.
[4]Removable Prosthodontics and Dental Materials, School of Dentistry, Federal University of Uberlândia.

One of dentist's biggest challenges is the rehabilitation of patients with free end Kennedy Class I and Class II, due to improper occurrence of tension around the support structures of conventional removable dentures during the chewing process. The objective of this work was to analyze comparatively the tension distribution in different prosthetics. For this analysis, 4 Photoelastic Models (MF) were made simulating an arc Kennedy Class I, with the remaining teeth from #34 to #44. In all models, teeth #33, 34, 43 and 44 received metal crowns. In addition to the crowns, the MFA received a conventional Removable Partial Prosthesis (RPP), the MFB received a RPP associated to a semi-rigid connector, the MFC received a RPP associated to a rigid connector and the MFD received a RPP associated to an implant and rigid connector. Evenly distributed and localized loads were applied on the last artificial tooth of the prostheses. On the analyzed regions, the more balanced distribution of tension occurred respectively on the conventional prosthesis, the prosthesis associated to the implant, the prosthesis associated to the rigid connector and, ultimately, the prosthesis associated to the semi-rigid connector. Based on the data obtained, it can be concluded that: 1- Conventional RPP showed better biomechanical behavior featuring more equitable distribution of tension in all regions analyzed. 2- The use of the implant is an excellent alternative to minimize the tension on the direct pillar tooth of the removable partial prosthesis, which can minimize bone resorption that commonly occurs due to the use of these appliances; 3- Regardless of the type of connector used, the tension levels were similar in the region of the direct pillar tooth.

RO103 - Immediate implants with immediate loading - case report

Renata Penna COPPINI[1]

[1]Specialization Course in Implant Dentistry, Velasco Institute.

Implant-supported fixed prosthesis for rehabilitation of a single element in the anterior is a fairly predictable modality with a high success rate. Currently due to the implant surface preparation, antibiotic therapy, changes and advances in surgical techniques and the immediate implant with immediate loading has been considered a routine procedure in dental offices. Thus, objective of this work was to present a clinical case where the patient sought assistance because of discomfort in the region of the element #11. When performing clinical and radiographic examination, root fracture was found. Planning of surgery and previous antibiotic therapy were performed. In the surgical act, it was made atraumatic extraction element #11, without flap and without mucoperiostal displacement, alveolar curettage, milling with the spear drill of 2.2 millimeters and stepped drill 3.5x15.0 mm. After alveolus preparation a Conus Summalis 3.5x13.0 mm implant (System of implant INP, São Paulo, SP) was installed with primary fixation at a 40-N torque, which enabled the construction of immediate prosthetic crown. After eight months, the case was finished with the permanent prosthetic crown, preserving alveolar bone and the aesthetics of soft tissue. Thus, it was concluded that the immediate implants with immediate loading can be an alternative in rehabilitation dental.

RO104 - Abfraction: etiology, diagnosis, complications and treatment

Renato Spolaor da VEIGA[1]; Maria Beatriz Pereira Bergonse PEDRIALI[2]; Márcio Grama HOEPPNER[3]

[1]Dental School, State University of Londrina.
[2]Department of Oral Medicine and Pediatric Dentistry, State University of Londrina.
[3]Department of Restorative Dentistry, State University of Londrina.

Abfractions take place when occlusal trauma in laterality occurs. This happens when we lose the canine guide, and the group function is impaired, resulting in the movement of laterality the buccal cusps of the lower premolars touch the buccal cusps of the upper premolars. This premature contact causes a deflection in the cervical region of the premolars, leading to micro fissure in the hydroxyapatite crystals. Abfraction is commonly

aggravated by parafunctional habits such as bruxism and excessive brushing. When the patient brushes the teeth, these crystals are removed from the tooth surface, exacerbating the abfraction. This paper aimed to instruct many professionals on how to proceed in a clinical picture of abfraction because many believe that it is connected only to brushing and periodontal problems. There are frequent cases of abfractions and we should give serious consideration to these cases, since it leads to loss of healthy tooth structure and loss of periodontal tissue support, may cause dentinal sensitivity, marginal tissue recession and aesthetic dissatisfaction. The diagnosis of abfractions is easy to perform, since it notices the loss of tooth structure in triangular shape in the cervical region of the teeth and excessive wear of the canines. With a carbon paper, we note the premature contact of the cusps in the movement of laterality. Besides the prevention of etiologic factors, treatment options are generally based on removal of premature contact in laterality, returning to the patient canine guide, the restoration of cervical injury, returning the form and appropriate size of the affected teeth and root coverage surgeries, these therapies can be used individually or in combination. It is concluded that the treatment is essential, easy to perform, and knowing its real etiology and conducting it as soon as possible will minimize the losses of the underlying tissues.

RO105 - Effect of liquid-polish in *C. albicans* biofilm formation

Roberta Araujo de Paula RAMOS[1]; Ana Paula Chappuis CHOCANO[2]; Oscar Marcillo TOALA[2]; Matheus Jacobina Andrade e SILVA[3]; Vinicius Carvalho PORTO[2]

[1]Bauru School of Dentistry, University of São Paulo.
[2]Department of Prosthodontics, Bauru School of Dentistry, University of São Paulo.
[3]Department of Dentistry, Independent Northeast School.

Dentures have a roughened inner surface, representing a microbial reservoir. This study aimed to quantify *Candida albicans* biofilm formation and the surface integrity in heat-curing acrylic resins treated with liquid-polish systems BisCover LV (BLV) and Surface Coat (SC). A total of 186 specimens were made, sterilized and randomly divided into 20 groups (n=14) and classified according to the type of polishing (mechanical 0.3 or 3 µm, BLV and SC) number of cycles tested (0 and 30) and the solution used: None (negative control), distilled water and 1% NaOCl. After specimen immersion, these were inoculated with *C. albicans* biofilm. For the biofilm quantification, the method of crystal violet staining was used by a spectrophotometer at a wavelength of 595 nm. For qualitative assessment of the liquid-polish layer, two specimens for each group (one with biofilm and one without) were assessed from photographs taken through a scanning electron microscope (SEM). When 0.3 µm and BLV or 3 µm and SC were compared in the same solution and time, there was no statistically significant difference. However, when comparing groups of 0.3 µm and BLV groups or 3 µm and SC, there was a statistically significant difference. SEM analysis demonstrated, in the colonized specimens, the presence of *C. albicans* in the form of yeast and hyphae in all groups. On the surface of not colonized specimens, it was observed a progressive degradation in all of groups when exposed to 1% NaOCl. Nevertheless, BLV group showed an amount of biofilm compatible with the smooth surface (0.3 µm), but the SC group presented an amount similar to the roughened surface (3.0 µm).

RO106 - FEA-3D of splinting and tilted external hexagon implants

Ronaldo Silva CRUZ[1]; Daniel Augusto de Faria ALMEIDA[2]; Cleidiel Aparecido Araujo LEMOS[1]; Hiskell Francine Fernandes OLIVEIRA[1]; Caroline Cantieri de MELLO[1]; Pedro Yoshito NORITOMI[3]; Eduardo Piza PELLIZZER[1]; Fellippo Ramos VERRI[1]

[1]Department of Dental Materials and Prosthodontics, Araçatuba Dental School, Univ. Estadual Paulista.
[2]Department of Dental Prosthodontics, Camilo Castelo Branco University.
[3]Renato Archer Research Center.

Anatomical limitations sometimes compromise the placement of implant in appropriate position becoming necessary the tilt of the implant that is considered inappropriate by prosthetic point of view since generates an increase of stress on the implants and components favoring the failed in implant-supported restorations. The aim of this study was to analyze the influence of stress distribution of single-unit and splinted prostheses, with different inclinations (0°, 17° and 30°) of external hexagon implants in rehabilitation of posterior maxilla by 3D finite element analysis (FEA-3D). Six models were simulated composed of 3 external hexagon implants with diameter of 4.1 mm on the teeth #14, 15 and 16, and lengths of 10 mm, 8.5 mm and 8.5 mm respectively, supporting screwed single-unit or splinted prostheses. The modeling was performed with the softwares InVesalius, SolidWorks 2010 and Rhinoceros 4.0. In the software FEMAP 10.2 3D meshes were simulated, properties of materials and conditions, as the loads application, being 400N axially and 200N obliquely in the occlusal surface of crowns, divided between cusps. After mathematical calculations in the software NeiNastran 9.2 were plotted von Mises stress maps (vM) and maximum principal stress maps (MP) in the software FAMEP 10.2 for analysis of results. In the bone tissue the MP maps showed higher stress concentration to tilted implants with single-unit crowns under oblique load. In the vM maps the stress was higher for models with greater inclination (30°) with splinted crowns. Thus, it was concluded that the tilted implant is more unfavorable to bone tissue and fixation screw, as splinting of crowns showed greater advantage to stress distribution on bone tissue in tilted implants.

RO107 - Immediate load implants in edentulous jaw

Samanta Camila MOREIRA[1]; Thamara MAIA[1]; Rafael de Aguiar VILELA JÚNIOR[1]

[1]School of Dentistry, National Institute of Higher Education and Graduate Padre Gervásio.

The demand for esthetics requested by society in recent years has led more and more patients to dental offices in search of harmony of the smile. In these conditions, dental implants have reached place in the choice of oral rehabilitation treatment. For a long time, implants were divided into 2 phases: surgical followed by the prosthetic. From 1990's, modifications of this initial protocol based on profile and desires of the patient started to occur and also evolution in the surgical and prosthetic techniques was also observed. Through the achievement of new resources and immediate occlusal activation of the implant, it became possible to perform the technical procedure known as immediate loading. According to Brånemark, the protocol type prosthesis is a safe manner

to rehabilitate totally edentulous patients, mainly in the mandible. However, some considerations are necessary. Oral rehabilitation treatment with osseointegrated implants and immediate loading, once some criteria are strictly followed, has shown good and predictable results in edentulous mandibles. The new techniques imposed in implant dentistry have resulted in increased satisfaction in rehabilitation treatments and also significantly improved quality of life. The purpose of this work was to perform a brief literature review focused on the theme aiming to gather general and specific knowledge. Therefore, we can conclude that the immediate load implants have opened horizons for oral rehabilitation, becoming a new therapeutic alternative.

RO108 - Effect of mechanical fatigue on the bond between zirconia/resin cement

Samira Sandy Ferreira STRELHOW[1]; Estevam Augusto BONFANTE[1]; Ricardo Marins CARVALHO[2]; Paulo Guilherme COELHO[3]; Willian Fernando ZAMBUZZI[4]; Gerson BONFANTE[1]; Accácio Lins do VALLE[1]; Hugo Alberto VIDOTTI[5]

[1]Department of Prosthodontics, Bauru School of Dentistry, University of São Paulo.
[2]Department of Oral Biological and Medical Science, Division of Biomaterials, Faculty of Dentistry, University of British Columbia.
[3]Department of Biomaterials and Biomimetics, New York University College of Dentistry.
[4]Department of Chemistry and Biochemistry, Biosciences Institute, Univ. Estadual Paulista.
[5]Faculty of Dentistry, University of Oeste Paulista.

The objective of this study was to investigate the effect of mechanical fatigue on the bond strength of resin composite cemented to silica-coated yttria-tetragonal zirconia polycrystal ceramic (Y-TZP). Ten Y-TZP blocks were polished to 600-grit silicon carbide paper. Specimens were silica-coated by airborne-particle abrasion with 30-μm silica Al2O3 modified particles. Blocks were cleaned in an ultrasonic bath, and dental adhesive was applied and light-cured for 20 seconds. Pre-cured resin composite blocks were luted to treated Y-TZP surfaces with dual-cure resin cement. Half of the samples (n=5) were subjected to mechanical fatigue before trimming (Fatigue group) and the other half tested 24 hours after bonding procedures (Control group). Forty-five beam-shaped samples with an approximate 1 mm^2 cross-sectional area were prepared for each group and tested in microtensile mode at 0.5 mm/min. Fractographic analysis was performed by optical and scanning electron microscopes. Only specimens that failed at the interface area were considered for statistical analysis. Weibull Distribution (95% confidence bounds) was used to determine the characteristic strength (η in MPa) and the Weibull modulus (m) for each group. Probability of survival calculations was performed in the range of loads until specimen's failure. Control group showed η=45.91 MPa and m=7.98, and Fatigue group η=43.94 MPa and m=6.44 ($p>0.05$). Probability of survival was not different between groups. Fatigue did not affect the bond strength between silica treated Y-TZP and resin cement surfaces under this experimental condition.

RO109 - Rehabilitation with full and partial denture: clinical case

Steiner Antonio de Faria PEREIRA[1]; Juliana Gomes AZEVEDO[1]; Jonas JEAN[1]; Anna Beatriz de Faria e SOUZA[1]; Ademir Tadeu GROSSI[1]

[1]Department of Prosthodontics, School of Dentistry, Undergraduate and Graduate Institute Padre Gervasio.

Due to population aging, there is an epidemiological transition that identifies the prevalence of chronic degenerative diseases requiring the work of a multidisciplinary team in which the dentist is inserted. Thus, there is an increase in the number of patients partially or totally edentulous. Tooth loss causes changes in chewing, digestion, speech, taste and aesthetics. Besides being a negative factor to social life, it interferes with taking the most advantage of meals by promoting restrictions on the consumption of certain foods. The objective of prosthetic rehabilitation is to return the functional and aesthetic functions to the individual, thus providing better conditions for oral and systemic health. This work aimed to report a case of rehabilitation with complete dentures and removable partial denture in a female patient, leucoderma, 63 years old, who attended the clinic of the Faculty of INAPÓS Dentistry, complaining of aesthetic problems. After evaluation, planning for construction of a complete upper denture and a lower partial removable denture was performed. It is concluded that the case presented returned not only function but also aesthetics to the patient, thus restoring the stomatognathic system, increasing self-esteem and improving social life.

RO110 - Effect of impression techniques using resin copings on casts' accuracy

Stephania Caroline Rodolfo SILVA[1]; Aion Mangino MESSIAS[1]; Gabriel Rodrigues HATANAKA[1]; Gabriela Scatimburgo POLLI[1]; Filipe de Oliveira ABI-RACHED[1]; José Maurício dos Santos Nunes REIS[1]

[1]Department of Dental Materials and Prosthodontics, Araraquara Dental School, Univ. Estadual Paulista.

The suitable marginal adaptation of indirect restorations is related to the material, impression technique and satisfactory gingival displacement. This study analyzed the dimensional accuracy of tooth preparations and interpreparation distance on gypsum casts obtained from different impression techniques, including individual acrylic resin copings, isolated or attached. A master cast was used (control), with full crown preparation in teeth 14, 16, 21 and 25. For each technique: simultaneous with condensation (SSC) or addition (SAS); isolated individual copings (IC); attached with acrylic resin cylinders (AC); attached with metal cylinders (MC); 8 impressions were obtained by a single calibrated operator with stainless stock tray. Impressions with acrylic resin copings were performed using polyether (Impregum Soft; 3M ESPE) and the resin copings were removed with condensation silicone (Speedex; Coltène). For the analysis of dimensional accuracy, measurements of axiocervical dimensions of each preparation and the interpreparation distance between the teeth 14-16 were performed with a digital caliper. Statistical methods (one-way ANOVA followed by Tukey post-test; α=0.05) were used to evaluate the influence of impression techniques. For axiocervical measurements of tooth #25, all techniques with acrylic resin copings were statistically different ($p<0.05$) from

control. There was no significant difference (p>0.05) in the dimensions of teeth #21 and 14-16 interpreparation distance. In general, the simultaneous technique showed more uniform and regular results in relation to the master cast. The method for attaching acrylic resin copings showed no influence on the gypsum casts' accuracy.

RO111 - Complex oral rehabilitation of patients with anterior crossbite

Suleima do Vale ALVES[1]; Andressa Gakfe Freitas SERAFINI[1]; Valéria Oliveira PAGNANO[1]; Renata Cristina Silveira Rodrigues FERRACIOLI[1]; Osvaldo Luiz BEZZON[1]

[1]Department of Dental Materials and Prosthodontics, Dental School of Ribeirão Preto, University of São Paulo.

Most often the functional occlusion of some patients Class III malocclusion is restored by surgery. However, not always the patient agrees or does not have financial and systemic conditions for this type of treatment. A male patient, 45 years old, attended the Specialization Clinic in Prosthodontics FORP-USP, complaining of difficulty in mastication and esthetics. After completion of the clinical, radiographic and study models in articulator, it was found that the patient had class III malocclusion, anterior crossbite, and all teeth in the maxilla, besides lower arch with Class I Kennedy. When assessed in the position of centric relation, he presented top bite, suggesting that part of the cross bite was caused by mandibular protrusion. The aim of this study was to report a case in which it was possible with conventional prostheses, to uncross the previous bite by restoring vertical dimension of occlusion (VDO). Initially it was performed the diagnostic waxing and planning of the case. Upper partial fixed denture and lower partial removal denture were fabricated, thus restoring function and esthetics to the stomatognathic system. It is concluded that with accurate diagnosis and well-executed planning it is possible to solve some cases of prosthetic rehabilitation without the need for surgical intervention.

RO112 - Planning for oral rehabilitation: Bränemark protocol

Tarso LORGA[1]; Clóvis Lamartine de Moraes MELO NETO[1]; Rodrigo Lorenzi POLUHA[1]; Bruna Milhomens de SOUSA[1]; Sérgio SÁBIO[1]

[1]Department of Dentistry, State University of Maringá.

Oral rehabilitation in edentulous patients is a challenge that the current dentistry has been trying to overcome through implants. The socio-economic factor is still a cause of greater difficulty for treatment in edentulous patients. In this case report we describe the association between extension project and multidisciplinary care for the rehabilitation of a patient with low financial condition. This study reports the case of a 55 year-old patient who complained about sensitivity in some teeth, discomfort with mandibular removable partial denture, masticatory and phonetic difficulties, as well as poor aesthetics. After the evaluation of a multidisciplinary team and further discussion with the patient about possible treatment plans it was decided to extract the mandibular teeth and placement of five dental implants. For the prosthetic rehabilitation Brånemark protocol was made on the mandibular region which had little bony ridge, and a new maxillary removable complete denture. At the end of treatment there was evident aesthetic and functional improvement and the patient regained self-esteem and the will to care of his oral health. Based on this case report it can be noted that Brånemark protocol is a viable choice for the treatment of edentulous patients and it is indicated in cases that there is little alveolar ridge to confer stability to the prosthesis.

RO113 - Effect of denture cleansers on the retention of capsules o-ring

Thereza Cristina Lira PACHECO[1]; Patrick Henry Machado ALVES[1]; Leadiane Christine Guimarães SANDES[1]; Luiz Geraldo VAZ[2]; Ana Lucia Pompeia Fraga de ALMEIDA[1]; Pedro Cesar Garcia de OLIVEIRA[1]

[1]Department of Prosthodontics, Bauru School of Dentistry, University of São Paulo.
[2]Department of Dental Materials, Araraquara School of Dentistry, Univ. Estadual Paulista.

Denture cleansers can cause adverse effects on the prostheses, as deterioration of the denture base and pigmentation. However, little is known about its impacts on the life span of an overdenture retention system. Thus, this study sought to evaluate whether daily immersion in 2% chlorhexidine, 1% sodium hypochlorite, Corega® Tabs or water (control) would increase the retention loss in the O-ring type attachments (SIN Implantes® system). Forty specimens containing capsules were made with rubber rings, simulating an overdenture, and only one containing the implant with the O-ring abutment. They were divided into four groups (n=10) and ninety days in immersion were simulated, thereafter, conducted tensile strength tests on a testing machine (MTS - 810) before and after cycling of 270 cycles, equivalent to removal and insertion of the prosthesis three times a day for a period of three months. The results were statistically evaluated by the ANOVA at two criteria and the Tukey test ($p \leq 0.05$). The mean values (Newton) found before and after cycling were: Water – 9.482±6.081; Chlorhexidine – 9.972±7.390; Hypochlorite: 6.954±6.265 and Corega® Tabs: 12.464±11.121. Among the groups chlorhexidine, sodium hypochlorite and water there were no significant differences. There were statistically significant differences between Corega® Tabs group, control and sodium hypochlorite groups, but not with chlorhexidine group. Thus, it was concluded that denture cleansers had significant effects on retention capacity of O-ring type attachments after the simulated period of three months of immersion.

RO114 - Histomorphometric analysis of hydrophilic implants

Verena Souza da CUNHA[1]; Carlos dos Reis Pereira de ARAUJO[1]; Maria Angélica Rehder de ARAUJO[2]; Aline Baía MIRANDA[1]; Fernanda Herrera STANCARI[1]

[1]Department of Prosthodontics, Bauru School of Dentistry, University of São Paulo.
[2]Paulista Association of Dental Surgeons.

It is believed that the hydrophilic implants are able to accelerate the osseointegration phenomenon. This study aimed to verify if this is possible. We used 15 New Zealand breed rabbits that received 30 implants divided on each side of their right and left tibias. Implants had Neoporos surface treatment (Hydrophobic) and Neoporos

wet surface energy treatment (Hydrophilic), both with commercially pure titanium grade 4 and 3.5x8 mm dimension. After 15 days, the region of the implants was collected and histologically processed to obtain non-demineralized tissue sections for histomorphometric evaluation of the percentage of Bone-Implant Contact (BIC) and Bone Area (BA) between surface treatment without the property of wettability (Hydrophobic) and wet surface energy treatment implants (Hydrophilic). The results showed that hydrophobic group had 42.9% average BIC, slightly less than the hydrophilic group, with an average of 49.3%, with no statistically significant difference. BA of the hydrophobic group averaged 58.6% and 74.4% hydrophilic, with statistically significant difference. It is concluded that the hydrophilic implants stimulate the acceleration of osseointegration and consequently the installation of definitive implant-supported prostheses becomes faster.

RO115 - Marginal and internal space of metallic copings

Victor MOSQUIM[1]; Renato José BERRO FILHO[1]; Brunna Mota FERRAIRO[1]; Fernanda Furtado PIRAS[1]; Fernanda Ferruzzi LIMA[1]; José Henrique RUBO[1].

[1]Department of Prosthodontics, Bauru School of Dentistry, University of São Paulo.

Marginal and internal fit of prosthetic crowns are necessary characteristics to a successful rehabilitating treatment. It is expected that a CAD/CAM system provides an adaptation with either equivalent or superior fit when compared to those produced by the conventional technique; yet, many studies in the area have shown varied results. Based on that, the aim of this study was to evaluate the marginal fit and internal space of cobalt-chromium copings produced by conventional casting (n=10) and laser sintering (n=10). The preparation for the total crown was executed on an acrylic master die-mode, replicated in plaster and digitalized. After injection and sintering, copings were filled with light-body addition silicone and positioned on the die-mode, obtaining a replica of the cementing agent's space. The replicas were included in heavy-body addition silicone and sectioned in the vestibular, lingual, mesial and distal regions. Posteriorly, silicone thickness relative to marginal, axial and occlusal spaces of each side were analyzed in a stereomicroscope (Leica® MZ6), 10x magnification. Data were submitted to ANOVA 2 factors and Tukey test. Considering all sides, the conventional group showed a narrower cementing space when compared to the sintering group ($p=0.041$). The values statistically differed regarding the regions ($p<0.001$) and there was interaction between the variables group and region. The Tukey test showed significant statistical difference between the occlusal region and the other regions ($p<0.001$) for both groups and showed that there was not significant statistical difference between the cementing space of marginal and axial regions among the analyzed groups ($p=0.238$). Thus, it is possible to conclude that both the conventional manufactured copings and the sintered copings showed a comparable cementing agent's space in the marginal region, however, when all regions were considered, the conventional group showed a superior fit.

RO116 - Monolithic ceramics: classification and clinical application

Yara Matsu Torres ARIKAWA[1]; Otávio Marino SANTOS NETO[1]; Adhara Smith NOBREGA[1]; José Vitor Quinelli MAZARO[1]; Rodrigo Sversut de ALEXANDRE[1]; Ricardo Alexandre ZAVANELLI[2]; Adriana Cristina ZAVANELLI[1]

[1]Department of Dental Materials and Prosthodontics, Araçatuba Dental School, Univ. Estadual Paulista.
[2]Department of Prevention and Oral Rehabilitation, Federal University of Goiás.

Dental ceramics have undergone various modifications in recent years, both in the composition and in the preparation methods. The evolution aims to fill the clinical needs of aesthetic rehabilitations by restoring harmony, comfort and longevity. The purpose of this study is to present by clinical cases the manufacturing possibilities of the monolithic crowns and ceramic classification applied to this restorative modality, since knowing the composition and the processing technology is fundamental to the understanding of information and achievement of results of excellence, whether for clinician or laboratory technician. Regardless of the type of ceramic used, both monolithic crowns reamed in the CAD/CAM system as well the injected ones are clinically viable, each of which presents a better indication according to the aesthetic necessity or resistance in each case. It can be concluded that the reamed or the injection are adequate technologies for monolithic restorations and are a real option for the resolution of cases about all-ceramic full crowns, veneers, inlays, onlays, overlays, fixed partial prosthesis and implant supported prosthesis.

C001 - Mandibular reconstruction with prototype

Gabriel Mulinari dos SANTOS[1]; João Paulo BONARDI[1]; Leonardo de Freitas SILVA[1]; Erik Neiva Ribeiro de Carvalho REIS[1]; Jonathan Ribeiro da SILVA[1]; Eduardo HOCHULI–VIEIRA[1]

[1]Department of Surgery and Integrated Clinic, Araçatuba Dental School, Univ. Estadual Paulista.

Prototypes are reliable replicas of anatomical structures, which are made through the softwares CAD (Computer-Aided Design) and CAM (Computer-Aided Manufacturing). Biomedical prototyping was first used in oral and maxillofacial surgery by BRIX and LAMBRECHT in 1987. Prototypes help mainly in the surgical planning of mandibular reconstruction, allow the pre-bending of reconstruction plates, thus saving intraoperative time, and when adequately used they may help in repositioning displaced structures. The objective of this study is to report a case of extensive comminuted fracture of the mandible lately treated through mandibular reconstruction with autogenous graft of anterior iliac crest. It is shown all the planning with the aid of mandible prototype, which favored all the reestablishment of mandibular perimeter and optimal ramus positioning, thus allowing a proper function and esthetics to the patient.

C002 - Bone defect repair evaluation in diabetic rats treated with laser

Sandy Lais TATIBANA[1]; Alessandra Marcondes ARANEGA[1]; Letícia Helena THEODORO[1]; Juliano Milanezi de ALMEIDA[1]; Valdir Golveia GARCIA[1]; Luan Pier BENETTI[1]; Allan Oliveira da SILVA[1]; Leonardo Antônio de MORAIS[1]

[1]Department of Surgery and Integrated Clinic, Araçatuba Dental School, Univ. Estadual Paulista.

The objective of this study was to histologically and histometrically evaluate the bone repair of critical size defect in calvaria of diabetic and non-diabetic rats after treatment with low intensity laser. For this purpose, 60 adult rats (*Rattus norvegicus*, *Albinus*, Wistar), with an approximate weight of 350 grams, were divided into four groups: control/clot group (C): non-diabetic control animals with critical size defects filled with blood clot; control/laser group (CL): non-diabetic control animals with critical size defects filled with blood clot and treated with low intensity laser; Diabetic/clot Group (D): diabetic animals with critical size defects filled with blood clot; Diabetic/laser Group (DL): diabetic animals with critical size defects filled with blood clot and irradiated with low intensity laser. After animals were anesthetized, antisepsis, trichotomy and incision in the fronto-parietal region were performed, and a critical defect of 7 mm in diameter was created in the median area between the parietal bones, keeping the dura mater intact. Irradiation of the defects was carried out with low-level laser (GaAlAs), with a wavelength of 830 nm, immediately after preparation of the defects and filling clot at 4 points around the walls (3-, 6-, 9- and 12- o'clock positions) in contact with bone tissue. The laser power was 40 mW, and each point was irradiated for 60 s, with a total energy/point of 2.4 J/point, total energy of 9.6 J, energy density of 34.28 J/cm^2/point and irradiance of 0.57 W/cm^2. Flap was placed over the defect and sutured. Euthanasia occurred at 7, 15 and 30 days post-treatment. Specimens were obtained and semi-serial 6-µm thick sections were stained with hematoxylin and eosin and Masson's trichrome for histological analysis by light microscopy. Histometric analysis was performed through image capture and quantification of bone area. 5% significance level was established for the statistical analysis. There was a higher percentage of bone formation in groups C, CL and DL compared with group D at 7 days ($p<0.01$). It can be concluded that in the initial evaluation period, laser irradiation with the parameters used in this study was able to alleviate the deleterious effects of diabetes regarding bone formation in critical defects in rat calvaria.

C003 - Histomorphometric evaluation of bone repair with membrane and laser

Allan Oliveira da SILVA[1]; Alessandra Marcondes ARANEGA[1]; Letícia Helena THEODORO[1]; Juliano Milanezi de ALMEIDA[1]; Luan Pier BENETI[1]; Sandy Laís TATIBANA[1]; Valdir Golveia GARCIA[1]

[1]Department of Surgery and Integrated Clinic, Araçatuba Dental School, Univ. Estadual Paulista

This study analyzed histomorphometrically the osteoconductive capacity of demineralized allogeneic bone matrix with hydrochloric acid and preserved in glycerin on critical size defects in rat calvaria after treatment with low intensity laser (InGaAlP). Sixty Wistar rats were divided into four groups: Group I had a cavity filled only with clot; Group II had the clot coated with a bone demineralized allogenic bone matrix; Group III had the surgical area treated with low intensity laser (InGaAlP) and Group IV after covering the clot, the cavity was treated with a laser and covered with the membrane. Trichotomy and incision in the fronto-parietal region and a critical defect of 7mm were performed keeping the dura mater intact. Irradiation of defects was accomplished with GaAlAs laser, with a wavelength of 830 nm after preparation of defects and filling clot at 4 points in contact with bone tissue. The laser power was 40 mW, and each point was irradiated for 60 s, which represented a power/point of 2.4 J/point, total energy 9.6 J, energy density of 34.28 J/cm^2/point with irradiance of 0.57 W/cm^2. The flap was then placed over the defect and sutured. Euthanasia was performed at 7, 30 and 60 days post treatment. The specimens were obtained and processed to semi-serial 6-µm thick sections stained with hematoxylin and eosin for histological and histometric analyses by means of image capture and quantification of bone area for statistical analysis at 5% significance level. With respect to the histometric analysis, it was found that: 1) at 7 days bone formation was increased in IIGM and IVGML groups when compared to the IG and IIGL groups. 2) 30 days after the IIGM and IVGML groups were higher than the IG and IIIGL groups and 3) at 60 days there was a higher percentage of bone formation in IVGML groups when compared to the IG, IIGM and IIIGL. The membrane demonstrated a good biological behavior since it was able to drive the adjacent bone with and without the use of laser.

C004 – Central giant cell granuloma: cases reports

André Hergesel de OLIVA[1]; João Paulo BONARDI[1]; Willian Ricardo PIRES[1]; Eduardo DALLAZEN[2]; Erik Neiva Ribeiro de Carvalho REIS[1]; Leonardo de Freitas SILVA[1]; Daniela PONZONI[1]

[1]Department of Surgery and Integrated Clinic, School of Dentistry of Araçatuba, Univ. Estadual Paulista
[2]Department of Oral Medicine and Pediatric Dentistry, Dentistry Course, State University of Londrina.

Central giant cell granuloma was documented the first time as "reparative giant cell granuloma" by Jaffe in 1953. The lesions develop more frequently in children or young adults, and 75% of the cases affect patients before the age of 30 years and more than 70% affect the mandibular region. Most cases arise as a painless expansion of the alveolar bone and can be recognized as radiolucency in routine radiographic examination. Occasionally, the pain, paresthesia and dental displacement may be present. Lesion can be treated with curettage, surgical resection, daily doses of calcitonin and intralesional injections of corticosteroids. The aim of this study was to report two clinical cases of male patients, 63 and 52 years old, both with diagnosis of Central giant cell granuloma of maxilla, treated with enucleation and curettage of the lesions. The patients have been monitored for more than one year and show no signs of recurrent injuries. It is concluded that treatment by enucleation and curettage can be effective for this type of injury.

C005 - Viability of the use of rhBMP-2 after resection of ameloblastoma

Andressa Bolognesi BACHESK[1]; Caroline Resquetti LUPPI[1]; Rômulo Maciel LUSTOSA[1]; Elen de Souza TOLENTINO[1]; Lilian Cristina Vessoni IWAKI[1]; Liogi IWAKI FILHO[1]

[1]Department of Dentistry, University of Maringá.

Bone grafting techniques are broadly studied and discussed to ensure bone quality for the installation of dental implants. Bone morphogenetic protein type 2 (BMP-2) is an osteoinductive alternative to extensive reconstruction after tumor resection. However, the rhBMP-2 feasibility to receive dental implants and their consequent prosthetic rehabilitation is not well described in the literature. We report a case of oral rehabilitation after resection of ameloblastoma and reconstruction with rhBMP-2 and xenograft. Male patient, Caucasian, 44 years old, complained of persistent swelling in right mandibular body for nearly 24 months without painful symptoms. A panoramic radiograph and computed tomography were taken for better assessment of the case. Tomography showed a multilocular hypodense lesion in the right mandible body with approximately 4 cm. Incisional biopsy was performed, and from the microscopic characteristics, the lesion was diagnosed as solid multicystic ameloblastoma. Treatment was based on the segmental resection of the lesion, mandible fixation with system 2.4 plate and screw, followed by off-label use of rhBMP-2 associated with the use of bovine bone xenograft. After eleven months of follow-up, signs and symptoms of recurrence of injury were not observed and good bone formation in the resection was detected. After this period the patient was rehabilitated with osseointegrated implants and 18 months after the first surgery, prostheses on the implants were installed. The patient is in follow-up, at the moment with no recurrence, and the masticatory function recovered after treatment of the lesion, thus showing that the use of rhBMP-2 associated with the use of xenograft may be a viable option with less morbidity for rehabilitation of patients after treatment of odontogenic tumors.

C006 - Treatment of keratocystic odontogenic tumor: case report

Andressa Gimenes NAREZI[1]; Andressa Bolognesi BACHESK[1]; Edevaldo Tadeu CAMARINI[1]; Vanessa Cristina VELTRINI[1]; Jose Angelo PAVAN[1]; Lafayette Dolphine GRENIER[1]; Carlos Henrique Baptista PAVANI[2]

[1]Department of Dentistry, State University of Maringá.
[2]Department of Dentistry, Ingá College.

Although Keratocystic Odontogenic Tumor (KCOT) is a benign lesion of the jaws, it is considered aggressive due to its characteristics that are compatible with neoplasms, such as high rate of recurrence and differential growth mechanism. Its origin may be related to the remnants of the dental lamina or from primordial odontogenic epithelium. It has higher prevalence in the mandibular angle region, and radiographically it appears as a radiolucent uni or multilocular lesion, and may or may not be related to an unerupted tooth. Histologically, it presents epithelial lining of parakeratinized stratified type with hyperchromatic basal cells and more externally fibrous connective tissue that may contain satellite cysts. Treatment can range from conservative to radical management interventions, which is directly associated with the recurrence rate. This case report aims to show the importance of early diagnosis and appropriate treatment for this type of pathology, through literature review and report of a female patient, who sought the Dental Clinic of the State University of Maringá (UEM) with paresthesia complaints in the right hemi-mandible and change in the facial contour. Physical examination showed a slight expansion of the buccal bone plate and the absence of tooth #47. The images on panoramic radiography and cone beam computed tomography showed a lesion with a cystic aspect in the region of tooth #47 and involving the unerupted tooth #48. Presumptive diagnosis was Keratocystic Odontogenic Tumor and Dentigerous Cyst. Patient underwent surgical treatment with total removal of the lesion and tooth #48. The specimen was sent to the laboratory, which confirmed the diagnosis of Keratocystic Odontogenic Tumor. Patient is under follow-up with satisfactory postoperative results, regression of paresthesia and decreased expansion of the bone plate.

C007 - Ameloblastoma with graft immediately iliac crest - case report

Bárbara FONSECA[1]; Raphael Gustavo BINKO[1]; Jean Carlos Della GIUSTINA[2]; Hildebrando Massahiro NAGAI[3]; Andressa BOZZA[4]

[1]Dental School, Paranaense University.
[2]Surgeon Maxillo-Facial, West Union Paranaense Studies and Fight Cancer, Cascavel/PR.
[3]Oncological Surgeon Head and Neck, West Paranaense Studies and Union Against Cancer, Cascavel/PR.
[4]Department of Endodontics, Paranaense University.

Ameloblastoma is a benign tumor originated from odontogenic epithelium. Clinically, it presents slow growing and is invasive and asymptomatic, although as

it reaches large dimensions it can present symptoms and facial disfigurement. Radiographically, it appears as a radiolucent lesion with multilocular aspect of 'soap bubbles'. It has no predilection for gender, mostly affecting the mandible in comparison with maxilla, and the posterior region. The aim of this work is to report a case of surgical treatment of ameloblastoma by resection of the mandible and immediate reconstruction with graft of iliac crest. A female patient, leucoderma, 60 years old, attended the oral and maxillofacial surgery clinic of the hospital Uopeccan/Cascavel-PR with a history of osteolytic lesion in the body and ramus of the mandible, reporting that four years later she was submitted to marsupialization followed by enucleation of the lesion at another service with a result of the histopathological exam of plexiform ameloblastoma. In the intraoral clinical examination the presence of upper prosthesis (protocol-type) on osseointegrated implants and partially edentulous mandible were observed. Clinically, a slight increase of volume in the body and ramus of mandible was detected. Radiographically, a well-defined radiolucent lesion extending from the ramus of mandible to mesial region of tooth #46 was seen. Patient underwent hemimandibulectomy under general anesthesia, followed by mandibular reconstruction with immediate iliac crest graft. Iliac crest bone graft was fixed with 2.0-system mini-plates and titanium screws. In the 6-month follow-up consolidation of autogenous bone graft was observed on the panoramic radiograph. Although ameloblastoma is a benign tumor, its treatment is mutilating. Therefore, we must perform restorative procedures as soon as possible in order to improve the patients' quality of life.

C008 - Intraosseous cavernous hemangioma. Case report

Breno Edson Sendão ALVES[1]; Sabrina FERREIRA[1]; Francisley Avila de SOUZA[1]; Juliano Milanezi de ALMEIDA[1]; Nathália Januario de ARAUJO[1]; David Jonathan Rodrigues GUSMAN[1]; Henrique Rinaldi MATHEUS[1]; Idelmo Rangel GARCIA JUNIOR[1]

[1]Department of Surgery and Integrated Clinic, Araçatuba Dental School, Univ. Estadual Paulista.

Intraosseous cavernous hemangioma is a benign neoplasm featured by the proliferation of bloody vessels with different diameters and thin walls, clinically presented with reddish smooth surface. This case report aimed to demonstrate the clinical, histopathological and radiographic characteristics of this lesion, illustrating its treatment. A female patient, 54 years old, attended the Clinic of Oral and Maxillofacial Surgery FOA-UNESP seeking for treatment of a volumetric increase of the left supraorbital region and dystopia without pain complaints. A computed tomography was requested in which was possible to observe a mist intrabone lesion with greater diameter of 3.5 cm and aspects of "sunburst appearance", involving the both internal and external corticals. Complete removal of the lesion through craniotomy, obliteration of the nasofrontal duct and reconstruction of the skullcap with autogenous bone graft and titanium mesh were performed under general anesthesia. Histopathologic exam showed an intense proliferation of large blood vessels of different sizes, covered with endothelium without any atypias, lumen filled with red blood cells and thin and disassociated trabecular bone, thus characterizing an intraosseous cavernous hemangioma. After two years of follow up, the patient presented satisfactory facial esthetics of the frontal bone contour, without any pain complaints. Through tomographic reevaluation it was possible to confirm the bone contour recovery with the autogenous bone graft and titanium mesh with no evidence of recurrence.

C009 - 2D and 3D virtual planning in orthognathic surgery

Cleuber Rodrigo de Souza BUENO[1]; Marco Dapievi BRESAOLA[1]; Wilson Silva AMARAL[1]; Luciane Solange Arévalo OSÓRIO[1]; Hugo NARY FILHO[2]

[1]Health Center, School of Dentistry, University of Sagrado Coração.
[2]Oral Biology Master's and Doctoral's Program, Department of Oral Maxillofacial Surgery, University of Sagrado Coração.

The aim of this work was to demonstrate the process of orthognathic surgery planning by CAD/CAM technology seeking maximum precision planning, showing the sequence of preparation in a virtual 2D and 3D environment and execution of the virtual surgery until milling the surgical guide. Patient M.F.V.S., with severe facial deformity characterized by long face pattern III associated with asymmetry, and orthodontic presurgical preparation finalized. Clinically, photographs and plaster models were obtained, and a cone beam computed tomography was requested. Computed tomography, 2D photographs and models were imported into the virtual environment by means of laser scanning for virtual planning with the aid of Dolphin Imaging 11.8 software through data overlay and using the tools available, such as the inferior alveolar nerve pathway, estimate of the posterior airspace and surgical osteotomies for the final planning, besides virtual construction of the intermediate and/or final surgical guide. Thus, cases of maxillofacial deformities can be managed with the use of advances in virtual planning with the advantage of differentiation and ease of planning display by the team and the patient due to the 3D tools as well as optimization of clinical time and elimination of laboratory errors.

C010 - Cherubism: literature review with case report

Daniela Pereira de SÁ[1]; Sabrina FERREIRA[2]; Nathália Januario de ARAUJO[1]; João Martins de MELLO NETO[1]; Edilson ERVOLINO[1]; David Jonathan Rodrigues GUSMAN[1]; Idelmo Rangel GARCIA JUNIOR[2]; Juliano Milanezi de ALMEIDA[1]

[1]Department of Surgery and Integrated Clinic, Division of Periodontics, Araçatuba Dental School, Univ. Estadual Paulista.
[2]Department of Surgery and Integrated Clinic, Division Oral and Maxillofacial Surgery, Araçatuba Dental School, Univ. Estadual Paulista.

Cherubism is a benign rare bone condition characterized by bilateral increase of the jaws, of inheritable character, most commonly in boys between 3 to 3 years old, reaching its maximum development at 9 years old. The term cherubism was first reported in literature by Dr. W.A. Jones, in 1933. Clinically, cherubism presents as a swelling of mandible and maxilla, usually painless, firm to palpation, with variation in size and extension. The ain of the present work was to present a brief review of the literature about cherubism, its principal signs and symptoms, as well as to illustrate this condition with a clinical report. A 9-year-old boy was referred to the Clinic of Oral Maxillofacial Surgery at Univ. Estadual Paulista, Araçatuba - UNESP, with presumed diagnosis of

cherubism. Clinical exam revealed bilateral excessive and non-proportional increase of his mandible and maxilla. Initially, differential diagnosis was of Brown Tumor of Hyperparathyroidism and Central Giant Cell Lesion. Computed tomography, radiographs, and karyotype exams were performed. Although literature reports a mutation of SH3BP2 gene, the result of the karyotype exam was negative. After the evaluation of the exams, the final diagnosis was of cherubism. Positive diagnosis for cherubism was detected in the patient's family history. Treatment consisted of patient's follow-up by the professional team. Studies reported that the progression of Cherubism is stabilized tending to a spontaneous recovery from puberty.

C011 - Periimplant analysis in osteoporotic model treated with raloxifene

Fernanda Costa YOGUI[1]; Danila de OLIVEIRA[1]; Tárik Ocon Braga POLO[2]; Gustavo Antonio Correa MOMESSO[2]; Gabriel RAMALHO-FERREIRA[2]; Leonardo Perez FAVERANI[2]; Roberta OKAMOTO[1]

[1]Department of Basic Sciences, Araçatuba School of Dentistry, Univ. Estadual Paulista.
[2]Department of Surgery and Integrated Clinic, Araçatuba School of Dentistry, Univ. Estadual Paulista.

Raloxifene hydrochloride is a selective estrogen receptor modulator (SERM) used for prevention and treatment of osteoporosis in postmenopausal women. The study aimed to evaluate the effect of this medicine through the expression of proteins responsible for WNT pathway and computed microtomography analysis and the neoformed bone area (NBA) during osseointegration in osteoporotic rats. Three groups were used: control, composed of rats subjected to sham surgery and fed a balanced diet; OVX, ovariectomized rats (osteoporotic) without medical treatment; OVX-Ral, ovariectomized rats (osteoporotic) and medicated with raloxifene. Each animal received an implant in each tibial metaphysis. Euthanasia of animals was performed at 14 and 42 days after implant placement. The specimens were processed in laboratory for analysis of immunohistochemistry, Micro-CT and NBA. The analyzed proteins were WNT and beta catenin. In the control group the expression of WNT and beta-catenin proteins was moderate at 14 days. In OVX beta-catenin protein presented slight level, and in OVX-Ral immunostaining for WNT was moderate to intense, which suggests possible interference of raloxifene in expression of this protein in bone tissue. Micro-CT analysis showed no statistical difference between the groups, however, the OVX-Ral group tended to have a higher bone volume and a lower porosity compared to OVX group. NBA showed statistical significance between the control and OVX groups and between OVX-Ral and OVX groups; there was no difference between the control and OVX-Ral groups. Therapy with raloxifene increases the expression of Wnt protein and acts positively in bone formation during osseointegration in osteoporotic rats.

C012 - Odontogenic cellulitis in diabetic patient: a case report

Giovani Lopes FERNANDES[1]; João Paulo BONARDI[1]; Ciro Borges Duailibe DE DEUS[1]; Ricardo Gandur LOPES[1]; Jonathan Ribeiro da SILVA[1]; Ricardo Garcia Mureb JACOB[1]

[1]Department of Surgery and Integrated Clinic, School of Dentistry of Araçatuba, Univ. Estadual Paulista.

Patient J.C.B.R., 45 years old, male, was admitted to the first aid station complaining of pain in chin region, trismus and dysphagia, reported that he felt the painful area for three days but did not care about it. One day ago he noticed swelling in the region, intense pain, difficulty to open the mouth and to swallow. In the anamnesis the patient reported that he had uncontrolled diabetes. In the clinical examination the patient presented bilateral swelling in the submental region, erythema and hard consistency, warm at palpation and descending to the thoracic region. Palpation test was positive. In the clinical intraoral examination a poor oral hygiene condition was detected, with all carious teeth and chronic periodontal disease in the lower anterior teeth. In the laboratory examination only blood glucose level was increased (240 mg/dL). Patient underwent surgery under general anesthesia in conjunction with the team of thoracic surgery. Thoracotomy was performed by the team of thoracic surgery and cervicotomy was carried out by our team of maxillofacial surgery. The patient was hospitalized in the intensive care unit for 40 days, receiving daily cleaning and irrigation of cavities with abundant saline solution and change of dressings. At 40 postoperative days good outcomes were observed with absence of drainage, no signs or symptoms of infection and granulation phase in wound healing.

C013 - Styloidectomy in a patient with Eagle Syndrome

Gissela De Souza BIGUETTI[1]; Andressa Bolognesi BACHESK[1]; Willian Pecin JACOMACCI[1]; Diogo de Vasconcelos MACEDO[1]; Angelo José PAVAN[1]; Edevaldo Tadeu CAMARINI[1]

[1]Department of Dentistry, State University of Maringá.

Eagle syndrome is characterized by neck pain evoked by elongated styloid process or calcified style-hyoid ligament. Cervical pain, strange body sensation in the throat, dysphagia, sore throat and ear pain are some of the symptoms that can be reported. The diagnosis is based on clinical and imaginological examination, and treatment can be conservative or surgical. This work aimed to report a case of a patient diagnosed with Eagle syndrome and a review of the literature. Patient, female, 58 years old, sought the dental clinic of the State University of Maringá presenting at clinical examination, pain complaints when performing hyperextension of the neck and mouth opening. Entity was bilateral and palpable in tonsillar fossa. Tomographic examination revealed that the styloid process was stretched and calcified. Clinical and imaginological diagnosis was Eagle syndrome. Conservative treatment is a viable option, however, surgical treatment (intra or extraoral) is shown as an option of greater evolutuion in cases of long-term symptoms. Intraoral surgical approach to bilateral styloidectomy was executed, since besides being safer, it enableds shorter surgical time, better postoperative recovery and absence of cutaneous scar. Patient is under follow-up with satisfactory postoperative results.

C014 - Simple bone cyst - intervention or proservation?

Heitor Albergoni da SILVEIRA[1]; Marcos Martins CURI[2]; Camila Lopes CARDOSO[2]; Rafael Zetehaku ARAUJO[2]; Raniel Ramon NEVES[1]; Osny FERREIRA JÚNIOR[3]; Andréia Aparecida da SILVA[2]

[1]School of Dentistry, University of Sagrado Coração.
[2]Department of Oral Surgery, University of Sagrado Coração.
[3]Department of Oral Stomatology, Bauru Dental School, University of São Paulo.

Simple bone cyst (SBC), also referred to as traumatic bone cyst, solitary or idiopathic bone cavity, is an intraosseous pseudocyst without epithelial lining, containing serous fluid, blood or absent. SBC is more observed in the second decade of life, and the mandible is most affected. Radiographically, the lesion demonstrates radiolucent uni or multilocular without cortical expansion, with scalloped margins in the tooth of the affected region. Clinically it is asymptomatic and the final diagnosis occurs during surgical exploration. The aim of this study was to illustrate an atypical case of SBC with big dimensions and moderate bone expansion. A 7-year-old female presented an asymptomatic multilocular radiolucent area in the anterior region and body of the left mandible, which was revealed in panoramic radiographs. Cone beam computed tomography showed extensive hypodense area in the affected region. Axial reconstruction showed moderate expansion of the cortical walls. The presumptive diagnosis was of keratocystic odontogenic tumour and SBC. Due to the exuberance of the lesion and parents' anxiety, a surgical exploration of the area was planned to establish the final diagnosis. During the surgery, an empty cavity was found, thus confirming the SCB. After 3 years, the affected region was fully repaired, corroborating the literature regarding the treatment of SBC. In conclusion, this case illustrates the exuberance of a SBC and discusses the clinical decision to surgically explore or to follow this condition.

C015 - Zetaplasty technique for closure in oroantral communication

Henrique HADAD[1]; Eliel Scarpioni do LAGO[1]; Sabrina FERREIRA[2]; Ronaldo Célio MARIANO[1]

[1]Deparment of Clinical and Surgery, School Of Dentistry, Federal University of Alfenas.
[2]Araçatuba Dental School, Univ. Estadual Paulista.

The continuity between the maxillary sinus and the oral cavity is defined as rupture of the bone layer interposed between the dental roots and maxillary cavity, simultaneously with the perforation of the surrounding sinus membrane. Male patient, 57 years old, leucoderma, was referred to our service for evaluation and treatment of oroantral communication established two months ago after extraction of right maxillary posterior teeth. Clinical examination revealed extensive oroantral communication, which was epithelialized. The internal epithelium of the communication was slightly red. There were no reports of pus taste. The upper alveolar ridge showed contour irregularities. Computed tomography showed extensive oroantral bone continuity. We chose the simultaneous manipulation of the buccal and palatal flaps, repositioned through sliding flap technique by zetaplasty under local anesthesia. The flaps were maintained in the new position by suture with Polyglecaprone. Seven-day follow-up showed no pain and signs of infection. After 2 weeks, the suture was removed. Three months after occlusal radiographs showed no alterations and clinically the epithelium was repaired without interruption signals. The choice of the surgical procedure was based on the extent of the communication. It is believed that the sliding flap technique by zetaplasty proved effective in resolving this case.

C016 - Mandible fracture after third molar extraction: a case report

Jaqueline Suemi HASSUMI[1]; Willian Ricardo PIRES[2]; João Paulo BONARDI[2]; Ricardo Gandur LOPES[2]; Valthierre Nunes de LIMA[2]; Ana Paula Fernezi BASSI[2]; Daniela PONZONI[2]

[1]Department of Basic Sciences, Araçatuba Dental School, Univ. Estadual Paulista.
[2]Department of Sugery and Integrated Clinic, Araçatuba Dental School, Univ. Estadual Paulista.

Mandible fractures after extraction of third molars are extremely rare and the incidence is approximately 0.005%. The main risk factors are: mass and relative size of the impacted tooth, type and class of bone inclusion, side, time after surgery, history of local infection, gender and age of patients, bruxism and patients who are active athletes. Treatment includes surgical procedures with titanium reconstruction with plate or mini-plates, screws and non-surgical procedures with intermaxillary fixation and light diet. The aim of this work was to describe the case of a 34-year-old female patient, who sought the surgery service at FOA - UNESP with pericoronitis. Extraction of tooth #48 was performed, and after 13 days the patient sought the service again reporting a click followed by pain in the extraction region. Clinical and imaginological examination revealed mandibular angle fracture. As the patient had no change of occlusion and the fracture was not displaced, the treatment was carried out with the nonsurgical method with liquid diet of pasty-consistency and weekly follow-ups for 60 days. In conclusion, in this case the diet restriction was enough for the successful treatment.

C017 - Autogenous iliac bone graft and immediate implants placement

João Martins de MELLO-NETO[1]; Sabrina FERREIRA[1], André Luis da Silva FABRIS[1], Nathália Januario de ARAUJO[1], Luan Felipe TORO[1], Juliano Milanezi de ALMEIDA[1], Edilson ERVOLINO[1], Idelmo Rangel GARCIA JUNIOR[1]

[1]Department of Surgery and Integrated Clinic, Araçatuba Dental School, Univ. Estadual Paulista.

Nowadays, rehabilitation with dental implants has become a predictable treatment and with a proven long-term success. However, patients with severe atrophy of alveolar bone of the jaws generally require procedures of increasing bone support previously to the implant placement. The autogenous bone graft is the gold standard in maxillomandibular reconstructions to satisfy the requisites as characteristics of an ideal bone graft. The aim of this study was to describe a case report of autogenous iliac bone graft and the immediate implants placement in the mandible. Case report: Female patient, 57 years old, sought the FOA-UNESP clinic due to the instability of the mandibular complete denture, with intention of replacing it by an implant-supported prosthesis. In the tomographic evaluation, it was found a height of about 6

mm in anterior region and 4 mm in posterior region of the mandible. It was decided for an iliac graft aiming to gain height and thickness required for implants installation. The procedure was performed under general anesthesia and started with a linear extraoral incision in the cervical region. About 4 cm below of the chin, the tissue was detached to expose the anterior mandibular region, and the receptor area was prepared with microperforations. The left iliac crest was accessed, and 2 monocortical bone blocks around 6 cm each were removed. One of the blocks was adapted in the anterior mandibular region and fixed with two 16-mm screws of the 1.5 mm System. Then, milling and installation of 4 implants, 2 of 11 mm and 2 of 13 mm, both from the 4.1 platform, were performed. The other block was divided into two parts; they were adapted in the posterior bilateral mandibular regions and fixed with two 14-mm screws of the 1.5 mm System. The flap was repositioned and sutured. Thus, it was possible to gain bone thickness and height and treatment time was reduced because the implants placement was performed during the same surgery.

C018 - Surgical treatment of bone exostosis on the palate - a case report

Kaellipy Oliveira de SOUZA[1]; Andressa Bolognesi BACHESK[1]; Luiza Roberta BIN[1]; João Paulo Veloso PERDIGÃO[1]; Liogi IWAKI FILHO[1]

[1]Department of Dentistry, State University of Maringá.

Palatal torus is a bone exostosis on the palate region with the highest prevalence in females and can present as slight swelling on the palate to a pedunculated bone mass. When there is interference in speech, repetitive trauma or pre-prosthetic procedures, removal is indicated. The purpose of this case report was to describe the surgical procedure for removal of palatal torus, and site protection alternative with Hawley customized plate. The patient, female, 37 years old, black skin and smoker, attended the dental clinic of the State University of Maringá complaining of a "ball in the mouth"; that bothered her during chewing and speaking. After clinical and radiographic examinations, diagnosis of palatal torus was confirmed. Thus, we chose the removal of the exostosis, making a Y incision on the palate and detaching the mucosa to obtain bone exposure. After this process the bone was cut with a tapered stem in the sagittal direction, followed by multiple perpendicular cuts, which would facilitate removal in blocks with the aid of chisels and alveolar forceps. Then, the palatine bone was removed, and the palate sutured without tension. A palatal Hawley customized plate was fabricated to keep the lining adapted to the palate and to reduce the risk of hematoma, then protecting the trauma area. After healing of the soft tissue, the patient reported that the discomfort during chewing and speech was gone and a good soft tissue healing without complications was also observed.

C019 - Surgical correction of the oro-nasal fistula – modified palatal flap

Lorena Borgognoni AQUARONI[1]; Caroline Resquetti LUPPI[1]; Carolina Ferrairo DANIELETTO[1]; Gustavo Zanna FERREIRA[1]; Liogi IWAKI FILHO[1]

[1]Department of Dentistry, State University Maringá.

Oro-Nasal fistula is a persistent communication between the oral and nasal cavities, which may be congenital or acquired through trauma, infections and resection of tumors in the jaws. This study aimed to report and to describe a surgical technique of modified palatal flap rotation, used for oro-nasal fistula closure in a 49-year-old patient, male, Caucasian. He attended the Oral and Maxillofacial Surgery service of the State University of Maringá, complaining of difficulty for chewing and swallowing, nasal voice, fetid odor arising from the oral cavity and loss of social life. During the interview, the patient reported as the history of the present illness a benign tumor resection (pleomorphic adenoma) in the hard palate 6 months ago, without systemic changes. Intraoral physical examination, oro-nasal fistula in the palatal area measuring approximately 1.5 cm in its largest diameter, located slightly to the right was observed. Surgery was performed under general anesthesia and surgical technique used was the palatal flap rotation modified by combination of two rectilinear and parallel incisions of approximately 1.5 cm each, located in right posterior alveolar ridge, forming a tunnel, where the palatal flap was enveloped, and the apex of the flap sutured in the right buccal vestibule to provide more stability to the flap. The patient was informed about the hygiene and local care and was followed with periodic returns. There are several techniques for closing oro-nasal fistulas, and the choice for the most appropriate technique for each case will depend on the extent, location and complexity of the defect. The palatal flap rotation modified technique proved to be feasible, improving the patient's breathing, speech, swallowing and even mastication, with no reported recurrence of oro-nasal fistula or tissue necrosis.

C020 - Preemptive analgesia in extraction of third molars under sedation

Luiz Augusto de SOUZA[1]; Janayna Gomes Paiva OLIVEIRA[2]; Paulo Roberto Haidamus de Oliveira BASTOS[2]; Vitor Bruno TESLENCO[1]

[1]School of Dentistry, Federal University of Mato Grosso do Sul.
[2]Post-Graduate Program in Health and Development in the Central-West Region, Federal University of Mato Grosso do Sul.

The efficacy analysis of preemptive analgesia comparing anti-inflammatory drugs have been a subject of scientific research worldwide. This study aimed to compare the preemptive analgesia of 600 mg ibuprofen with or without 8 mg dexamethasone in extraction of third molars in patients under minimal conscious sedation. The study was completed by 27 individuals of both genders, between 18 and 25 years old, having lower third molars bilaterally in a similar position. Two distinct surgical interventions were performed by a single surgeon and were separated by a minimum of 21 days. In the first surgery, dexamethasone + ibuprofen group received an 8 mg dexamethasone tablet and a 600-mg ibuprofen tablet, 1 hour before surgery orally. For the extraction of the contralateral side, ibuprofen group, the same subject received a placebo tablet + a 600 mg ibuprofen tablet, 1 hour before

surgery orally. Forty five min before the procedure, a 7.5 mg midazolam tablet was provided orally. 500 mg paracetamol tablets were provided as rescue analgesic medication. The values obtained during the study were compared using the t test or Wilcoxon and ANOVA tests. In order to compare proportions, we used the chi-square test corrected by Yates. The significance level was 5%. The results showed that the combination of dexamethasone + ibuprofen significantly decreased postoperative pain at 6, 8 and 12 h (p=0.041); additionally, this association extended the preemptive analgesia of ibuprofen for 7.6 h, that is, 2 h longer than the 5.6 h provided by ibuprofen alone (p=0.045). The combination of corticosteroids and NSAIDs used in a preemptive way is a great alternative for the prevention of postoperative pain in the first 24 h of surgery after extraction of lower third molars.

C021 - Spontaneous closure of oronasal comunication after maxillary fracture

Maísa Pereira da SILVA[1]; Willian Pecin JACOMACCI[1]; Carolina Ferrairo DANIELETTO[2]; Edevaldo Tadeu CAMARINI[1]; Liogi IWAKI FILHO[1]; Gustavo Jacobucci FARAH[1]; Angelo José PAVAN[1]; Gustavo Zanna FERREIRA[1]

[1]Department of Health Sciences, Department of Dentistry, University State of Maringá.
[2]Department of Dentistry, Araçatuba Dental School, Univ. Estadual Paulista.

Oro-nasal fistula is a persistent communication between the oral and nasal cavities. It occurs more often in patients with cleft palate, and when associated with other conditions, usually they are related to tooth extractions, infections, iatrogenic complications, osteoradionecrosis and neoplastic resections; its association with facial trauma is unusual. When resulting from facial trauma, it is associated with palatal fractures. The aim of this study is report a case of a patient diagnosed with sagittal and transverse fracture of the maxilla associated with Le Fort I fracture (Walther's fracture) that evolved after necrosis of palatine mucosa, with the presence of an oro-nasal communication of 5 mm in greatest diameter. With strict follow-up and local care, the spontaneous closure of communication was achieved, allowing the resolution of the case without the need for further surgery.

C022 - Necrotizing fasciitis as a postoperative complication of extraction

Murilo Rodrigues de CAMPOS[1]; Valthierre Nunes de LIMA[2]; João Paulo BONARDI[2]; Ricardo Garcia Mureb JACOB[2]; Jonathan Ribeiro da SILVA[2]; Sormani Bento Fernandes QUEIROZ[2].

[1]Department of Oral Medicine and Child Dentistry, School of Dentistry, State University of Londrina.
[2]Department of Surgery and Integrated Clinic, School of Dentistry of Araçatuba, Univ. Estadual Paulista.

Necrotizing fasciitis is a severe infection of rapid evolution that may lead the patient to death. It may be related to elderly patients with immunosuppression and diabetes. When it affects the head and neck region it may invade deep fascial spaces and evolve into mediastinitis. The objective of this study was to report the clinical case of a 22-year-old patient without systemic changes that developed necrotizing fasciitis after extraction. The treatment consisted of drainage, surgical debridement and intravenous antibiotic therapy. Two weeks postoperatively the patient had no signs of inflammation with the presence of scar tissue adhered to the skin. It is concluded that tooth extraction must always be performed with the maintenance of the aseptic chain; in cases where contamination is present, postoperative antibiotic therapy should be considered.

C023 - Allergy related to dental implants: a case report

Nathália Januario de ARAUJO[1]; Valthierre Nunes de LIMA[1]; Cristian STATKIEVICZ[1]; Luan TORO[1], Edilson ERVOLINO[1]; Leonardo Perez FAVERANI[1]

[1]Department of Surgery and Integrated Clinic, Araçatuba Dental School, Univ. Estadual Paulista.

The oral rehabilitation with dental implants has become common in the dental clinic nowadays. Titanium (Ti) is usually well tolerated, but in few patients it can be an aggressor to the organism causing the development of an allergic reaction. When the oral tissues are attacked, they respond in order to develop pyogenic granulomas, ulcers, erosions and edema. The aim of this study was to report a clinical case of titanium allergy and its proper treatment. A male patient sought the dental clinic for a rehabilitation treatment with implants in teeth #34, #35 and #36. After five months, the installation of the Ti healing abutments was performed. Seven days after, the alveolar mucosa showed red epulides, with edema covering the healing abutments on teeth #35 and #36 areas. A biopsy was performed and it showed an inflammatory process containing eosinophil cells and histopathological characteristics consistent with an allergic reaction. In the tooth #34 area, the same pathologic changes were not observed due to the presence of keratinized gingiva, which has the ability to protect this region in cases of metal allergies. Seven days after the biopsy, epulides covering up the healing abutments were seen again, which led us to continue the treatment with the application of the ceramic. After 10 days regression of the injuries was already observed. A fixed prosthesis was installed on the implants and the patient has been followed-up clinically and radiographicaly for 2 years without recurrence or peri-implant bone alterations. Therefore, although rare, titanium allergy has been reported in some studies through clinical and histopathological evaluations that deserve attention and observation by the dental surgeon.

C024 - Treatment of firearms injuries: case report

Paulo Augusto PENITENTE[1]; Cecília Alves de SOUSA[1]; Gustavo Antonio Correa MOMESSO[1]; Patricia Rota BERMEJO[1]; Juliana Zorzi COLÉTE[1]; Paulo Afonso de OLIVEIRA JUNIOR[1]; Elio Hitoshi SHINOHARA[1]; Idelmo Rangel GARCIA JUNIOR[1]

[1]Department of Surgery and integrated clinic, Araçatuba School of Dentistry, Univ. Estadual Paulista.

Firearms injuries have become a worldwide public health problem, mainly due to the increase in the civilian population affected. The purpose of this report was to demonstrate the characteristics of a wound caused by a firearm, functional, aesthetic and psychological consequences, the type of treatment to be adopted, as well as its complications. A 39-year-old male patient, black skin, with trauma in the face caused by a firearm

projectile, underwent surgery to remove the bullet and maxillofacial reconstruction performed in a hospital under general anesthesia due to his systemic conditions. The bullet jacket housed in the right jugal mucosa and dental fragments in the projectile trajectory were removed. It Mobility of the anterior segment of the mandible and lacerations in internal oral mucosa were noticed. On the fourth day partial glossectomy in the region of the anterior and middle thirds and fracture fixation were performed. Extra oral access was chosen with to remove bone fragments, reduce fracture symphysis, install reconstruction plate on the left side and plate and 2.0-mm screws symphysis, being the bicortical screws in the compression zone, and monocortical screws in the tension zone. According to the literature, it can be concluded that the knowledge of the gun involved in the trauma, the distance that trigger was made, the speed at which the projectile reached the target and the elapsed time of the emergency service are essential for the election of the type of treatment to be implemented and for the prognosis of these types of injuries.

C025 - Microtomographic analysis of antihypertensive drugs in alveolar bone

Gabriel Mulinari dos SANTOS[1]; André Luis da Silva FABRIS[1]; Jaqueline Suemi HASSUMI[1]; Leonardo Perez FAVERANI[1]; Roberta OKAMOTO[2]

[1]Department of Surgery and Integrated Clinic, Aracatuba Dental School, Univ. Estadual Paulista.
[2]Department of Basic Science, Aracatuba Dental School, Univ. Estadual Paulista.

This study aimed to evaluate the volumetric characteristics of bone tissue collected from patients with hypertension controlled by the use of antagonist drugs of the renin angiotensin system. During the procedure for installation of dental implants with textured surface, bone blocks were collected through biopsy with 3.0 mm diameter trephine drill in the implants installation sites. Biopsies were analyzed in 6 µm sections of computed microtomography for three-dimensional reconstructions and evaluation of bone volume (BV/TV), trabecular thickness (Tb.Th), number of trabeculae (Tb.N), separation between the trabeculae (Tb.S) and porosity (Po-tot). Thirty patients selected for rehabilitation with implants in the posterior mandible were divided into two groups, the first had no systemic changes (GSA) and did not use any medication, whereas the second group comprised patients diagnosed with hypertension and treated antagonist drugs of the renin angiotensin system (GAS). For all the parameters analyzed (BV, BV/TV, Tb.Th, Tb.N, Tb.S and E-tot) there was similarity between GAS and GSA ($p>0.05$, t test). Therefore, it was concluded that hypertensive subjects treated with renin-angiotensin system antagonists have bone architecture similar to normotensive individuals.

C026 - Central giant cell granuloma: case report

Willian Caetano RODRIGUES[1]; Valfrido Antônio PEREIRA-FILHO[1]; Eduardo Hochuli VIEIRA[1]; Mário Francisco Real GABRIELLI[1]; Marisa Aparecida Cabrini GABRIELLI[1]

[1]Department of Diagnostic and Surgery, Araraquara School of Dentistry, Univ. Estadual Paulista.

Central giant cell granuloma (CGCG) is a benign intraosseous lesion of the jaws that is found predominantly in children and young adults. Although benign, it may be locally aggressive, causing extensive bone destruction, tooth displacement and root resorption. The common therapy is aggressive curettage, osteotomy or peripheral resection, which may be associated with the loss of teeth, and in younger patients loss of dental germs. Numerous alternative nonsurgical approaches have been advocated in recent years for the management of CGCGs, including intralesional injections of corticosteroids, calcitonin injections and subcutaneous injections of interferon-alpha. In this work we described the case of a male patient, 13 years old, with a CGCG of the mandible, which was treated by intralesional injections of corticosteroids and posterior surgical approach for lesion curettage. The aesthetic and functional results were satisfactory and, after two years of follow-up, there was no recurrence of the injury. The treatment was discussed and confronted with the relevant scientific literature.

C027 - Treatment of infected mandibular fracture: case report

André Hergesel de OLIVA[1]; João Paulo BONARDI[1]; Valthierre Nunes de LIMA[1]; Leonardo de Freitas SILVA[1]; Erik Neiva Ribeiro de Carvalho REIS[1]; Eduardo DALLAZEN[2]; Leonardo Perez FAVERANI[1]

[1]Department of Surgery and Integrated Clinic, Araçatuba School of Dentistry, Univ. Estadual Paulista.
[2]Department of Oral Medicine and Children´s Dentistry, Dentistry course, State University of Londrina.

The treatment of infected mandibular fractures aims the reestablishment of function, esthetic, elimination of infection, preservation of teeth and bones, besides the motor and sensory restoration. Nowadays, the most used treatment method consists of antibiotic therapy, surgical debridement and open reduction with simultaneous internal fixation. The aim of this study was to present the case of a patient, fifty-one years old, who was physically assaulted 25 days before seeking treatment. Clinically, right mandibular angle fractured and infected was found. The patient was treated with antibiotic therapy, surgical debridement, internal rigid fixation. In the postoperative period, infection was monitored with continuation of antibiotic therapy, cleaning of surgical access, change of dressings and application of warm compresses. The patient developed with occlusal stability, good mouth opening and remission of infection. In conclusion, the treatment was effective in this case, pointing out that the postoperative monitoring with due care for complete elimination of infection is essentially important.

C028 - Implant removal from maxillary sinus: modified Caldwell-Luc technique

Breno Edson Sendão ALVES[1]; Juceléia MACIEL[1]; Albanir Gabriel BORRASCA[1]; Idelmo Rangel GARCIA JUNIOR[1]; Nathália Januario de ARAUJO[1]; João Martins de MELLO NETO[1]; David Jonathan Rodrigues GUSMAN[1]; Juliano Milanezi de ALMEIDA[1]

[1]Department of Surgery and Integrated Clinic, Araçatuba Dental School, Univ. Estadual Paulista.

The immediate implant placement after extractions has been a very common practice in the dental clinic. However, this surgical procedure can result in some complications, such as the implant displacement into the maxillary sinus, due to the close relationship between the upper teeth and sinus floor. The treatment of such cases consists on the implant removal to prevent future complications as inflammatory process. The aim of the present work was to present a case report in which an implant was removed from the maxillary sinus using the modified Caldwell-Luc technique. Patient attended a private clinic for extraction of tooth #27 and oral rehabilitation with dental implants. Despite the low height of the bone between the maxillary sinus and the crest of the alveolar ridge, the surgeon chose to immediately install the implant after the tooh extraction. After 90 days the patient returned to the dental clinic for reopening the surgical site and it was observed that the implant had been displaced to the maxillary sinus. For the implant removal the modified Caldwell-Luc technique was used, which consists on making a bone window on the anterior wall of the maxillary sinus, fragment removal, followed by the replacement of the bone window and gingival flat. Therefore, the Caldwell-Luc technique brings benefits on bone defect closure and prevents fistula and fibrosis of the membrane, thus being an effective and viable alternative for implant removal from the maxillary sinus region.

C029 - Implant in the posterior region: surgical maneuver for pneumatic sinus

Christian Alves dos SANTOS[1]; João Paulo BONARDI[2]; Eduardo DALLAZEN[1]; Valthierre Nunes de LIMA[2]; Jonathan Ribeiro da SILVA[2]; Ricardo Garcia Mureb JACOB[2]

[1]Department of Oral Medicine and Pediatric Dentistry, State University of Londrina.
[2]Department of Surgery and Integrated Clinic, Araçatuba School of Dentistry, Univ. Estadual Paulista.

One of the difficulties for the installation of dental implants in the posterior region is pneumatization of the maxillary sinus. There are some maneuvers to solve this situation, such as the surgical lifting of the maxillary sinus with the use of grafts. This maneuver is well accepted in the literature and generates satisfactory results, but among the disadvantages one can mention the high cost to the patient and the need for a second surgical site in the cases of autogenous bone graft. Another maneuver that can be performed is the angulation of the implant, whenever possible, at the installation time in order to direct the implant to regions with acceptable remaining bone. The aim of this work was to present a clinical case of a 64-year-old female patient with edentulous maxilla and pneumatic maxillary sinuses. The patient came to our service for implants installation and she was rehabilitated with upper dentures (protocol-type). The implants placed in the posterior region were distally angulated to reach regions with acceptable remaining bone. The patient is on eight years of follow-up and has evolved with a stable occlusion with aesthetics and satisfactory function, without the need for surgical lifting of the maxillary sinus, thus solving the main complaint and generating lower costs and providing a favorable treatment.

C030 - Maxillary sinus-lifting with different types of membranes

Cleuber Rodrigo de Souza BUENO[1]; Marco Dapievi BRESAOLA[1]; Mariza Akemi MATSUMOTO[2]; Abbas ZAHOUI[1]; Claudia Cristina BIGUETTI[3]; Wilson Silva AMARAL[1]; Luciane Solange Arévalo OSÓRIO[1]; Hugo NARY FILHO[4]

[1]Health Center, Faculty of Dentistry, University of Sagrado Coração.
[2]Department of Histology and Embryology, Araçatuba School of Dentistry, Univ. Estadual Paulista.
[3]Department of Biological Sciences, Bauru School of Dentistry, University of São Paulo.
[4]Oral Biology Master's and Doctoral's Program, Department of Oral Maxillofacial Surgery, University of Sagrado Coração.

Evaluation was performed of the bone repair process using two bone grafting materials at the interface with the sinus membrane in sinus lift procedures in rabbits after with the use of slow and fast degradation membranes. Twenty-four adult male rabbits underwent bilateral maxillary sinus lift procedures and were divided into 4 groups: Group1: Bio-Oss®; Group2: Bio-Oss® Collagen®; Group3: Bio-Oss® and fast degradation membrane; and Group4: Bio-Oss® and slow degradation membrane. All groups were sacrificed at 30 and 120 days for microscopic, histomorphometric and immunohistochemistry analyses. Microscopy showed similar characteristics among the 4 groups in the two periods studied. Histomorphometric analysis revealed similarity of quantity with no statistically significant difference between the groups in those periods, and immunohistochemistry showed similar quality because all groups showed intense staining for RUNX-2 and VEGF. Thus, it is possible to assume that the Bio-Oss® Collagen® is a great possibility, with similar results and is technically easy compared to Bio-Oss®, and the decision about the use of absorbable membranes should be guided by the outcome of Schneider's membrane detachment process, since the application of a biological membrane is not harmful and does not have a regenerative characteristic.

C031 - Bichectomy: care and technique – case report

Daniela Pereira de SÁ[1]; Sabrina FERREIRA[2]; Nathália Januario de ARAUJO[1]; João Martins de MELLO NETO[1]; Edilson ERVOLINO[1]; Juliano Milanezi de ALMEIDA[1]; Luan Felipe TORO[1]; Idelmo Rangel GARCIA JUNIOR[2]

[1]Department of Surgery and Integrated Clinic, Division of Periodontics, Araçatuba Dental School, Univ. Estadual Paulista.
[2]Department of Surgery and Integrated Clinic, Division Oral and Maxillofacial Surgery, Araçatuba Dental School, Univ. Estadual Paulista.

Bichectomy is a technique described in 1980 for partial removal of Bichat's fat or buccal fat pad, widely known in scientific field, but less practiced in Brazil. Bichat's fat is a fat structure located in the cheek, usually used for the closure of oroantral communication. However, its removal for aesthetic purposes has been spread in our country. Continuous changing of beauty pattern has been leading to the search for more contoured face. Increased volume

of this fat can confer the face a rounded shape. A surgery can be performed under local anesthesia, with sedation or not. Although it is considered a simple procedure, it must be performed carefully, since its location presents close relation to very important structures of the face, such as: terminal branches of facial nerve, duct of parotid gland, and blood vessels. The aim of the present study was to demonstrate bichectomy's technique in a case report, in order to discuss about its indication, conduction, and precautions. A 29-year-old white woman was referred to the clinics of Oral and Maxillofacial Surgery of FOA-UNESP, with chief complaint of aesthetic discomfort with her cheeks. Patient underwent bichectomy, and briefly, the technique consisted of local anesthesia, localization of the opening of the parotid duct, incision perpendicular to the jugal mucosa, careful access to the fat pad and its removal as well as mucosa suturing. In this way, it was concluded that, although bichectomy seems a simple procedure, the understanding and study of the structures of the face is mandatory to prevent any kind of permanent injury during the surgery, as well as to guarantee technique's success.

C032 - Treatment methods of subcondylar fractures: systematic review

Eduardo DALLAZEN[1]; Mariana Elias QUEIROZ[1]; João Paulo BONARDI[2]; Valthierre Nunes de LIMA[2]; Leonardo de Freitas SILVA[2]; Erik Neiva Ribeiro de Carvalho REIS[2]; Eduardo HOCHULI-VIEIRA[2]

[1]Department of Oral Medicine and Pediatric Dentistry, State University of Londrina.
[2]Department of Surgery and Integrated Clinic, School of Dentistry of Araçatuba, Univ. Estadual Paulista.

Condylar fracture is the most frequent type of mandible fractures, representing 25-35% of all the cases. Treatment of these fractures is still controversial in literature. Traditionally, they can be treated with the non-surgical method, with intermaxillary fixation, surgical treatment with open reduction and internal fixation, and assisted endoscopy. This study aimed to analyze, using a literature review, which treatment method is the best for this type of fracture. For this review, we used the following databases to search for relevant articles: PubMed/MEDLINE, Embase and BIREME, where the articles were strictly selected. 61% of the patients treated by the non-surgical method reported some sign of TMD and 66.7% reported some occlusal disturbance. Among the patients that received conventional surgical treatment, 46.9% had at least one sign of TMD and 33.3% reported occlusal disturbances. Regarding the patients treated by assisted endoscopy, 41.9% had at least one sign of TMD and 37.1% had occlusal disturbances. It is concluded that the conventional surgical treatment and the assisted endoscopy method are similar and show better results compared to the non-surgical treatment, with the advantage of the endoscopy over the surgical method, based on the risk of facial nerve lesion.

C033 - Glandular odontogenic cyst in the mandible - conservative treatment

Henrique HADAD[1]; Ruan Felipe de Assis VIEIRA[1]; Eliel Scarpioni do LAGO[1]; Ronaldo Célio MARIANO[1]

[1]Deparment of Clinical and Surgery, School of Dentistry, Federal University of Alfenas.

Glandular odontogenic cyst is a cyst that affects the madible and maxilla, characterized by an epithelium consisting of cuboidal or columnar cells. It usually affects the anterior region of the mandible and tends to relapse. It has a slow growth and affecting both genders. Described in 1987, and recognized by the WHO in 1992, there is no established treatment guideline. The main clinical finding is painless local edema. Paresthesia can occur depending on the site of the injury or a feeling of pressure on the teeth. Location is frequently intraosseous and it may be unilocular or multilocular. Treatment options include curettage, enucleation, and local excision in block. The authors report a case of an adolescent, 16 years old, male, with extensive radiolucent region in the anterior mandible, with cortical expansion and without pain complaints. Tomography showed disruption of the buccal and lingual cortical without root resorption. Under local anesthesia puncture and decompression were performed. After 8 months osteogenesis was observed, restoring the mandible contour. Due to initial multilocular appearance, a region persisted with hypodense area that was surgically accessed and filled with bone graft. The patient is at 1.5 year of follow-up and shows good bone formation, teeth with vitality and maintenance of adequate mandible contour.

C034 - Mandibular fracture after third molar extraction: a systematic review

Jaqueline Suemi HASSUMI[1]; Willian Ricardo PIRES[2]; João Paulo BONARDI[2]; Ricardo Gandur LOPES[2]; Leonardo de Freitas SILVA[2]; Erik Neiva Ribeiro de Carvalho REIS[2]; Leonardo Perez FAVERANI[2]; Ana Paula Fernezi BASSI[2]; Daniela PONZONI[2]

[1]Department of Basic Sciences, Araçatuba Dental School, Univ. Estadual Paulista.
[2]Department of Sugery and Integrated Clinic, Araçatuba Dental School, Univ. Estadual Paulista.

Mandibular fracture associated with removal of teeth is considered rare, with a reported incidence ranging from 0.0034% to 0.0075%. Incidence of the mandibular angle fracture after surgical removal of lower third molar is approximately 0.005%. Treatment of these fractures depends on the fracture characteristics and the surgeon's preference and includes more conservative approaches, as light diet, maxillomandibular fixation or surgical treatments by reduction and fixation of fractures. The aim of this work was to discuss the factors associated with risk of mandibular angle fracture in the postoperative period of removal of lower third molars, through a systematic literature review that was carried out in Pubmed/MEDLINE, LILACS and SCOPUS databases, selecting 25 articles that allowed the analysis of 109 cases. It is concluded that mandibular fracture after extraction is related to excessive osteotomy, associated diseases and osteoporosis or decreased elasticity due to advanced age.

C035 - Reconstruction of maxillary ridge atrophy after dentoalveolar trauma

João Martins de MELLO-NETO[1]; Gabriela Bufulin LEONARDI[1]; Sabrina FERREIRA[1]; Nathália Januario de ARAUJO[1]; Edilson ERVOLINO[1]; Juliano Milanezi de ALMEIDA[1]; Idelmo Rangel de GARCIA JUNIOR[1]; Francisley Ávila SOUZA[1]

[1]Department of Surgery and Integrated Clinic, Araçatuba Dental School, Univ. Estadual Paulista.

Dentoalveolar trauma, particularly affecting anterior teeth, interferes negatively in patient's life. Tooth avulsion stands out because it is characterized as a complex injury that affects multiple tissues. Because there is no effective treatment available for its resolution with a stable long-term outcome, in situations like this the dental implant placement becomes often required later. The aim of the present study was to report a clinical case of complete reconstruction of atrophy of the alveolar bone corresponding to tooth #11, lost by tooth resorption 10 years after the tooth replantation procedure, whose reconstruction was performed with autogenous bone harvested from the chin as donor site. After the 8-month period to allow incorporation of the autogenous graft the dental implant was placed. At the end of the 6-month period for osseointegration the process of fabricating the screw-retained metal ceramic implant-supported denture began. In view of the prosthetic rehabilitation achieved, it was concluded that the autogenous bone graft harvested from the chin as donor site was a safe and effective alternative for reconstruction of alveolar ridge defects, for further placement of an osseointegrated implant and implant-supported prosthetic restoration.

C036 - Alveolar bone repair in osteopenic rats with the use of alendronate

Lafayette Dolphine GRENIER[1]; José Henrique Santana QUINTO[1]; Caroline Resquetti LUPPI[1]; Andressa Bolognesi BACHESK[1]; Roberto Kenji Nakamura CUMAN[1]; Gustavo Jacobucci FARAH[1]

[1]Department of Dentistry, State University of Maringá.

Osteonecrosis of the maxillomandibular complex is one of the adverse effects of chronic use of bisphosphonates. We have developed a survey to evaluate the bone neoformation. Fifteen rats were separated into the following experimental groups: 1) Control group (CG) underwent extraction of the upper right central incisor and cavity opening in skullcap filled with blood clot and not treated with Alendronate; 2) Osteopenic group treated with alendronate once a week for three weeks and subjected to extraction of the upper right central incisor and filling the cavity in the skullcap with bone graft (BO); 3) Osteopenic group underwent extraction of the upper right central incisor, bone graft in the cavity in the skullcap and treated with Alendronate (OB). The results obtained by qualitative descriptive histological analysis showed new bone formation in groups BO and OB. However, in the BO group a thinner and reduced gingival epithelium was found. Our results suggest that, osteopenic patients treated with alendronate, at a low dose and frequency, could be subjected to invasive dental procedures; but is highly recommended that these patients undergo a dental evaluation before starting the drug treatment.

C037 - Sedative action of Valerian and Midazolam in third molars extraction

Lorena Borgognoni AQUARONI[1]; Caroline Resquetti LUPPI[1]; Willian Pecin JACOMACCI[1]; Gustavo Jacobucci FARAH[1]

[1]Department of Dentistry, State University of Maringá.

Anxiety is one of the components of the stress present in patients in a dental office and its control can be performed through conscious sedation, for which benzodiazepines are the first drug of choice in dental practice, however they may have some side effects. The purpose of this study was to evaluate the efficacy of *Valeriana officinalis L*. to control anxiety during extraction of lower third molars in anxious patients and compare it to midazolam, a benzodiazepine most commonly used in dentistry. The study was randomized, double-blind, split-mouth and crossed, including patients with asymptomatic bilateral lower third molars in similar surgical positions. Patients received 100 mg of Valerian or 15 mg of midazolam orally 45 minutes before the procedure. The level of anxiety was assessed by physiological parameters (blood pressure, heart rate, respiratory rate and oxygen saturation) at specific times during surgery. Wilcoxon and paired t tests were performed with a significance level of $p<0.05$. The sample consisted of 20 patients with an average age of 23.7 years. It was observed that patients treated with midazolam had become more calm and relaxed during surgery. The variables systolic blood pressure ($p=0.0021$), diastolic blood pressure ($p=0.0119$) and heart rate ($p=0.0007$) presented statistically significant results with lower values for midazolam, however the variable oxygen saturation did not present statistically significant results ($p=0.3507$). The results of this study demonstrate that midazolam proved to be more effective than Valerian to control the anxiety of adult patients undergoing extraction of lower third molars.

C038 - Anti-inflammatory effect of dexamethasone and ketorolac in extraction of third molars

Luiz Augusto de SOUZA[1]; Janayna Gomes Paiva OLIVEIRA[2]; Paulo Roberto Haidamus de Oliveira BASTOS[2]; Júlio César Leite da SILVA[1]; José Carlos Garcia MENDONÇA[1]

[1]School of Dentistry, Federal University of Mato Grosso do Sul.
[2]Post-Graduate Program in Health and Development in the Central-West Region, Federal University of Mato Grosso do Sul.

The anti-inflammatory effects of dexamethasone and ketorolac trometamol have not been separately compared in different groups. The aim of this study was to compare the efficacy of 8 mg dexamethasone and 10 mg ketorolac trometamol, through the evaluation of pain, swelling and limited mouth opening. The study was completed by 30 individuals of both genders between 18 and 26 years old, healthy, which possessed the two lower third molars in a similar position. Two distinct surgical interventions were performed by a single operator with a minimum interval of 21 days. For the first extraction, the subject received one tablet of 10 mg ketorolac trometamol orally, 1 h before surgery and every 8 hours for 2 days. For the contralateral extraction, the same individual received one tablet of 8 mg dexamethasone orally, 1 h before surgery and one placebo tablet every 8 hours for 2 days. Tablets of 500 mg dipyrone were given as rescue medication for pain control. Pain was assessed at 24 h postoperatively. Edema and maximum mouth opening were recorded preoperatively,

24, 48, 72 h and 7 days postoperatively. The values obtained were compared using the t test or Wilcoxon and ANOVA test. To compare proportions, we used the chi-square test corrected by Yates. The significance level was 5%. The results showed that for the pain and swelling variables, there were no statistically significant differences between groups. However, for limitation of mouth opening there was a statistically significant difference at 24 h and 7 postoperative days between groups, with the dexamethasone group presenting a lower limitation of mouth opening. The drugs used this study are effective in controlling teh postoperative inflammatory process regarding pain, edema and mouth opening limitation after the extraction of third molars.

C039 - Integrated Service in bisphosphonate-induced osteonecrosis

Maísa Pereira da SILVA[1], Caroline Resquetti LUPPI[1], José Henrique Santana QUINTO[1]; Mariliani Chicarelli SILVA[1]; Gustavo Jacobucci FARAH[1]

[1]Department of Health Sciences, Department of Dentistry, University State of Maringá.

Treatments of diseases, related or not to the oral cavity, can have a direct influence on the dentist's clinical practice. Among treatments the use of bisphosphonates and radiotherapy stand out. Bisphosphonates are an option the for treatment of patients with osteoporosis, malignant hypercalcemia and Paget's disease, whereas radiotherapy is applied for cancer treatment. However, these therapeutic modalities have been causing serious secondary problems, such as osteonecrosis and osteoradionecrosis, respectively. Despite having similar signs, symptoms and risk factors, in both cases the etiology and therapeutic approach may be different. In such cases, the dentist must be alert since these patients require special care regarding their oral health and have limitations to undergo invasive surgical procedures, such as tooth extractions and implants placement, which favor the emergence of these diseases and compromise the success of the planned treatment. Considering these problems, the aim of this study was to highlight the characteristics that differentiate both diseases, treatments suggested by recent literature as well as the importance of multidisciplinary work for the treatment of these patients.

C040 - Oroantral communication closure using a buccal fat

Nathália Nihay Pimenta FUKUSHIMA[1]; Nayra Kawana TURINI[1]; Denise da Rosa FURTADO[1]; Cristian STATKIEVICZ[1]; Bruna Barcelos FERREIRA[1]; Lígia POZZOBON[1]

[1]Department of Oral Medicine and Pediatric Dentistry, State University of Londrina.

Oroantral communication is a pathological event characterized by generating an opening of the maxillary sinus or communication with the oral cavity as a result of a loss of soft and hard tissue, which normally separates the two compartments. It is often associated with accidents during extraction of molars that have close relationship with the maxillary sinus; however it may also occur due to other etiologies, such as pathological changes, radiotherapy sequelae and injury by firearm weapon. Diagnosis usually involves clinical and radiographic procedures. In the latter, there is discontinuity of radiopaque line that delineates the maxillary sinus floor affected with the adjacent side. Among some observed signs and other reported by the patient, one can mention: passage of food and fluids from the oral cavity to the nasal cavity, change in vocal timbre, halitosis and episodes of acute or chronic sinusitis. If possible, treatment of oroantral communication should be immediate, reducing the rate of complications, such as epithelialization of the pathway, fistula formation and sinusitis. Various methods for closure have been cited in the literature, including palatal flap, buccal flap, use of bone grafts or use of buccal fat. This study aims to present a clinical case of oroantral communication closure using the buccal fat. Patient H. H., leucoderma, 69 years old, male, with edentulous maxilla, complained that "the food goes to the nose". After clinical and imaging examination oroantral communication on the left side of the maxilla was confirmed. Patient underwent surgical procedure for closure, in which no complications were observed. He could be referred to prosthetic rehabilitation. In conclusion, the use of buccal fat has been shown to be an effective technique, easy to perform, with high success rates.

C041 - Pseudoaneurysm of the facial artery after orthognathic surgery

Rafael Zetehaku ARAUJO[1]; Marcos Martins CURI[1]; Camila Lopes CARDOSO[1]; Marcelo Ferraz de OLIVEIRA[1]

[1]Department of Maxillofacial Surgery, University of Sagrado Coração.

Pseudoaneurysm in the head and neck region is very rare and mainly related to maxillofacial trauma or orthognathic surgery. The aim of this work was to present a case report of pseudoaneurysm of the facial artery in a 22-year-old male patient who had been submitted to bilateral sagittal split ramus osteotomy without intraoperative bleeding. Clinical Patient was admitted in the emergency room after two distinct episodes of intense bleeding in the postoperative period with signs of hypovolemic shock. Angiography examination revealed a pseudoaneurysm of the left facial artery. Treatment consisted of endovascular embolization of the facial artery with pseudoaneurysm resolution. It is concluded that pseudoaneurysm of the facial artery may occur after sagittal split ramus osteotomy and it should be investigated as a late orthognathic surgery complication.

C042 - Oroantral fistula closure with the use of buccal fat: a case report

Ricardo Gandur LOPES[1]; João Paulo BONARDI[1]; Valthierre Nunes LIMA[1]; Ricardo Garcia Murebi JACOB[1]; Jonathan Ribeiro SILVA[1]; Eduardo Hochuli VIEIRA[1]

[1]Department of Surgery and Integrated Clinic, Araçatuba Dental School, Univ. Estadual Paulista.

Oroantral communication is a kind of complication that must be reversed quickly in order to minimize infection risk of the maxillary sinus. Buccal fat pad can be used to facilitate the success of closing the communication and avoiding dehiscense. The aim of this work was to report a case of post extraction oroantral fistula of a 21-year-old male patient, who developed oroantral fistula after extraction of tooth #26. In intraoral examination it was observed a fistula in the region reported, which after radiographic examination was diagnosed as oroantral

communication with the presence of a tooth root into the maxillary sinus. Under general anesthesia the root was removed by Caldwell- Luc access followed by the closure of the fistula with the aid of the buccal fat pad to seal the communication. Extraction of teeth #18 and #38 was also performed taking advantage of the general anesthesia, which was indicated due to the degree of anxiety of the patient and his previous traumatic story. Patient progressed satisfactorily and success in fistula closure was achieved.

C043 - Ossifying fibroma in the left maxilla with 10-year follow-up

Allysson SOARES[1]; Ney Soares de ARAÚJO[1]; José Antônio de Carvalho SOARES[1]

[1]Department of Oral Pathology, São Leopoldo Mandic School of Dentistry.

Ossifying fibroma is a well-delineated lesion composed of fibrous tissue and mineralized matrix of odontogenic or periodontal origin. It occurs mostly in women between their 20s and 40s, often in the posterior mandible. It is asymptomatic but detectable by routine radiographs. Standard care involves resection followed by bone grafting, presenting favorable prognosis and low recurrence or malignant transformation rates. This report describes a case (woman, 19 years old) of a radiolucent, well-delineated lesion between teeth #23 and #26. This lesion was expanding, collapsing cortical bone and dislodging roots. Incisional biopsy revealed fibrous tissue presenting mineralized areas resembling immature trabecular bone or cementum, with a diagnosis of central ossifying fibroma associated to an aneurysmal bone cyst. Surgical removal was performed, with deepening of the chin as a sequela. This report shows importance of observing clinical, radiographic and histopathological changes, and the importance of the 10-year long-term follow-up showing no recurrence.

C044 - Ossifying fibroma: report of a case in the mandibular symphysis with 9-year follow-up

Allysson SOARES[1]; Ney Soares de ARAÚJO[1]; Paulo Camargo de MORAES[1]

[1]Department of Oral Pathology, São Leopoldo Mandic School of Dentistry.

Ossifying fibroma is a well-delineated lesion, composed of fibrous tissue and mineralized matrix of odontogenic or periodontal origin. It is commonly found in the posterior mandible of women between their 20 s and 40 s. It is asymptomatic but detectable by routine radiographs. Standard care involves resection followed bone graft, with good prognosis and unlikely recurrence or malignant transformation. This study reports a case (woman, 40 years old) presenting a radiolucent lesion with internal calcification between teeth #34 and #43. Clinical and imaging findings also included expansion of the symphysis with collapsing cortical bone and root dislodgement. Biopsy revealed fibrous tissue with mineralized areas resembling immature trabecular bone or cementum, leading to the diagnosis of central ossifying fibroma. Treatment involved block resection and bone grafting. This report highlights the importance of observing clinical, radiographic and histopathological changes, as well as follow-up which extended for 9 years in this case and without recurrence.

C045 - Postoperative pain and edema assessment in orthognathic surgery

Ana Carolina Bonetti VALENTE[1]; Renato Yassutaka Faria YAEDÚ[1,2]; Marina Barbosa de MELLO[2]

[1]Hospital of Rehabilitation of Craniofacial Anomalies, University of São Paulo.
[2]Department of Stomatology, Bauru School of Dentistry, University of São Paulo.

The main objective of Manual Lymphatic Drainage (MLD) is to remove the excess of plasma protein from interstitial space of cells by using light pressure and slow movements according to lymph path flow. This study aimed to assess patient perception on pain and edema after orthognathic surgery. It was a randomized and double-blind clinical trial with two groups: treatment (TG) and placebo (PG). All subjects underwent bimaxillary orthognathic surgery with the same surgeon and surgery technique. TG received MLD starting on the second postoperative day, in addition to cryotherapy and postoperative medications. PG received only cryotherapy and medications. From the first postoperative day patients filled a non-graded Visual Analogue Scale (VAS) referring pain and facial edema perception. At the end of the six postoperative days a ruler was placed on the scales to quantify patient's perception. Data were tabulated and submitted to statistical analysis. Pearson correlation test showed no correlation between edema and pain for both groups ($p>0.05$). There was no difference between groups regarding peak of pain perception through t test (p 0.784) and neither the day peak perception occurred through Mann-Whitney test (p 0.877). Both groups showed pain perception decrease in subsequent days (ANOVA repeated measures). Concerning edema perception, there was no difference between groups analyzing swelling's peak ($p=0.946$ using t test) and neither for the day peak occured ($p=1.000$ through Mann-Whitney test). Therefore, MLD showed no efficiency to reduce pain and edema patient's perception after orthognathic surgery.

C046 - Use of kinesio tape for reduction of edema and postoperative pain

Ana Carolina Tristao da Rocha HERAS[1]; Danieli Maciel Streling de OLIVEIRA[1]; Marcos Heide GUSKUMA[1]; Thais Maria Freire FERNANDES[2]; Marcelo Lupion POLETI[3]; Rodrigo ANDRAUS[4]

[1]Department of Surgery, University of North Paraná.
[2]Department of Orthodontics, University of North Paraná.
[3]Federal Institute of Paraná, Londrina.
[4]Department of Physiotherapy, University of Norte do Paraná.

The aim of this work was to evaluate the use of elastic bandage for reduction of pain and edema in patients undergoing impacted lower third molars surgery. Thirteen patients (5 male and 8 female, mean age: 23.25 years) were submitted to mutual extraction of the two lower third molars using the same surgical protocol and pharmacological approach. In the immediate post-operative period, all patients received the application of elastic bandage on the right side of the face, test group (TTG). The left side, on which the tape was not applied, was used as control group (CG). A blinded evaluator evaluated patients in the preoperative, immediate

postoperative, second and fifth days post-surgery regarding pain in a visual analogue scale (VAS) and edema through Marcovic Todorovic method. Statistical analysis was performed using the Friedman test in all evaluated times to compare the groups. Edema (48 h and 120 h) and pain intensity (24 h, 48 h and 12 0h) were lower on the TTG ($p<0.05$). Moreover, the edema and pain intensity were completely reduced in the TTG after 120 h ($p<0.05$). The elastic bandage, as used in this study, was effective in reducing edema and postoperative pain in impacted lower third molars surgery.

C047 - Desmoplastic Ameloblastoma, surgery and rehabilitative treatment

André Coelho LOPES[1]; Andrea Aparecida da SILVA[1]; Paulo Domingos RIBEIRO JUNIOR[1]; Nataira Regina MOMESSO[1]; Pedro Thalles Bernardo de Carvalho NOGUEIRA[1]

[1]Department of Oral Biology, University Sagrado Coração.

The desmoplastic ameloblastoma is a variant characterized by densely collagenized stroma, permeated by small islands and odontogenic epithelial tumor strands with little tendency to form cystic structures. Clinically, it presents as a painless volume increase predominantly in the anterior mandible. It has preference for the male sex and low incidence between the odontogenic tumors. In imaging it is described as a radiolucent lesion of unclear limits, similar to soap bubbles and that can mimic fibro-osseous lesions. Root resorption and bone neoformation may be present. The treatment is controversial, but the need for excision with adequate margin of uninvolved tissues due to the high relapse rate is required. The aim of this work is to present a case report, of a female patient, 32 years old, with an intraoral volumetric increase in the region of teeth #43 and #44, painless, with little facial change. Radiographically it was possible to observe a radiolucent multilobulated lesion of unclear limits; root resorption could be observed between teeth # 45 to #34. In the first surgery an incisional biopsy was performed and the anatomopathological exam confirmed the diagnosis of desmoplastic ameloblastoma. Treatment plan was to perform a marginal mandibulectomy involving all areas of the tumor. At the same time the patient underwent an oral rehabilitation with osseointegrated implanst and fixed prosthesis. The patient is in 19-month follow-up without tumor recurrence. With this case one can consider that the oral rehabilitation can be included at the same time of surgery; however, sometimes radical aggressive treatment is required.

C048 - Evaluation of the variation of the insertion torque in Ankylos® implant

Antonio Joaquim TERRAS NETO[1]; Aristeo Atsushi TAKASAKI[1]; César Augusto de Magalhães Alves PANIGHEL[1]; Eduardo VEDOVATTO[1]

[1]Dental Research Center, Faculty São Leopoldo Mandic of Campinas.

The primary stability of the dental implant is critical to successful treatment, and studies show that the surgical technique, bone density and implant design are correlated in this process. Therefore, recent results based on the development of the design, surface treatment and prosthetic platform are available in the dental market. The objective of this study was to evaluate the variation of the insertion torque of an implant with the same macrostructure for all types of bone, in polyurethane blocks of different densities, evaluating different milling protocols. Forty ANKYLOS® implants were divided into eight groups of five implants each, and separated into two for each of the blocks (15PCF, 20PCF, and 30PCF 40PCF) using conventional milling technique indicated for each density of the blocks, and a modified technique The final torque of installation and the depth of insertion with the torques of 15N, 30N and 45N were measured during installation. Statistical analysis in relation to the final installation torque values revealed statistically significant differences in groups 5 and 6 (p-value: 0.0131 and 0.0001, respectively), and in groups 7 and 8 (p-value: 0.014 and 0.004, respectively), and in the evaluation of depth of insertion, groups 3 and 4 obtained p values of 0.014 and 0.004, respectively. The results showed that the surgical technique may significantly affect the primary stability, and it is suggested that further studies, particularly *in vivo*, are carried out.

C049 - Evaluation of the effectiveness of the virtual planning in 2 dimensions

Bárbara Aline GERKE[1]; Liogi IWAKI FILHO[1]; Lilian Cristina Vessoni IWAKI[1]; Gustavo Nascimento de Souza PINTO[1]; Amanda Lury YAMASHITA[1]

[1]Department of Dentistry, State University of Maringá.

One of the main complaints of the patients diagnosed with severe dentomaxillofacial deformities is the facial appearance. Prediction of postoperative profile before surgical treatment is important for both the dental surgeon and the patient. Treatment of these deformities need the combination of orthodontic treatment with orthognathic surgery, and may change the pharyngeal airway space (PAS). Thus, the objective of this study was to evaluate the linear measures of PAS two-dimensional (2D) planning with the PAS of patients undergoing orthognathic surgery through the Dolphin Imaging & Management Solutions® 3D version 11.7 software. Thirty patients were divided into: group 1 – patients undergoing maxillary advancement and mandibular setback (n = 15) and group 2 – patients submitted to maxillomandibular advancement (n=15). Cone beam CT scans were made a month before the surgery (T1) and six to eight months after surgery (T2). For analysis of the PAS, four cephalometric points were analyzed: 1. Point A; 2. occlusal plane; 3. Point B; 4. pogonion. These analyses were conducted by two calibrated examiners. The Wilcoxon test was used to assess the accuracy of the 2D planning in relation to the PAS and test T of Kendall to evaluate the inter and intra examiner agreement ($p<0.05$). Examiners had inter and intra examiner agreement for all variables, except for the A variable in Group 1 and time 2. Occlusal plane did not show difference in average, which can be considered a measure equivalent to 2D planning. However, it is not possible to use only one point to measure the volume of the PAS, therefore the 2D planning is not precise in relation to this measure, and the 3D planning is the best choice.

C050 - Closure of oroantral fistula after maxillary tumor resection

Bruno Gomes DUARTE[1]; Victor TIEGHI NETO[1]; Osny FERREIRA JÚNIOR[1]; Eduardo Sanches GONÇALES[1]

[1]Department of Stomatology, Bauru School of Dentistry, University of São Paulo.

Maxillary sinus consists of pneumatic spaces bilaterally located in the body of the maxilla, with the floor of the maxillary sinus in close relation to the alveolar process of the maxilla and the floor of the nasal cavity. The treatment of tumors in the maxilla relates to the loss of soft and/or bone tissue, which can result in communication between the oral cavity and the maxillary sinus. The permanence of this communication results in the covering with epithelial tissue, thus characterizing the formation of an oroantral fistula. Treatment consists in the removal of the fistula and surgical closure of the communication through sliding or rotating flaps, with or without use of the buccal fat pad (Bichat Ball). The present study aimed to report a case of extensive oroantral and oronasal fistula closure resulting from tumor resection in the maxilla, through use of a buccal sling flap associated with the sliding of the buccal fat pad. A female patient, 22 years old, was referred to the Maxillofacial Surgery Service of FOB-USP with extensive oroantral and oronasal fistulas resulting from a maxillary tumor resection about 4 years ago. Treatment was performed under general anesthesia and consisted of closure of the communication by means of a buccal sliding flap and the use of the buccal fat associated with a palatal bridge type flap. In the post-operative control of 14 days, the presence of two small remaining communications was observed, which were closed under local anesthesia with buccal flap sliding after 5 months. In the seven-month follow-up, complete closure of the fistula was observed. It was concluded that the closure of oroantral communications should be surgical and performed by sliding of the flap and use of the buccal fat pad.

C051 - Treatment of cystic lesions of the jaws: literature review

Caroline DOUSSEAU[1]; João Paulo BONARDI[1]; Ricardo Gandur LOPES[1]; Leonardo Freitas SILVA[1]; Erik Neiva Ribeiro Carvalho REIS[1]; Gustavo Antônio Correia MOMESSO[1]

[1]Department of Surgery and Integrated Clinic, Araçatuba Dental School, Univ. Estadual Paulista.

The definition of a cyst consists of a pathological cavity lined with epithelium and filled with fluid or material of soft consistency. Cysts are characterized by slow growth, asymptomatic, unilocular, radiolucency surrounded by radiopaque halo and no association with root resorption. Diagnosis is accomplished by clinical examination and mostly routine radiographs. The aim of this work was to present through a literature review the different surgical methods of treatment to solve the maxillary cysts, which consisting of enucleation, marsupialization, enucleation after marsupialization and enucleation with curettage. In conclusion, each method has its specific indications, therefore the dentist must be prepared to diagnose and indicate the most appropriate treatment for each case.

C052 - Index Rating of pediatric fractures: a retrospective study

Cássio Messias Beija Flor FIGUEIREDO[1]; Ana Paula Farnezi BASSI[1]; Daniela Atili BRANDINI[1]; Igor Mariotto BENETI[1]; Francisley Avila SOUZA[1]; Idelmo Rangel GARCIA JÚNIOR[1]

[1]Department of Surgery and Integrated Clinic, Araçatuba Dental School, Univ. Estadual Paulista.

The medical or dental care to a pediatric patient always should deserve a special attention. The main concern caused by maxillofacial fractures in children is due the sequelae that they cause in function of bone growth and development in this age range, since inadequate surgical treatments may produce big and complex deformities. The aim of this study was to conduct a retrospective survey of twenty years of medical records of patients treated at the service of Maxillofacial Surgery and Traumatology of the Department of Surgery and Integrated Clinic, in Araçatuba Dental School - UNESP, checking the incidence, etiology, gender and age of children who had suffered some type of fracture in the maxillofacial region. A survey of records and data obtained from patients aged between 0 and 12 years old was conducted. The information was digitized and properly tabulated on a Microsoft EXCEL program to facilitate the statistical analysis of the data. 312 children were evaluated. Of these patients, 263 suffered some kind of fracture in the face. The male gender was the most affected with 169 cases (64.3%). The age with the highest number of fractures was 6 years old, with a total of 32 cases, while the most important factor that led to lesions were episodes of motorcycle accidents, where 58 children had been involved. Once analyzed all causal factors, it was observed that the male gender was the one who suffered more trauma in all categories, except for physical aggression, where the female gender was the most affected. Regarding the location, the mandibular fractures were the most frequent. It was concluded that there is indeed a higher incidence of fractures in boys, with the highest prevalence at the age of 6 years, and that girls are the main victims of physical aggression.

C053 - Evaluation of the preservation of the sinus membrane with the "sca" technique

César Augusto de Magalhães Alves PANIGHEL[1]; Elcio Martins MENDES[1]; Wilson dos SANTOS JÚNIOR[1]; Eduardo VEDOVATTO[1]; Paulo Sérgio Perri de CARVALHO[1]

[1]Master in Implantology, Dental Research Center São Leopoldo Mandic.

The aim of this study was to evaluate the technique to access the maxillary sinus through sinus crestal approach with rotary instruments (SCA Kit / Neobiotech®, Seoul, South Korea), considering the sinus membrane's integrity and bone height gain. Thirty seven maxillary sinus approaches were performed in 24 patients with cases in which 2 or 3 approaches were performed in the same maxillary sinus. Inclusion criteria: patients with edentulous posterior maxilla, for over 90 days, with residual bone height between 4 and 9 mm. Exclusion criteria: medically compromised patients; presence of root fragments and/or foreign bodies within the maxillary sinuses; smokers; with acute rhinosinusitis and less than 18 years old. For the analysis of this technique, it was essential to assess the integrity of the sinus membrane for each implant installed, since each approach into the sinus generates a new risk of fenestration. Disruption percentage during

osteotomy was 3.22% and 3.33% for the biomaterial accommodation. The average height gain obtained in the immediate postoperative period was 5.92 mm and 5.57 mm after 180 days. A direct relationship between the SCA Kit and bone gain obtained was not observed, since the membrane was elevated due to the pressure exerted by biomaterials. Nonparametric Friedman test with a significance level of 5% was used, which showed a statistically significant difference. Considering the results obtained in this study, it was concluded that the SCA technique can be considered safe with regard to maintaining the integrity of the sinus membrane and is predictable with respect to the bone gain in height, confirming the alternative hypothesis.

C054 - Keratocystic odontogenic tumors in Gorlin-Goltz syndrome

Clara Possarle CUNHA[1]; Sabrina FERREIRA[1]; Nathália Januario de ARAUJO[1]; João Martins de MELLO NETO[1]; Juliano Milanezi de ALMEIDA[1]; Edilson ERVOLINO[1]; Luan TORO[1]; Idelmo Rangel GARCIA JUNIOR[1]

[1]Department of Surgery and Integrated Clinic, Araçatuba School of Dentistry, Univ. Estadual Paulista.

Gorlin-Goltz Syndrome (GGS), also known as nevoid basal cell carcinoma syndrome, is a rare inherited and multisystemic disease characterized by the predisposition to neoplasms and developmental anomalies. The aim of this study was to present a case report of GGS and its treatment. A male patient, 56 years old, attended the Clinic of Surgery and Traumatology, FOA-UNESP, complaining of pain in the right side of mandibular body. During the anamnesis, patient reported to have already undergone surgeries to remove two basal cell carcinomas in the face. In the facial examination, it was noted asymmetry by increased volume of the right side with erythematous area of flabby consistency and the presence of a floating point. In the intraoral evaluation, the patient showed to be totally edentulous in mandible and with some residual roots associated to impacted teeth in the maxilla. In the panoramic examination it was possible to observe some radiolucent lesions in the ramus and mandibular body, as well as in the anterior and posterior region of the maxilla, bilaterally. Initially, the abscess drainage and the biopsy of the infected lesions were performed. Diagnosis was of multiple keratocysts. It was performed an incisional biopsy and after the histopathological analysis it was confirmed the diagnosis of odontogenic keratocyst. Patient then underwent a general anesthesia for simultaneous curettage of all lesions observed in the tomography, to search for evidence that could characterize the GGS, and for a new biopsy. Clinical investigations showed the presence of bifid rib, basal cell carcinoma, sebaceous cysts and maxillary hypoplasia associated with multiple keratocysts, which was conclusive for the diagnosis of GGS. After 3 years of monitoring, it was observed some suggestive images of recurrence of one of the lesions, which was already expected due to the recurrence rates discussed in the literature. However, most of lesions responded favorably to the treatment chosen.

C055 - Analysis of the maxilla after maxillary sinus lifting with bovine bone

Daniel Ferraz Nunes da SILVA[1]; Thiago Borges MATTOS[1]; Jessica Lemos GULINELLI[1]; Pamela Leticia dos SANTOS[1]; Thiago CALCAGNOTTO[1]; Danilo Louzada de OLIVEIRA[1]; Fernanda Parini NUNES[1]

[1]Department of Post-graduation in Oral Biology, University of the Sacred Heart.

The aim of this study was to evaluate through clinical and tomographic analyses the rehabilitation after maxillary sinus lifting with bovine bone. A total of eight patients underwent maxillary sinus lifting, in a total of 14 lifting to be evaluated. The antral cavities were filled with particulate bovine bone (Bio-Oss®). After 8 months, prior to implant installation, a sample of each surgical site was collected for this study. Patients were submitted to tomographic and clinical analyses, and the survival of implant rehabilitation was also assessed. For the clinical evaluation, data related to gender, age, missing teeth, size and diameter of the implant, primary stability, number of implants, condition of peri-implant tissues, failures related to osseointegration or to the bone grafting technique, and prosthetic rehabilitation within three years of follow-up were analyzed. The volumetric analysis in CT scans was performed using the software InVesaulius in the immediate postoperative period (T0) and eight months after the filling of the sinus cavity (T1). All data analyses were performed with $p<0.05$. The mean marginal bone loss of implants in the first year was 0.73 mm. The loss of an implant (3.33%) occurred after two years of maxillary sinus lifting surgery. The implant success rate was 96.7%. The images of the increased bone were clearly verified and observed three-dimensionally in all cases. The volume average after elevation of the graft was 1.63 cm^3 (0.99 to 2.70 cm^3; SD±1.57) and was statistically significant. According to the second CT scan, (1) the mean volume of the implant was increased to 1.72 cm^3 (1.08 to 3.0 cm^3; SD±1.87 cm^3). The present study demonstrated that the increased bone height achieved after maxillary sinus lifting surgery and filling with mineralized bovine bone confirms the capacity of the biomaterial to possess dimensional stability, besides osteoconductive properties, facilitating bone and connective tissue formation and thus promoting the clinical success of the installed implants.

C056 - Interference of sodium alendronate in peri-implant bone repair

Danila de OLIVEIRA[1]; Jaqueline Suemi HASSUMI[1]; Pedro Henrique Silva Gomes FERREIRA[2]; Gabriel Ramalho FERREIRA[3]; Tárik Ocon Braga POLO[2]; Leonardo Perez FAVERANI[2]; Roberta OKAMOTO[1]

[1]Department of Basic Sciences, Araçatuba School of Dentistry, Univ. Estadual Paulista.
[2]Department of Surgery and Integrated Clinic, Araçatuba School of Dentistry, Univ. Estadual Paulista.
[3]Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.

Alendronate sodium is a bisphosphonate drug that exerts antiresorptive action and is used to treat osteoporosis. The aim of this study was to evaluate the bone repair process at bone/implant interface of osteoporotic rats treated with alendronate sodium through microtomography analysis, real time polymerase chain reaction and immunohistochemistry (RUNX2 protein, alkaline phosphatase, osteopontin and osteocalcin). A total of 24

rats were used and divided into the following experimental groups: CTL (rats submitted to fictitious surgery and fed with a balanced diet), OST (rats submitted to bilateral ovariectomy and fed with low calcium diet) and ALE (rats submitted to bilateral ovariectomy, fed with low calcium diet and treated with alendronate sodium). A surface-treated implant was installed in both tibial metaphyses of each rat. Animals' euthanasia was conducted at 14 and 42 days. Data were subjected to statistical analysis with 5% significance level. Bone volume (BV) and total pore volume were higher for ALE group ($p<0.05$). Molecular data for RUNX2 and BSP proteins were significantly expressed in ALE group ($p<0.05$) in comparison with the other groups. ALP expression was higher in CTL group ($p<0.05$). Immunostaining for RUNX2 and osteopontin was positive in osteoblastic lineage cells of neoformed bone for the CTL and ALE groups. Alkaline phosphatase presented greater staining area in OST group compared to CTL and ALE groups. There was mineral decrease (osteocalcin) at 42 days for ALE and OST groups. Therefore, treatment with short-term alendronate sodium improved bone repair around the implants installed in the tibia of osteoporotic rats.

C057 - Atraumatic extraction with the use of vertical extractor: clinical case

Danilo Amancio COSTA[1] ; Anna Beatriz de Faria SOUZA[1] ; Lucas Tadeu Camargo Pinto CORREA[1] ; Pedro de Souza DIAS[2] ; Marcio Americo DIAS[1] ;Tatiany Gabrielle Freire ARAUJO[1]

[1]National institute of Superior Teaching and Postgraduation Father Gervásio – INAPÓS.
[2]Alfenas Federal University.

The involvement of the tooth by carious lesions, endodontic problems or fractures is common in daily practice. Dentistry is increasingly conservative, thus maintaining healthy tissues with lower aggression. When faced with a compromised tooth, the extraction is the procedure to be performed. Atraumatic extraction with use of vertical extractor is a technique that can be used. It helps to prevent damages to the remaining tissue, maintaining bone volume and the adjacent soft tissue, enabling the installation of an immediate implant. This installation protocol reduces bone resorption that occurs both vertically and horizontally on the tooth extracted area in addition to reducing treatment time and achieving a nice aesthetics. Therefore, professionals should plan and formulate a good prognosis in the medium and long term, taking into account besides aesthetics also the functional and biological aspects. The aim of this study was to report a case whose treatment included the extraction of residual root with an atraumatic vertical extraction system and the immediate installation of an implant. TRC patient, 36 years old, male, sought private practice complaining of slight pain in tooth #25. In the anamneses nothing important was reported. Intraoral clinical examination revealed an uncrowned tooth and partial fracture below the cervical line underneath the bone level showing mobility. The treatment plan was the extraction and placement of immediate implant. Atraumatic tooth extraction was carried out with vertical extractor preserving all the structures adjacent to the tooth. Implant was placed with bone graft in the gap regions. Post-surgical guidelines and antibiotic prescription were performed. It can be concluded, based on scientific articles, that the atraumatic tooth extraction allows the installation of an immediate implant into the extraction socket with favorable prognosis for the adjacent hard and soft tissues.

C058 - Implant survival rate after maxillary sinus lift

David Jonathan Rodrigues GUSMAN[1] ; Maury Ponikwar de SOUZA[1] ; Paulo Sérgio Perri de CARVALHO[1] ; Sabrina FERREIRA[1] ; Juliano Milanezi de ALMEIDA[1] ; Nathália Januario de ARAUJO[1] ; João Martins de MELLO NETO[1] ; Francisley Avila SOUZA[1]

[1]Department of Surgery and Integrated Clinic. Araçatuba Dental School, Univ. Estadual Paulistal.

The aim of this study was to evaluate the rate of survival of dental implants placed in atrophic maxilla previously submitted to sinus graft and bone remodeling occurring after bone repair. Twelve patients receiving dental implants after maxillary sinus lift followed by the application of heterogeneous bone substitute of bovine origin (Gen-Mix, Baumer, Mogi Mirim, Brazil) or synthetic biomaterial β-tricalcium phosphate (Cerasorb, Curasan AG, Kleinostheim, Germany) were selected. Implant survival rate and the level of vertical bone remodeling were assessed. Panoramic radiographs were digitized, and the vertical linear extension of the remaining bone (T0) and the vertical linear extension after the bone graft (T1) and after implant placement (T2) were measured. Implant survival rate between 60 and 84 months was 90% in the maxillary sinus filled with heterogeneous bone substitute of bovine origin. In the maxillary sinus filled with the synthetic biomaterial β-tricalcium phosphate the implant survival rate between 60 and 76 months was 88.89%. Two implants were lost: one implant placed into a sinus filled with heterogeneous composite bone and one implant placed into a sinus filled with β-tricalcium phosphate. The level of bone remodeling was 3.29 mm and 1.6 mm to the heterogeneous bone substitute of bovine origin and synthetic biomaterial β-tricalcium phosphate, respectively. There were no statistically significant differences between the levels of remodeling of the two biomaterials. Based on these results, it is concluded that both biomaterials were adequate to intra-sinus ossification through the sinus lift technique.

C059 - Extraoral access for osteosynthesis of mandibular angle fractures

Diones Calado de QUADROS[1]; Janayna Gomes PAIVA-OLIVEIRA[1]; José Carlos Garcia de MENDONÇA[1]; Cauê Monteiro dos SANTOS[1]; Juliana Andrade MACENA[1]; Fernando Ribeiro TEIXEIRA[1].

[1]University Hospital "Maria Aparecida Pedrossian", Federal University of Mato Grosso do Sul.

Mandibular fractures correspond approximately to 20-36% of injuries affecting the face. They have diverse etiology, such as accidents, which include cars, motorcycles, bikes, physical aggression and falls. Thus, the aim of this study was to report the osteosynthesis for mandibular angle fracture with two fixation plates through extraoral access, in a patient assisted by the team of Surgery and Maxillofacial Traumatology of the University Hospital "Maria Aparecida Pedrossian" - UFMS/Campo Grande. A 30-year-old patient, black skin, female, showing swelling in the submandibular region, right posterior cross bite, trismus, paresthesia in the ipsilateral lower lip and bone crackling in the region of tooth #48 sought our service. In posterior-anterior and oblique lateral of the mandible radiographies the presence of a fracture line in the region of the right lower third molar was detected. Treatment was

performed through the submandibular/Risdon approach, with rigid internal fixation with two titanium plates and screws of the 2.0 system. Patient has been followed-up for 150 days after surgery with satisfactory occlusion, good mouth opening without signal of paralysis of the marginal mandibular ramus of the facial nerve; without paresthesia complaints of lower lip and good healing aspects of surgical access.

C060 - Bone analysis ceramic associated with rhBMP 2 in bone repair

Fábio Roberto de Souza BATISTA[1]; André Luis da Silva FABRIS[1]; Karen Lumi NAKASATO[1]; Eloá Rodrigues LUVIZUTO[1]; Leonardo Perez FAVERANI[1]; Roberta OKAMOTO[1]

[1]Department of Surgery and Integrated Clinic, Araçatuba Dental School, Univ. Estadual Paulista.

The Bone Ceramic - Straumann® (BC) is a bone substitute 100% synthetic with properties of the vital bone formation. The aim of the study was to assess the biological properties of bone ceramic as osteoconductive potential associated with the osteoinductive potential of rhBMP 2, in the bone healing of critical size defects in rats' calvaria through histometric and immunohistochemical analysis. Forty eight rats, male, adults were divided into three groups (n=8) and it were euthanized at 14 days and 28 days after surgery. A critical size defect in the calvaria was performed on each animal with a trephine (5 mm), being the control group (CO) (n=16) with the critical bone defect filled only with blood clot; Group (BC) (n=16) with the critical bone defect filled with alloplastic bone and Group Bone Ceramic associated to rhBMP2 (n=16), with the critical bone defect filled with alloplastic bone associated to rhBMP2. The data obtained from the analysis of defects in the central region were transformed in absolute values of pixels to values relative percentage. The ANOVA and Tukey test was used to compare the mean values obtained in the different groups and experimental periods, being adopted as significance level of $p<0.05$. Immunohistochemical analysis was performed using the primary antibodies against VEGF RUNX2, to characterize the osteoinductive and osteoconductive responses in the bone healing. It was observed that the use of isolated (BC) or associated with BMP2 in filling critical defects in the rats' calvaria did not cause significant differences in the amount of bone formed ($p>0.05$). However, the association of rhBMP 2 promoted important immunolabeling of RUNX2 and VEGF proteins, wich in the long-term could lead to quality better in the bone tissue formation. The rhBMP2 was not able to alter the BC potential in stimulating the bone healing in the rats'calvaria defects.

C061 - Exuberant facial edema after sclerotherapy lip hemangioma

Fernanda Furuse Ventura dos SANTOS[1]; Valthierre Nunes de LIMA[1]; Luan Felipe TORO[1]; Sormani Bento Fernandes de QUEIROZ[1]; João Paulo BONARDI[1]; Edilson ERVOLINO[1]; Osvaldo MAGRO FILHO[1]

[1]Department of Surgery and Integrated Clinic, Araçatuba Dental School, Univ. Estadual Paulista.

The purpose of this presentation is to report a case of exuberant facial edema after the injection of ethanolamine oleate (EO) used in sclerotherapy of lip hemangioma. A nine-year-old male patient was referred to treat a vascular lesion on the upper lip. The lesion caused large deformation on the middle area of the upper lip, being sessile, resilient and painless by palpation, with intact surface mucosa, and ischemic under compression. The large volume led however to important functional and aesthetic impairments. According to the physical exam and the clinical history, the lesion was diagnosed as a hemangioma. Sclerotherapy aiming to reduce the size of the lesion for posterior surgical excision of the residual lesion was conducted. There were no complications during the application and the patient was discharged with the instruction to return in a week. The day after the injection, the patient presented edema spread to the upper lip, with mild pain. He was instructed to use ice compresses and NSAIDS were prescripted. Later that day, the patient's mother reported that he was feverish and the swelling has increased. The patient was admitted to the ER and presented eupneic, acyanotic, temperature of 37.5ºC and blood pressure of 110x70 mmHg. The edema involved upper lip, cheeks, nasal and Paranásal region and lower eyelid. The patient was subjected to hydration with 5% glucose solution and medicated with dexamethasone, cephalothin and dipyrone. In the following day the patient remained stable and in the third day he was discharged with a significant improvement of the facial edema, which was completely recovered after a week. Although the EO injection side effects are mild and with almost no clinical significance, major complications may occur, such as exuberant facial edema as in the case presented. Professionals that provide this treatment approach must be prepared to deal with such complications.

C062 - Does sinus pathologies interfere with sinus grafts?

Flávia Chieregatti SARAIVA[1]; Pâmela Letícia dos SANTOS[2]; Paulo Domingos RIBEIRO JUNIOR[2]; Daniel Ferraz Nunes da SILVA[2]; Jessica Lemos GULINELLI[2]

[1]Department of Surgery, University of Sagrado Coração.
[2]Department for Masters Degree in Oral Biology, University of Sagrado Coração.

Pseudocysts and true cysts of the jaws are contraindications for bone volume augmentation surgeries in the posterior maxilla. The aim of this study was to conduct a literature review related to the interference of these two sinus pathologies in the maxillary sinus lift surgery and to report two cases of patients with sinus disorders (pseudocyst and true maxillary cyst) in pneumatized maxillary sinus in need of bone reconstruction for further rehabilitation with dental implants. A literature search in English and Portuguese was performed using articles, books and scientific journals of dentistry through the databases PubMed, Medline, Scielo and Google Scholar between 2000 and 2015. As far as the two clinical cases, surgical planning consisted of the removal of the lesion and simultaneous increase of the maxillary sinus floor. In the first case, true cyst of the maxillary sinus, the full removal of the cystic lesión was performed. In the second case, antral pseudocyst, aspiration of cystic content was carried out prior to lifting the Schneider's membrane. In both cases there was no perforation of the membrane and inorganic bovine bone was used as filling material. The installation of the implants occurred seven months after the lifting surgery and the clinical and CT controls showed adequate osseointegration of implants and absence of recurrence and/or remnants of the lesion. The true cyst of the maxillary sinus causes destruction of bone walls and, therefore, must be removed prior to sinus lifting surgery. No treatment is indicated for the antral pseudocyst, given that the injury does not necessarily represent a

contraindication for lifting of the sinus membrane and bone grafting for implant placement. However, previous aspiration of the liquid content of the pseudocyst avoids possible postoperative infectious complications.

C063 - Oral squamous cell carcinoma: case report

Fred Lucas Pinto de OLIVEIRA[1]; Sabrina FERREIRA[1]; Francisley Avila SOUZA[1]; Nathália Januario de ARAUJO[1]; Juliano Milanezi de ALMEIDA[1]; Edilson ERVOLINO[1]; David Jonathan Rodrigues GUSMAN[1]; Idelmo Rangel GARCIA JUNIOR[1]

[1]Department of Surgery and Integrated Clinic, Araçatuba Dental School, Univ. Estadual Paulista.

Oral Squamous cell carcinoma (OSCC) is characterized by expressing a slightly hard ulcer with raised edge, erythematous surrounding and commonly presented as plaques and papules. Histologically, is characterized by the presence of the atypical keratinocytes that invade the dermis and the subjacent tissues. There are several risk factors that are related with the carcinoma etiology, such as tobacco, alcohol, viruses and diet. Therefore, this clinical report aims to illustrate the clinical, histopathological and radiographic characteristics with a reported case and your treatment conduct. A female patient, 69 years old, smoker for 50 years, attended the Clinic of Oral and Maxillofacial Surgery of FOA-UNESP seeking for treatment of a severe lockjaw, intense pain and great facial asymmetry. During the clinical evaluation it was noticed an increased volume at the right side with about 3 months evolution. During palpation the tissue consistence was firm without a fluctuation point, the buccal mucosa presented an ipsilateral ulcer, with erythematous area on soft palate and a hight number of caries. The computed tomography showed a large hemimandibular osseous destruction on the right side with involvement of the posterior region of the maxilla. The biopsy examination diagnosed the OSCC. It was conducted a hemimandibular resection of the right side and the complete wound closer through pectoral flap. The histopathological diagnosis was compatible with ulcerated, moderately and differentiated tissue, infiltrating the fatty-fibrous tissue, involving minor salivary glands and muscular tissue, confirming the OSCC diagnosis. 6 months after the procedure the patient died by systemic reasons. This way, was concluded the importance of early diagnosis to obtain a better prognosis and increase the survival of patients with OSCC.

C064 - Analysis of bone regeneration after biomaterials graft in rabbits

Fred Lucas Pinto de OLIVEIRA[1]; Sabrina FERREIRA[1]; Bianca Bravim BOMFIM[1]; Nathália Januario de ARAUJO[1]; Juliano Milanezi de ALMEIDA[1]; Juliana Zorzi COLÉTE[1]; David Jonathan Rodrigues GUSMAN[1]; Idelmo Rangel GARCIA JUNIOR[1]

[1]Department of Surgery and Integrated Clinic, Araçatuba Dental School, Univ. Estadual Paulista.

Currently, various materials for replacement and bone regeneration are available. However disadvantages as high cost, need for a donor site, limited availability and even immune responses lead to the study of new types of biomaterials and new forms such as alternatives for treatment. Among these biomaterials, it is known that blood clot has bone forming ability but with little stability and primary volume. In addition, bovine hydroxyapatite is widely known as the material of choice for many healthcare professionals. The purpose of this study was to evaluate the structural stability of bovine hydroxyapatite (Bio-Oss®) and collagen sponge (Gingistat) associated with blood clot through the volumetric change after the repair process in a standardized model of maxillary sinus lift in rabbit. Fifteen adult male New Zealand rabbits were divided into two groups: bovine hydroxyapatite (HB) group and collagen sponge (CS) group. Bilateral sinus lift and insertion the respective materials were performed. Animals were euthanized at 7, 21 and 40 days for removal of the nasal complex and sinus cavities. The specimens were subjected to CT and histological analyses. In conclusion, we observed that the results showed a higher structural stability of HB group compared to the CS group after 40 days of repair, showing greater resistance to the re-expansion process of the sinus cavity.

C065 - Biodegradable bone substitute in maxillary sinuslLift

Géssyca Moreira Melo de Freitas GUIMARÃES[1]; Camila Lopes CARDOSO[1,2]; Osny FERREIRA JUNIOR[1]; Cláudia CURRA[2]; Vanessa MENDES[3]; John Edward DAVIES[3]

[1]Department of Stomatology, Bauru School of Dentistry, University of São Paulo.
[2]Department of Oral Surgery, University of Sagrado Coração.
[3]Institute of Biomaterials and Biomedical Engineering, University of Toronto.

Maxillary sinus augmentation procedures have been applied to increase bone volume and to promote stability of implants in the severely atrophic posterior maxilla. Over the years, the outcomes of several studies have demonstrated that some bone substitutes can support implants in function after sinus augmentation equally or better than those with autogenous bone. Our experimental model evaluated the behavior of a fully biodegradable bone substitute (OsteoScafTM-OS) in a rabbit sinus lift procedure. We compared this with autogenous bone (AU) and two other available non-biodegradable bone substitutes (Bio-Oss® (BI) and BoneCeramic® (BO). Clinical evaluations, Cone Beam Computed Tomography, Microcomputed Tomography, microscopic and molecular evaluation were used for data analysis at 2, 4 and 8 weeks after sinus augmentation. Autogenous bone was more resorbed over time than the other materials. All bone substitutes showed more bone formation at 8, 4 and 2 weeks, respectively. BI showed more bone formation over time than OS and BO, which were similar. BO showed a giant cell response up to 8 weeks. It was concluded that the bone substitute materials all performed better than AU, and OS showed similar bone growth yet greater degradation than the other two materials.

C066 - Tomographic analysis of maxillary rehabilitation by guided surgery

Giovanna da Silva BUENO[1]; Jéssica Lemos GULINELLI[1]; Pâmela Letícia dos SANTOS[1]; Thiago CALCAGNOTTO[1]; Joel Ferreira SANTIAGO JUNIOR[1]; Maria Augusta Ramos MARÇAL[1]; Daniel NUNES[1]

[1]Department of Health Sciences, University of Sagrado Coração.

The objective of this work was to evaluate the clinical efficacy and volumetric changes in bone level using computed tomography of total implant rehabilitations after guided surgery with and without immediate loading. The criteria evaluated were: size of the implant insertion torque, peri-implant tomographic bone change, prosthetic complications and survival of the implant. The first CT scan was performed immediately after surgery (T0) and the second after a year of rehabilitation (T1). Sixteen patients were included in this study and a total of 92 implants were placed in the maxilla. In 8 patients, the implants were placed in immediate loading and 8 patients were expected to 4 months for prosthetic rehabilitation. All implants presented cone type connection Morse, the average length was 12.48 mm and 3.6 mm in diameter. The average insertion torque was 41.61 N. There was loss of one implant (1.08%). The success rate at 1 year was 98.92%. The average marginal bone resorption was 0.8 mm (SD=0.5 mm). In the group of patients without load it was observed that the thickness of the buccal bone wall had a statistically significant difference in the periods analyzed, $p<0.001$ (before 1.250, after 1.035) as well as the thickness of the palatal wall, $p<0.001$ (before 1.150, after 1.035). In the group of patients with immediate loading, it was found that the thickness of the vestibular walls decreased, $p=0.001$ (before: 1.1, then: 0.9). There was no difference in the palatal bone wall. The buccal surface showed the greatest decrease in thickness (1.3 mm) compared to others. The recorded complications were fracture of the crown/prosthesis (25% / 4 patients) and loosening of the abutment screw (6.25% / 1 patient). The treatment method totally edentulous maxilla with guided surgery is predictable with a high survival rate of the implant. The immediate loading favors the maintenance of the buccal bone wall.

C067 - Unicystic ameloblastoma vs keratocyst: clinicopathological findings

Giovanni CUNHA[1]; Marisa Aparecida Cabrini GABRIELLI[1]; Mario Franscisco Real GABRIELLI[1]; Luís Fernando de Oliveira GORLA[1]

[1]Department of Diagnosis and Surgery, Araraquara Dental School, Univ. Estadual Paulista.

Unicystic ameloblastoma is a benign tumor of relatively uncommon odontogenic origin from gnathic bones; moreover it is clinically similar to other conditions that affect the jaws. In this study we evaluated the clinical and histopathological features of unicystic ameloblastoma in relation to one of its differential diagnosis, the odontogenic keratocyst. The patient in question was attended by Oral and Maxillofacial group referred by a professional of a health basic unit, complaining of tooth mobility without periodontal disease. Radiographic examination was revealed resorption in extensive radiolucent area in the madible with common characteristics of solid ameloblastoma, which was refuted in the first histopathological report carried out with biopsied material from the lesion, diagnosing it in the first instance, as odontogenic keratocyst. After a second histopathological analysis, with specimen collected from the rest of the lesion in a hospital, diagnosis was confirmed as unicystic ameloblastoma. The patient was taken back to the operating room where the lesion was removed with a safety margin block. The lesion regressed and the mandibular area removed was reconstructed with autogenous bone graft from anterior iliac crest. The literature reports the aggressive feature of keratocyst, but the transformation to any kind of ameloblastoma or the malignant transformation is debatable and controversial. In this way, the diagnosis needs to be based both in clinical and pathological findings, always associated with the surgeon's experience given the difficulty in establishing a reliable histologic pattern to identify the unicystic ameloblastoma.

C068 - Evaluation of Bio-Oss® Collagen® in repair of critical-size defects

Guilherme Andre Del'arco RAMIRES[1]; Jucileia MACIEL[1]; Gustavo Ramalho FERREIRA[1]; Gustavo A C MOMESSO[1]; Leonardo Perez FAVERANI[1]; Daniela PONZONI[1]; Ana Paula Farnezi BASSI[1]

[1]Department of Surgery and Integrated Clinic, Araçatuba Dental School, Univ. Estadual Paulista.

The search for biomaterials that could act as scaffold for bone defects reconstruction is a constant challenge for tissue engineering. This study aimed to evaluate the osteoconductive features of bovine bone lyophilized Bio-Oss® (Geistlish Pharma AB, Wolhusen, Switzerland) compared to Bio-Oss® Collagen® through histomorphometric analysis during bone repair process in critical size defects of 8 mm created with trephine bur in rat calvaria. Thirty Wistar albino male adult rats were divided into two groups depending on the filling biomaterial as follows: Group BO: Bio-Oss® (n=15); Group BOC: Bio-Oss® Collagen® (n=15). The animals were submitted to creation of a critical size defect with a trephine bur of 8 mm in the calvaria to receive the biomaterials; after 7, 30 and 60 days 5 rats of each group were euthanized with anesthetic overdose. Specimens were prepared for histomorphometric analysis. Data were statistically analyzed by ANOVA and Turkey test with a significance level of 5%. Statistically significant differences were found in new bone formation only in the intragroup comparison among periods after 7 and 60 postoperative days, indicating more new bone formation after 60 days (Turkey test, $p=0.029$). Under the limitation of this research, it could be concluded that BO and BOC in this experimental model did not show osteoconductive features.

C069 - Multiple myeloma diagnosed after pathologic mandibular fracture

Guilherme dos Santos TRENTO[1]; Lucas Borin MOURA[1]; Mário Francisco Real GABRIELLI[1]; Marisa Aparecida Cabrini GABRIELLI[1]; Valfrido Antônio PEREIRA-FILHO[1]

[1]Department of Diagnosis and Surgery, Araraquara Dental School, Univ. Estadual Paulista.

The aim of this case report was to describe a pathological mandibular fracture as first sign of multiple myeloma and the importance of early diagnosis in this disease. A 70-year-old white man sought our service due to right

mandibular angle fracture that occurred during chewing. He reported previous treatment in another service of left mandibular angle fracture 13 years ago. The pre and postoperative panoramic radiographs of the first fracture showed multilocular lesion with a pathological fracture treated through intermaxillary fixation by arch bars and wire osteosynthesis. However, the patient did not know to inform about the diagnosis of the pathology and its treatment. Thus, the treatment for the new fracture was enucleation of the lesion, reduction and fixation of the fracture using a 2.4 mm mandibular reconstruction plate. The histopathologic result was plasmacytoma and after investigation the diagnosis for multiple myeloma was concluded. The patient was referred to oncological treatment but he died due to acute renal complications. Multiple myeloma is considered an immunoproliferative pathology of plasma cells, which produces cytokines and bone destruction. In addition, systemically hypercalcemia and renal failure may occur. Mandibular lesions have low occurrence rate and the presence as primary manifestation in this disease is rare. In conclusion, early differential diagnosis of these lesions is a key factor to allow the correct treatment and improve prognosis.

C070 - Treatment of oroantral fistula through buccal fat pad

Guilherme Paladini FELTRIN[1]; Camila de Oliveira BARBEIRO[1]; Roberto Henrique BARBEIRO[1]

[1]Department of Surgery and Diagnostics, Araraquara Dental School, Univ. Estadual Paulista.

The oroantral fistula is a pathological communication between the oral cavity and the maxillary sinus. Generally, a fistula occurs after extraction of the upper posterior teeth when the immediate diagnosis of accidental communication with the maxillary sinus is not carried out. It can also be caused by infections, trauma and tumors in that region. Small communications may close spontaneously, but the great majority needs to be closed by surgical flap to prevent fistula formation. We report the case of a xanthoderma patient, 61 years old, who attended our clinic with a fistula in the region of tooth #17, which had mobility and was removed by the patient, causing an oroantral communication that resulted in fistula. The patient underwent evaluation with an otorhinolaryngologist, was medicated, submitted to a CT scan to confirm the diagnosis and then the fistula was treated with buccal flap slip combined with deep plane of the buccal fat pad. The authors discuss the use of buccal flap combined for the treatment of oroantral fistula that along with the fat body presents good results reported in the literature. This treatment was successful in the present case after one year of follow-up.

C071 - Combination of techniques for alveolar expansion

Henrique Rinaldi MATHEUS[1]; Sabrina FERREIRA[1]; Juliano Milanezi de ALMEIDA[2]; Edilson ERVOLINO[2]; Nathália Januario de ARAUJO[2]; David Jonathan Rodrigues GUSMAN[2]; Paula Lazilha FALEIROS[2]; Idelmo Rangel GARCÍA JÚNIOR[1]

[1]Department of Surgery and Integrated Clinic, Araçatuba Dental School, Univ. Estadual Paulista.
[2]Department of Surgery and Integrated Clinic, Periodontics Division, Araçatuba Dental School, Univ. Estadual Paulista.

The alveolar ridge atrophy is considered amongst the main causes of complete dentures maladaptation, resulting in great decrease of the masticatory efficiency and, therefore, life quality of these patients. This case report aimed to present the alveolar ridge expansion technique combined with piezosurgery, rotary expanders and chisels on an extremely atrophic maxilla ridge. Female patient, 62 years old, attended the Araçatuba Dental School – FOA/UNESP due to instability of her superior complete denture, in order to replace it with an implant supported prosthesis. Through clinical and tomographic evaluation great atrophy of the alveolar ridge was observed, whose thickness was between 3 to 4 mm, associated with maxillary sinus pneumatization, however with satisfactory height in anterior maxilla. Then, an intervention of alveolar bone augmentation followed by immediate implant placement was proposed. The procedure was carried out under local anesthesia, with bilateral linear incisions over the crest of the ridge, slightly shifted to lingual and extended from the tuber region to the upper labial frenulum. The alveolar ridge was exposed for osteotomy using piezosurgery. The ridge expansion was performed by combining the chisel and hammer and rotary expander techniques. After expanding the necessary areas the drilling for implant placement was carried out. Seven titanium implants were installed and then the flap was repositioned and sutured. Therefore, it was concluded that the combination of piezosurgery with rotary expanders and chisels allowed more precision to perform the alveolar bone expansion in cases with extreme ridge atrophy and immediate implant placement.

C072 - Extrusion treatment of lower incisors: a case report

Hyago Marx Rodrigues PESSOA[1]; Renato Yassutaka Faria YAEDÚ[1]; Marina de Almeida Barbosa MELLO[1]; Jessica de Fatima SEGANTIN[1]; Marina Prado Monson Santana TAKAHASHI[1]

[1]Department of Stomatology, Bauru School of Dentistry, University of São Paulo.

Dentoalveolar traumatisms are common oral disorders that may occur in any age group, and there is a greater prevalence in children. Among them, coronary fractures, dental extrusion and intrusion, luxation and avulsion can be highlighted. Anamnesis, clinical examination and complementary exams are necessary for the elaboration of an adequate treatment plan. The objective of this work is to report a clinical case of a 19-year-old male patient, who suffered extrusion of the permanent lower incisors after trauma of the anterior region of the mandible with a monitoring of three years. He was taken to an emergency room, where teeth #32 and #31 were repositioned in a single alveolus, none of the teeth were repositioned in their original position, and then they were fixed with an Erich Arch Bar. This caused an occlusal degree, thus

orthodontic correction was necessary. A bite elevation plate was manufactured, as the patient presented a deep bite due to the extrusion. The patient presented internal root resorption in teeth #32 and #31; the biomechanical preparation of the canals was carried out, filled with calcium hydroxide paste, which was replaced monthly, during a period of 15 months. The patient presented a satisfactory final result, after the conclusion of the orthodontic treatment. The patient continues in clinical-radiographic monitoring, and follows with complementation of the endodontic treatment of tooth #41, which also presented internal root resorption. This case demonstrates the importance of a dental surgeon in the initial assistance to the victim of dentoalveolar trauma. It is known that dental traumas, mainly those involving anterior teeth, influence the individual's function and esthetic, affecting his or her behavior. This is why it is very important that in these cases there is a global approach.

C073 - Keratocystic odontogenic tumour with ameloblastic transformation

Isabela Bataier RODRIGUES[1]; Danilo Chizzolini MASOCATTO[1]; Murilo Moura OLIVEIRA[1]; Jose Carlos Garcia de MENDONÇA [1]; Ellen Cristina Gaetti JARDIM[1]

[1]Department of Oral and Maxillofacial Surgery, School of Dentistry, University of Mato Grosso do Sul.

Keratocystic odontogenic tumor (OKT) is a benign pathology that occurs mainly in mandibular angle region whose importance is due to its aggressive behavior and high recurrence rate. The aim of this work was to guide the best approach of the surgeon regarding the most clinically relevant dental tumor in dentistry, discuss the various forms of treatment, and analyze the different types of autogenous bone graft through a literature review. Case report: A female patient, 16 years old, was treated at the University Hospital Maria Aparecida Pedrossian - HUMAP-UFMS, by the team of Oral and Maxillofacial Surgery. She presented a keratocystic odontogenic tumor with ameloblastic transformation in the posterior mandible, which was treated with segmental resection of the mandible. The reconstruction during the same surgical procedure was performed with non-vascularized iliac crest autogenous bone graft fixed in the 2.4 system plate and titanium screws. After four months of postoperative follow-up, the patient was with satisfactory occlusion without pain complaints, without mobility of the reconstruction plate, graft resorption rate was within the range considered normal for literature evaluated in tomography, submandibular access was with good aspect of healing and she was willing to go through rehabilitation with dentures. The advantages of this procedure include reducing the risk of recurrence when using segmental resection, immediate mandibular reconstruction and reducing the number of surgical procedures, thus allowing full rehabilitation within a shorter period of time. Treatment of ameloblastoma should be individualized according to the lesion size, anatomical location, patient age, aggressiveness and radiographic image. Therefore, a single type of treatment for patients with ameloblastoma should not be given.

C074 - Index of multiple facial fractures in the service of surgery at FOA-UNESP

Izabela Soares MINARI[1]; Ana Paula Farnezi BASSI[1]; Daniela Atili BRANDINI[1]; Francisley Avila SOUZA[1]; Igor Mariotto BENETI[1]; Idelmo Rangel GARCIA JUNIOR[1]

[1]Department of Surgery and Integrated Clinic, Araçatuba Dental School, Univ. Estadual Paulista.

Facial fractures have a variable incidence according to the individual's age, gender, geographic location and cultural aspects, socioeconomic status, climate and time influences, use of alcohol and drugs, change of traffic laws, domestic violence, osteoporosis and origin the maxillofacial trauma. With the objective of determing the characteristics of the public that is seen in the service of Maxillofacial Surgery and Traumatology at the Araçatuba Dental School - UNESP, a retrospective survey of twenty years of medical records of patients seen was made, checking the incidence, etiological factors, age and gender of patients who suffered multiple fractures in the face. Data obtained regarding age, gender, and etiological factors were entered in an EXCEL program, EpiInfo, to perform the counts and statistical analysis. That information was organized into tables so that they could be compared and analyzed. Spearman correlation test was also performed. 2770 records were evaluated, of which 357 patients had multiple fractures in the face. It was observed a higher prevalence of multiple fractures in male patients and an analysis of the association of multiple fractures to the age of patients revealed that with the increasing of age, above 40 years old, both the number of patients with fractures and the number of fractures decreased. The most important etiological factor for multiple fractures in the face was the motorcycle accident followed by car accidents and physical aggression. Conclusion: Multiple face Traumas are still frequent events in the service of Maxillofacial Surgery and Traumatology of Araçatuba Dental School - UNESP, and men are more frequently affected in these cases; high-impact accidents are the ones that determine the severity and multiplicity of fractures.

C075 - Orbital floor reconstruction with conchal auricular cartilage graft

Janayna Gomes PAIVA-OLIVEIRA[1]; José Carlos Garcia de MENDONÇA[1]; Murilo Moura OLIVEIRA[1]; Danilo Chizzolini MASOCATTO[1]; Diones Calado de QUADROS[1]; Cauê Monteiro dos SANTOS[1]

[1]University Hospital Maria Aparecida Pedrossian, Federal University of Mato Grosso do Sul.

Orbital floor is one of the most commonly committed sites in facial fractures, which may present as pure floor fracture or as part of other middle third fractures of the face. Aesthetic and functional defects are common when these fractures are neglected or treated inappropriately. The defect size guides the need for surgical approach and if reconstruction is necessary. The selection for the reconstruction material is related to several factors, such as the defect size, walls involved, adaptation of the internal contours, restoration of the appropriate volume, elapsed time of trauma and surgeon's experience. Autografts have been the preference of most surgeons because of their efficacy and low complication rate. The autogenous auricular cartilage graft is presented as a hypovascularized tissue and, thus, requires little blood perfusion, which means a lower rate of resorption

compared to free autogenous bone graft. Based on that, two clinical cases were performed, elucidating the trend in the management of such fractures. The case reports of two victims of motorcycle accident underwent orbital floor reconstruction with auricular cartilage graft to treat blow-out fractures. Autogenous auricular cartilage grafts present the advantages of both autogenous bone grafts and alloplastic materials. Adaptation, flexibility and ease of preparation of the receptor site in less surgical time are similar to alloplastic material. They are better than autogenous bone grafts because besides being biocompatible, resistant to infection and to cartilage migration, they present less surgical morbidity since osteotomies and fixations are not required, as with autogenous bone grafts. Patients were followed for 9 months with clinical evolution within the normal and satisfactory standards.

C076 - Orthognathic surgery in class III patient with cleft lip and palate: clinical case

Jéssica de Fátima SEGANTIN[1]; Renato Yassutaka Faria YAEDU[1]; Marina de Almeida Barbosa MELLO[1]; Maria Carolina Malta MEDEIROS[1]; Marina Prado Monson Santana TAKAHASHI[1]

[1]Department of Stomatology, Bauru School of Dentistry and Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.

One of the main consequences of the cleft lip and palate is the class III malocclusion because malformation of the maxilla of these patients may be related to primary surgeries of cheiloplasty and palatoplasty. The difficulties in the treatment of skeletal deformities are due to fibrosis of the lip and palate, absence of bone support in the region of the cleft, as well as, in some cases, the pharyngoplasty. This work is a report of a bimaxillary orthognathic surgery to treat class III malocclusion of a patient with cleft lip and palate. Male patient, with chief complaint of occlusion and sunken upper lip, presented to the service of orthognathic surgery of the Hospital for Rehabilitation of Craniofacial Anomalies for orthodontic and surgical treatments. Clinically, he presented a concave profile in the extraoral evaluation, nasolabial angle closed and prominent chin; in the intra oral evaluation he presented overjet of 4 mm, overbite of 3 mm, exposure of upper incisor of 1 mm at rest, midline deviation of 2 mm in the maxilla to the left side and without the presence of "cant". Facial analysis was conducted, impressions and mounting in semi-adjustable articulator and digital planning with cone beam computed tomography. The proposed treatment was Le Fort I osteotomy for conducting 5 mm maxilla advancement with 2 mm increase in exposure of upper incisors and 1.2 mm in the molar rotation. The bilateral sagittal osteotomy was performed by mandibular setback of 3 mm. The osteosynthesis was performed with plates and screws of 2.0 mm system, in addition to bicortical screws placed in the mandible. After the surgery, orthodontic finishing and bimonthly postoperative controls were performed until the removal of orthodontic appliances. After 2 years of follow-up, the patient is using a retention plate and is presenting a stable class I occlusion.

C077 - Counterclockwise rotation of the occlusal plane for retrognathism treatment

João Paulo BONARDI[1]; Eduardo DALLAZEN[2]; Thiago Henrique MARTINS[2]; Marcos Massahiro SUZUKI[2]; Glaykon Alex Vitti STABILE[2]; Cecília Luiz PEREIRA-STABILE[2]

[1]Department of Surgery and Integrated Clinic, Araçatuba Dental School, Univ. Estadual Paulista.
[2]Department of Oral Medicine and Pediatric Dentistry, Course of Dentistry, State University of Londrina.

In order to surgically move the jaws, an orthodontic decompensation is necessary, which will provide the space for the advancement or retrusion of the jaws. The mandibular advancement is one of the most performed procedures in orthognathic surgeries and frequently the surgeon faces retrognathic patients, who need huge mandibular advancement. One of the possible complications related to these significant advancements is the condylar resorption due to the torque created in the condyle. Some patients have orthodontics limitations that impede the adequate decompensation, impairing the quantity of surgical movement of jaws. In these cases, the surgeon should use some maneuvers to reach the ideal position and relation of jaws. This work aimed to report a clinic case of a 24-year-old female patient, retrognathic, with gingival smile of 5 mm, overjet of 6 mm, who needed a significant mandibular advancement and was not totally decompensated by orthodontic limitation. The patient was treated by orthognathic bimaxillary surgery, with counterclockwise rotation of occlusal plane plus genioplasty, which allowed a pogonion advancement of 18 mm. After 22 months of follow-up, the patient presents good facial harmony, without any functional or esthetics complaints, and is satisfied with the treatment.

C078 - The use of piezosurgery in a removal of mandibular complex odontoma

José Ferreira MAIA NETO[1]; Gustavo Antônio Corrêa MOMESSO[1]; João Paulo BONARDI[1]; Valthierre Nunes de LIMA[1]; Tarik Ocon Braga POLO[1]; Cecília Alves de SOUSA[1]; Juliana Zorzi COLETE[1]; Leonardo Pérez FAVERANI[1]

[1]Department of Surgery and Integrated Clinic, Araçatuba School of Dentistry, Univ. Estadual Paulista.

Currently, piezosurgery has been used successfully in oral and maxillofacial procedures due the greater cellular viability when compared to other conventional osteotomy instruments. This study aimed to report a case of a 16-year-old patient, male, Caucasian, who was referred to oral and maxillofacial surgery service from Araçatuba Dental School-UNESP to evaluation of a left radiopaque mandibular lesion. Clinical examination showed no asymmetry and other facial abnormalities, besides oral alterations. In the medical history there were no reports of systemic disorders, no hematologic alterations, no allergies and no medicine use. In panoramic x-ray, it was observed an impacted supernumerary tooth with a radiopaque mass above the crown, between both the root of erupting mandibular premolars. A cone bean computed tomography (CT) was requested, which showed an accurate location of the tumor in the lingual region in relation to the crown's position. The surgical planning was performed through use of piezosurgery aimed to preserve soft tissues and noble anatomical structures.

Under local anesthesia with mepivacaine plus adrenaline (1:100,000) a single incision in the lingual side between the lateral incisive and first molar It was performed. The flap was folded and the bone tumor was found. Osteotomy and tooth sectioning in five pieces were performed, which allowed the extraction of the supernumerary tooth. The cleaning of surgical cavity was performed with saline physiological solution irrigation, curettage and the flap was sutured with silk 4-0. On the 7th postoperative day, the patient reported no pain, no swelling, no paresthesia and at the 1 year follow-up the CT showed a good bone healing of the surgical area. Thus, we concluded that the use of piezosurgery in maxillofacial procedures promotes a better precision of osteotomy and tooth sectioning, besides avoiding some damages to the adjacent structures surrounding the surgical area.

C079 - BoneLithium system in combination with different types of bone graft

Leonardo MARQUES[1,4]; Lucas Monteiro de Vasconcelos Alves de SOUZA[1]; Roberta Heiffig HANDEM[2]; Gabriela Cristina de OLIVEIRA[3]; Acácio Lins do VALLE[3]; Angela KINOSHITA[5]; Simone SOARES[1]; Ana Lúcia Pompéia Fraga de ALMEIDA[1]

[1]Department of Prosthodontics, Bauru School of Dentistry, University of São Paulo.
[2]Department of Stomatology, Bauru School of Dentistry, University of São Paulo.
[3]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.
[4]Oral Medicine Center and Dentistry Hospital, Charity Hospital Unimar, University of Marília.
[5]Pro-rectory of Research and Graduate Studies, University of Sagrado Coração.

BoneLithium system, designed from the combination of lithium carbonate particles dispersed in Carbopol gel matrix, is a biomaterial capable of acting in the bone repair process with high possibility of application in the medical and dental field. This study evaluated the biocompatibility *in vivo*, the influence of biomaterial in the bone repair process and the performance of *BoneLithium system* in healing critical surgically created osseous defects in rat calvaria treated with different types of grafting in association with biomaterial: (G1 - *BoneLithium* + autogenous bone, G2 - *BoneLithium* + homogenous bone, G3 - *BoneLithium* + Bio-Oss®, G4 – autogenous bone, G5 - allogenic bone, G6 - Bio-Oss®). Microscopic analysis showed bone neoformation characterized by intense osteogenic activity in the groups treated with *BoneLithium system* when compared with the control group ($p<0.05$ - ANOVA - Tukey). Preliminary results of analysis by computed microtomography (micro-CT, SkyScan -100uA 100kV) and cone beam computed tomography (Icat / CKAVO) with a thickness of 0.2 mm and 6.0 cm FOV and reconstructed by software *E-Vol 3D*®, through Hounsfield scale unit areas, showed bone formation in the region of the critical defects at 45 postoperative days, which was considered statistically significant in the groups treated with BoneLithium system. In this context, it can be concluded that the BoneLithium System is an alternative with potential clinical feasibility on bone regeneration.

C080 - The importance of follow-up in patients with Gorlin-Goltz syndrome

Letícia Chaves FERREIRA[1]; Sabrina FERREIRA[2]; Nathália Januario de ARAÚJO[2]; João Martins de MELLO-NETO[2]; Juliano Milanezi de ALMEIDA[2]; Edilson ERVOLINO[1]; Idelmo Rangel GARCIA JUNIOR[2]

[1]Department of Basic Sciences, Araçatuba Dental School, Univ. Estadual Paulista.
[2]Department of Surgery and Integrated Clinic, Araçatuba Dental School, Univ. Estadual Paulista.

Gorlin-Goltz syndrome, also known as Nevoid basal cell carcinoma syndrome (NBCS), is characterized by the development of multiple mandibular keratocysts, frequently arisen during the second decade of life and/or basal cell carcinomas (BCCs), usually from the third decade on. The aim of the present study was to emphasize the importance of the follow-up of highly recurrent lesions by the case report of a young patient who presented Gorlin-Goltz syndrome. A 7-year old patient was referred to the clinics of Oral and Maxillofacial Surgery – FOA/UNESP, in 2007, with the main complaint of a late eruption of a permanent tooth. During the evaluation of the radiograph taken for orthodontic treatment, a well-delimited radiolucent lesion was observed, close to the left maxillary canine pillar, related to non-erupted tooth #21. Clinical examination revealed lack of tooth #21 and a slight swelling of the ridge. A biopsy was performed with the diagnosis of keratocystic odontogenic tumor (KOT). The patient did not continue the treatment and after five years he returned with new complaints of late teeth eruptions. Radiograph taken in 2012 revealed recurrence of the initial lesion in the left maxillary canine pillar, along with two new large lesions in both mandibular angles associated to non-erupted teeth. These lesions also underwent biopsy procedures with the diagnosis of KOT. After a 3-year follow-up from the last surgical procedure, a new radiograph was taken showing no evidence of recurrence in the referred areas, nor suggestive aspects of new lesions. This case report allowed us to observe the importance of accompanying these highly-recurrent lesions such as KOT, making possible an early diagnosis of possible recurrences or of the arising of new lesions in cases with the suspicion of Gorlin-Goltz syndrome.

C081 - Orbital reconstruction assisted by transantral endoscopy

Lucas Borin MOURA[1]; Marisa Aparecida Cabrini GABRIELLI[1]; Mário Francisco Real GABRIELLI[1]; Valfrido Antonio PEREIRA-FILHO[1]

[1]Department of Diagnosis and Surgery, Dental School at Araraquara, Univ. Estadual Paulista.

This case series aimed to describe the treatment of extensive orbital floor defects by the association of transantral endoscopy with eyelid incisions and perform a volumetric evaluation of the reconstructed and healthy orbits. Also, it aimed to compare the anteroposterior position of the eyeball. Three patients, two woman and one man, had extensive orbital floor defects, larger than 2 cm^2 with involvement of the inferior orbital fissure and presence of diplopia, enophthalmos and eyeball restriction. The treatment protocol for these patients was an eyelid incision to explore the orbital floor and the placement of a titanium mesh, and an antrostomy by intraoral access to insert the endoscope for magnification of the surgical field and adaptation of the mesh. Isolated

eyelid incisions have limitations for the exam of bone limits in the posterior orbital cone. The transantral endoscopy allowed the optimal visualization of the region, adaptation of the titanium mesh, reduction of the fracture and presence of soft tissue herniation. Volumetric analysis of the orbits showed that all reconstructions fulfilled the anatomical differences of up to 8% and the average difference between the volumes was 3.4%. Regarding the anteroposterior position of the eyeball, differences of up to 2 mm are considered anatomical. All patients fulfilled this measure and the average difference was 1.4 mm. In conclusion, the association of transantral endoscopy improved the reestablishment of the shape and volume of the orbital cavity, as well as the anteroposterior position of the eyeball.

C082 - Impact of orthognathic surgery in the quality of life

Lucas Meciano Pereira dos SANTOS[1]; Ana Carolina HAITER[1]; Letícia CHIHARA[1]; Adriana Campos Passanezi SANT'ANA[2]; Eduardo SANT'ANA[1]

[1]Department of Oral and Maxillofacial Surgery, Bauru School of Dentistry, University of São Paulo.
[2]Department of Prosthodontics, Discipline of Periodontics, Bauru School of Dentistry, University of São Paulo.

The aim of this study was to evaluate the impact of dentofacial deformities in the quality of life and the changes resulting from their treatment by orthognathic surgery. Four patients, both genders, aged 16-27 years, presenting Angle class II (n=1) or III (n=3) dentofacial deformities were initially included in the study. All patients answered OHIP-14 questionnaire at the first visit for orthognathic surgery to evaluate the impact of dentofacial deformities in the quality of life. Patients were submitted to orthognathic surgery to the correction of the deformities in accordance with cephalometric and digital analysis. Approximately 30 days after surgery, patients answered again OHIP-14 and the questionnaire of post-surgical satisfaction of the patient (QPSP). Dentofacial deformities presented a moderate negative impact on quality of life (11.23±2.51), slightly decreasing (10.01±2.57) 30 days after surgery ($p>0.05$; Wilcoxon). A greater negative impact was observed before surgery in the domain psychological discomfort (3.11±0.84) and, after surgery, in the domain physical pain (2.32±0.26), however without significant differences between periods ($p> 0.05$; Wilcoxon). In relation to QPSP, the mean score reached was 57.5±3.69, being 9 the worst and 63 the best possible evaluation. These findings suggest that dentofacial deformities have a moderate negative impact in the quality of life. The treatment of these conditions by orthognathic surgery results in improvement in the quality of life.

C083 - Peripheral ossifying fibroma: case report

Luy de Abreu COSTA[1]; Sabrina FERREIRA[1]; Nathália Januario de ARAUJO[1]; João Martins de MELLO NETO[1]; David Jonathan Rodrigues GUSMAN[1]; Edilson ERVOLINO[1]; Idelmo Rangel GARCIA JÚNIOR[1]; Juliano Milanezi de ALMEIDA[1]

[1]Department of Surgery and Integrated Clinic, Araçatuba Dental School, Univ. Estadual Paulista.

Peripheral ossifying fibroma is a proliferative, non-neoplastic lesion that affects gingival mucosa, and presents calcified foci, probably formed by metaplastic bone, well delimited, sessile or pedunculated. Clinically it presents light pink color, although eventually some reddish areas can appear due to the secondary inflammatory process caused by a trauma. There is some predilection for women and anterior region of maxilla and mandible. Its etiology is uncertain, but it is associated with local irritating factors, such as tabagism, alcoholism, and poor oral hygiene. The aim of the present study was to present a case report emphasizing the importance of its relation with possible etiologic agents. A 52-year-old woman was referred to the clinics of Oral and Maxillofacial Surgery of FOA/UNESP, with chief complaint of severe pain in the floor of the mouth. Clinical examination revealed a 3 cm lesion, in its biggest diameter, ulcerated and pedunculated, in the floor of the mouth. Its peduncle was in the lingual side of the alveolar ridge associated with a residual root of tooth 36. A panoramic radiograph was requested to detect a possible relation of the bone with the lesion; however, only the residual root of tooth #36 with a radiolucent image and lack of lamina-dura was observed. During clinical exam, poor oral hygiene was also noted, with great amount of dental plaque and calculus, teeth stained by nicotine and history of alcoholic substances ingestion, all these considered important etiological agents involved in the outcome of this condition, as described in literature. Excisional biopsy was performed under local anesthesia. Buccal flap was rotated for primary closure of the wound. In this way, it is concluded that a careful anamnesis and physical examination of the patients for diagnosis in dentistry are very important.

C084 - Planning single implants for functional and aesthetic success

Manuella Prata BIANCHINI[1]; Eduardo DALLAZEN[1]; João Paulo BONARDI[2]; Valthierre Nunes de LIMA[2]; Jonathan Ribeiro da SILVA[2]; Ricardo Garcia Mureb JACOB[2]

[1]Department of Oral Medicine and Pediatric Dentistry, Course of Dentistry, State University of Londrina.
[2]Department of Surgery and Integrated Clinic, Araçatuba Dental School, Univ. Estadual Paulista.

Restorations and single prosthetic replacement are one of the major challenges in restorative dentistry. Some authors call the attention to the fact that the lack of rehabilitation treatment protocol about single implants is a reality, despite being performed as a routine in daily clinic. Some points should be considered during the planning of single implants, such as: the reference of adjacent natural teeth, the type of occlusion, the remaining dentition condition, quantity and quality of soft tissues, quantity and quality of bone tissue, smile line and anatomic limitations. The study model and the confection of surgical stent have a great value, helping the professional in the correct positioning of the implant. The anterior region is the most difficult area to rehabilitate, as it directly involves

esthetic, phonetics and occlusal pattern. This work aimed to present a literature review about the planning of single implants, and a case report of a 58-year-old patient, who was undergone an extraction of teeth #11 due to a root fracture. The patient was treated with a single implant that reestablished esthetic and function, thus satisfying the expectations.

C085 - Keratocystic odontogenic tumor. Case report

Maria Carolina Malta MEDEIROS[1]; Hyago Pessoa MARX[1]; Marina de Almeida Barbosa MELLO[1]; Renato Yassutaka Freitas YAEDU[1]

[1]Department of Oral and Maxillofacial Traumatology and Surgery, Bauru School of Dentistry, University of São Paulo.

A male patient, 35 years old, without symptoms, attended the clinic of Stomatology due to a radiolucent lesion with precise limits with radiopaque halo, in the region of the tooth #48 at the angle of the mandible, which was observed in panoramic radiography taken for orthodontic treatment. Vitality test was conducted in teeth #46 and #47 and the result was positive; tooth #48 showed a slight sensitivity. Radiographically, it was noticed a radiolucent image with 3x5 cm, unilocular, well-designed, bypassing the periapex of tooth #47. A puncture was first performed, which resulted in doughy, thick content of difficult aspiration; then enucleation of the lesion was performed. The lesion presented elastic consistency, smooth surface, brownish color and measuring 2.0x1.4x0.7 cm. The material was sent for histopathological analysis at the Anatomic Pathology Service of the Bauru School of Dentistry, under the hypothetical diagnosis of periapical cyst or keratocyst odontogenic tumor. Microscopic description was consistent with keratocystic odontogenic tumor due to cystic cavity lined by parakeratinized stratified squamous epithelium without ridges and surface corrugation. Cells of the epithelial basal layer with palisade, hyperchromatic and inverted nuclear polarization were also observed. Underlying the fibrous capsule, the presence of satellite cysts and cyst lumen was noted with presence of keratin. Based on the combination of clinical, radiographic and microscopic characteristics, the final diagnosis was keratocystic odontogenic tumor. The patient is currently at four years of follow up, control of the operated area and no recurrence. Thus, this study aimed to present a case report of keratocystic odontogenic tumor, highlighting the importance of early diagnosis, thus favoring the prognosis for the patient.

C086 - Microscopic and clinical aspects for the diagnosis of keratoacanthoma

Maria Clara Bertolini BOTELHO[1]; Gustavo Antonio Correa MOMESSO[1]; Cecília Alves de SOUSA[1]; Fernanda Brasil Daura Jorge Boos LIMA[1]; Juliana Zorzi COLÉTE[1] ; Vanessa Cristina VELTRINI[1] ; Eduardo HOCHULLI-VEIRA[1]; Idelmo Rangel GARCIA JÚNIOR[1]

[1]Department of Surgery and integrated clinic, Araçatuba School Of Dentistry, Univ. Estadual Paulista.

The keratoacanthoma denomination was first used by Rook, Winster (1950), describing the clinical and histological course of the injury. Historically, this entity has been included as a synonym for squamous cell carcinoma with own healing. It is defined as a benign epithelial neoplasm of rapid growth, originating from the upper portion of the sebaceous gland of the hair follicle. Clinically, it presents as an crateriforme exophytic nodule with small keratotic cap, generally not exceeding 1.5 cm in diameter, firm, covered by normal epithelium of rapid growth. In the lower lip it is necessary to perform the differential diagnosis of squamous cell carcinoma, since this is an area of high prevalence of this condition and keratoacanthoma has a strong clinical and histopathological similarity. Keratoacanthoma requires excisional or deep incisional biopsy, with inclusion of clinically adjacent normal epithelium. As a modality treatment, the surgical excision results in better esthetic results compared with a possible spontaneous regression of this. The aim of this study was to report the case of a male patient, 53 years old, leucoderma, who had a well-circumscribed solitary nodule, located in the lower lip, where a biopsy was performed. After the histopathological diagnosis the total removal of the lesion was performed. The authors discuss the etiology, clinical and histological features and also the differential diagnosis of squamous cell carcinoma and the possible forms of treatment.

C087 - Diffuse large B-cell lymphoma (DLBCL) in HIV-positive patient

Marina Reis OLIVEIRA[1]; Marisa Aparecida Cabrini GABRIELLI[1]; Cleverton Roberto de ANDRADE[2]; Cláudia Maria NAVARRO[1]; Valfrido Antonio PEREIRA-FILHO[1]

[1]Department of Diagnosis and Surgery, Araraquara Dental School, Univ. Estadual Paulista.
[2]Department of Physiology and Pathology, Araraquara Dental School, Univ. Estadual Paulista.

HIV-positive patients have a higher risk of developing the Non-Hodgkin lymphomas. These lesions are unusual in oral cavity, especially in mandible. The diffuse large B-cell lymphoma (DLBCL) is an aggressive tumor, but treatable if diagnosed early. The present case report described a case of DLBCL in an HIV-positive patient with 39 years old. The patient sought treatment with complaint of increased volume in the right mandibular angle and the imaging exams showed an extensive radiolucency with undefined limits compromising the mandibular base. After the incisional biopsy, the patient had a pathological fracture in the region that was adequately fixed in a second surgical procedure with a reconstruction plate of system 2.4 mm. Immunohistochemical analysis showed positive staining for: CD3, CD79a, Ki67 and EBER. Treatment consisted of concomitant antiretroviral therapy with chemotherapy with cyclophosphamide, doxorubicin, vincristine, and prednisone (R-CHOP). Image exams of 2 years follow-up revealed healing of the fractured region and no recurrence of the lesion. This case report is important to describe an unusual location of DCLBC and shows the importance of diagnosis and treatment of the lesion in an early stage in order to favor the prognosis and survival of the patient.

C088 - Use of platelet concentrate (L-PRF) in surgery

Mário Teruo MINAMI[1]; Jorge Fumio KANAJI[1]

[1]Department of Specialization in Implants, Velasco Institute.

Plasma rich in fibrin and leukocytes (L-PRF) is a platelet concentrate of second generation, which was designed and developed in France by Choukroun and colleagues (Dohan

EHRENFEST et al. 2012). It is obtained by centrifugation of venous blood collected from the patient in dry tubes, i.e. without the addition of anticoagulants. The aim of this work was to demonstrate that the use of L-PRF assists in nutritional and cellular conditions of the graft and assists in closing the surgical cavity. Female patient, 39 years old, smoker, bearing upper metal ceramic fixed prosthesis of 12 elements with radicular infiltrations and mobility. The treatment plan consisted of extraction of pillars and impacted tooth #13 in a first surgical time; in a second surgical time, right maxillary sinus lift was performed with absorbable porous hydroxyapatite (HAP-91®) associated with L-PRF and biphasic hydroxyapatite (Osteosynt®) associated with L-PRF for stimulation of bone formation (PECK MT et al.) with subsequent reopening and implant placement. After reopening for implants placement, we observed that there was adequate bone formation on the left side that allowed subsequent implant placement. However, in the right side there was not suitable bone neoformation for implant placement by using the graft from (HAP 91®) + L-PRF. It is important to note that both sides used the same surgical technique regarding the combination of the inorganic graft and L-PRF, and that we performed the graft placements of different brands of grafts during the same surgery. We conclude that the use of L-PRF is an important aid in surgery, improving the nutritional and cellular conditions of grafts and closing the surgical window to access the maxillary sinus.

C089 - Gold standard in bone graft alternatives: a case report

Mateus José da SILVA[1]; José Carlos da Cunha BASTOS JUNIOR[2]; Cláudia Resende LEAL[2]

[1] Bauru School of Dentistry, University of São Paulo
[2] Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo

The need to correct small or large bone defects in the oral cavity for subsequent prosthetic rehabilitation or orthodontic movement have become routine in the current dentistry. There are several options to achieve success in bone reconstruction. There are on the market today allogenic and alloplastic materials, both presenting their limitations to what they propose. The autograft, coming from the receiver itself is considered the gold standard for comparison with others. Among its outstanding advantages are: the absence of incompatibility, since it is an organic material from the donor, and besides presenting bone cells in its composition, which are capable of causing induction of bone neoformation and remodeling as well as the presence of inorganic material (hydroxyapatite) that also serves bone formation. What somewhat limit autografts are the donor sites, containing not always large portions to be collected. The most common sites for bone removal are: chin, retromolar region, tuber, skullcap, and hipbone. This case report is from a 10-year-old patient with defective maxillar continuity in the region of teeth #12 and #13, caused by a unilateral transforaminal congenital alveolar cleft. At the age of 9 years old, the patient was operated on under general anesthesia to safely perform the procedure. The selected donor area was the anterior surface of the chin. After collection, bone tissue was crushed, and put in place after the preparation of the surgical bed. After 3 months of follow-up, an X-ray was performed, which demonstrated the initial formation of bone, and filling of the bone defect.

C090 - Drug therapy for trigeminal neuralgia

Matheus Herreira FERREIRA[1]; Eduardo Marques de LÍVIO[1]; Rodrigo Lorenzi POLUHA[1]; Rafael dos Santos SILVA[1]

[1]Department of Dentistry, State University of Maringá.

Trigeminal neuralgia (TN) is a neuropathic disorder that breaks out nociceptive episodes of extreme pain that start and end up abruptly and are limited to one or more divisions of the trigeminal nerve. It is classified into two types, symptomatic and classic, being the treatment accomplished by drugs or surgical procedure. Literature recommends that the drug therapy may be established initially, limiting the surgery for the patients that do not respond or have none drug tolerability, and for identified cases of secondary causes. The goal of this study was to show a literature review about pharmacological treatments. Anticonvulsants, sodium channel blockers, such as carbamazepine and oxcarbazepine, are the first choice in the treatment, while medications as lamotrigine, baclofen, gabapentin and amitriptyline are normally chosen as second line treatment. In conclusion, the available drugs have had good results as conservative treatment on patients with TN, both first and second line treatments, being the associations of these drugs valid and effective.

C091 - Anterior maxillary expansion through modified "split crest"

Michele Alves GARCIA[1]; Vinícius Ferreira BIZELLI[2]; Adriana dos Santos CAETANO[3]; Edgard Franco MORAES JÚNIOR[4]

[1]Department of Physiology and Pharmacology, Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.
[2]Dentist, Bauru School of Dentistry, University of São Paulo.
[3]Department of Prosthodontics, Bauru School of Dentistry, University of São Paulo.
[4]Department of Implantology, Educational Association of Brazil, FUNORTE- SOEBRAS.

Bone defects in aesthetic areas are real challenges in dental practice. Among the most used bone regeneration techniques, "Split Crest" is a viable alternative mainly by eliminating the morbidity of the donor site. The objective of this work was to demonstrate the "Split crest" modified technique for the anterior maxillary region with intercortical thickness between 1.5 and 3.0 mm. Patient M. M., male, 62 years old, sougth Opem institute with a fracture complaint of an anterior upper fixed partial denture. On clinical / imaginological examination, absence of the upper incisors and bone atrophy were observed. Taking into account this clinical condition, it was planned a maxillary expansion by modified "split crest" for posterior rehabilitation through implants. After temporary adjustment of fixed partial denture, the anterior maxillary bone was expanded and fixed by two 2x14 mm screws, filled with xenogeneic biomaterial (Geistlish Bio-Oss®) and protected by resorbable membrane (GenDerm, Genius). After five months, four Neodent cone-morse implants were installed. Then, five months postoperatively, a connective tissue graft was performed in the same area, and followed by installation of healing abutments then final abutments. The case was concluded with ceramic prostheses and occlusal splint. According to the outstanding results obtained, the present technique allowed extremely favorable rehabilitation, with less morbidity and high quality/quantity of bone thickness, enabling excellence in implant-supported rehabilitation.

C092 - Losartan and alveolar repair in spontaneously hypertensive rats

Naara Gabriela MONTEIRO[1]; Gabriel Mulinari SANTOS[2]; Cassiano Costa Silva PEREIRA[2]; Leonardo Perez FAVERANI[2]; Natália Manrique CURSINO[1]; Cristina Antoniali SILVA[1]; Roberta OKAMOTO[1].

[1]Department of Basic Sciences, Araçatuba School of Dentistry, Univ. Estadual Paulista.
[2]Department of Surgery and Integrated Clinical, Araçatuba School of Dentistry, Univ. Estadual Paulista.

Systemic arterial hypertension is one of the most important problems of public health worldwide. About 50% to 60% of the patients are not aware that they are hypertensive and, moreover, the incorrect control of this common disease in dental offices contributes to make it more dangerous. It is known that hypertension changes the pattern of regulation calcium, which induces bone loss. The goal of this study was to comparatively evaluate the alveolar repair process in normotensive rats (Wistar) and spontaneously hypertensive rats (SHR) and the effect of losartan on this process. Wistar and SHR treated or not with 30 mg/kg/day (losartan) were submitted to extraction of the upper right incisor and euthanasia at 14 and 28 postoperative days. The maxillae were removed and submitted to laboratory processing. Histological, histomorphometric and immunohistochemical analyses were performed in histological cuts of 5 µm of thickness; they were stained with hematoxylin-eosin or subjected to immunostaining for OPG and RANKL. The histological analysis was carried out through optical microscopy and the histomorphometric analysis by software RGB/Leica Qwin Color. The results showed reduction in the bone formation at 14 and 28 days in hypertensive animals compared to the normotensive rats. These results are corroborated by an increased immunostaining to RANKL, observed in hypertensive animals especially at the 28 days, in contraposition to OPG. Treatment with losartan caused an increase in the bone formation rate as well as in the positive staining to OPG especially at 14 days. The results allow concluding that there is a prejudice in the bone formation process during hypertension and the use of the drug losartan appears to reverse this effect.

C093 - Simultaneous rehabilitation with implants and treatment of mandibular fracture

Níkolas Val CHAGAS[1]; Lamis Meorin NOGUEIRA[2]; Maria Del Pilar Rodrigues SANCHEZ[2]; Jéssica Lemos GULINELLI[3]; Idelmo Rangel GARCIA JUNIOR[2]; Pâmela Letícia dos SANTOS[3]

[1]Department of Dentistry, University of Sagrado Coração.
[2] Department of Surgery and Integrated Clinic, Araçatuba Dental School, Univ. Estadual Paulista.
[3] Department of Postgraduate and Research, University of Sagrado Coração.

The aim of this study was to report a case of dental implants installation and loading immediately after reduction and fixation of bilateral mandibular fracture. A male patient, 58 years old, leucoderma, motorcycle accident victim, sought the Emergency Room of the Santa Casa de Araçatuba and was evaluated by the team of Oral and Maxillofacial Surgery. In the extraoral physical examination, there was a swelling in the right hemiface and limitation of mandibular movements. In the intraoral examination, it was noted a tangible bone step and mobility in the right mandibular body area and left mandibular angle. Radiographically, it was confirmed the diagnosis of bilateral mandibular fracture. The patient underwent antibiotic therapy and prophylaxis for tetanus preoperatively, and then under general anesthesia, reduction and fixation of fractures and installation of 5 implants were performed. Then, transfer molding was done to allow rehabilitation in immediate function with a prosthetic protocol type, taking as reference the patient's lower complete denture, which was in good shape. At the 1 year postoperative follow-uo, it was noted the restoration of facial contours as well as the previous patient's occlusion. In radiographic examination, it was found the good positioning of the plate and screws with correct baseline realignment, as well as the maintenance of implant-supported prosthesis. In this clinical case with 1-year follow-up, the functional prosthetic rehabilitation with dental implants, immediately after reduction and fixation of mandibular fractures, proved to be a good treatment option with functional rehabilitation and immediate aesthetic of the stomatognathic system.

C094 - Analysis of extraoral implants and prosthesis survival rates in the rehabilitation of orbital defects

Patrícia Martins BUENO[1]; Marcos Martins CURI[2]; Thalita Campos NUNES[1]; Camila Lopes CARDOSO[2]; Anthony Benites CONDEZO[2]; Marcelo Ferraz OLIVEIRA[2]; Rafael Zetehaku ARAUJO[2]

[1]School of Dentistry, University of Sagrado Coração.
[2]Department of Oral Surgery, University of Sagrado Coração.

The objective of this study was to evaluate implant and prosthesis survival rates and the soft tissue reactions around the extraoral implants used to support orbital defects. Following the favorable decision of the institutional Ethics Committee, a retrospective study was performed of patients that received implants for craniofacial rehabilitation from 2003 to 2015. Two outcome variables were considered: implant and prosthetic success. A statistical model was used to estimate survival rates and associated confidence intervals. Data were analyzed using the Kaplan-Meier method and log-rank test to compare survival curves. A total of 33 titanium implants were placed in 14 patients. The 2-year overall implant survival rate was 100% and the 2-year overall prosthesis survival rate was 92.3%. From this study, it was concluded that rehabilitation of the orbital region with extraoral implants is a safe, reliable, and predictable method to restore the patient's normal appearance.

C095 - Scientific Evidence in the use of rhBMP-2 in maxillary defects.

Pedro Henrique Silva GOMES-FERREIRA[1]; Roberta OKAMOTO[2]; Sabrina FERREIRA[1]; Danila de OLIVEIRA[2]; Rodrigo CAPALBO-DA-SILVA[1]; Gustavo Lopes TOLEDO[3]; Leonardo Perez FAVERANI[1]

[1]Department of Surgery and Integrated Clinic, Araçatuba Dental School, Univ. Estadual Paulista.
[2]Department of Basic Sciences, Araçatuba Dental School, Univ. Estadual Paulista.
[3]Department of Biological Sciences, Bauru School of Dentistry, University of São Paulo.

This study aimed to review the literature in order to show the main indications of rhBMP-2 for bone repair and maintenance in maxilla and mandible, through clinical trials, aiming at analyzing rhBMP-2 viability for later dental implants installation, allowing satisfactory bone formation with a long term osseointegration. Literature search was performed in Pubmed/Medline database through the following indexation terms, referred in "MESH": "Bone Morphogenetic Protein 2" and "Dentistry". Only clinical trials were included, which were necessarily published in English, related to dentistry, and focused on bone reconstruction in critical defects, post-extraction alveoli, increasing of atrophic alveolar ridge or surgeries for maxillary sinus elevation, regardless the factors age, gender, ethnicity, with associated morbidities or the period of publication. According to the selected filter, 17 studies were found, of which two were excluded, so, 15 studies were used in this review. It was concluded that the use of rhBMP-2/ACS to preserve the alveolar ridge after tooth extraction or to increase local defects, is safe and viable; the use of rhBMP-2 + Bio Oss® is not necessary in the elevations of maxillary sinus membrane; the use of rhBMP-2 + Bio Oss® can improve and accelerate the maturation process in cases of guided bone regeneration in peri-implant defects; the use of a compound having rhBMP-2 + allogenic bone + PRP can be a substitute of autograft for mandibular critical defects.

C096 - Evaluation of nasal septum in maxillary expansion using tomography

Regina Davanço CARVALHO[1]; Osny FERREIRA JUNIOR[1]; Taís Feitosa Leitão de OLIVEIRA[1]; Géssyca Moreira Melo de Freitas GUIMARÃES[1]; Eduardo Sanches GONÇALES[1]; Eduardo Stedile FIAMONCINI[1]

[1]Department of surgery, Bauru School of Dentistry, University of São Paulo.

The Surgically assisted rapid palatal expansion (SARPE) is a surgical procedure indicated for the correction of maxillary constriction in adult patients. The purpose of this study was to identify the position of the nasal septum before and after surgical separation of the maxillae, and evaluate their influence on the movement of the side of the maxilla that remained attached. Fifty six cone beam computed tomographies (CBCT) of 14 individuals submitted to SARPE in the preoperative and postoperative periods of 15, 60, and 180 days were evaluated. Initially, postoperative images were visualized using multiplanar reformatting to identify which side of the maxilla, right or left, and the nasal septum remained attached after the SARPE. In a second step, linear measurements in the images corresponding to the pre and postoperative periods were performed. These measurements were performed in the axial reformatting immediately above the expander, thus dividing the patient's right side and left side until the canines and molars on the right and left sides in a standardized form. The intraobserver kappa index was >0.9. To compare the differences between the means of two groups (side connected to the nasal septum and not connected to the nasal septum) a t test was used. In 78.6% of patients, the nasal septum remained attached to the left maxilla and 21.4% on right maxilla. Regarding linear measurements, both in the region of canines as in the molar region, it was observed that, in the preoperative period, there was no difference between the right and left sides. After the SARPE, a statistically significant difference ($p<0.05$) was observed, with the observation that there was less movement of the maxilla in which the nasal septum remained connected. Therefore, it can be concluded that the maxillary expansion is asymmetrical because the maxilla remains connected to the nasal septum after SARPE and it moves less than the maxilla not connected to the nasal septum.

C097 - Surgical treatment of blow-out fracture sequelae: case report

Rodrigo CAPALBO-DA-SILVA[1]; Pedro Henrique da Silva GOMES-FERREIRA[1]; Danila de OLIVEIRA[2]; Leonardo Perez FAVERANI[1]; Roberta OKAMOTO[2]; Francisley Avila SOUZA[1]; Idelmo Rangel GARCIA-JÚNIOR[1];

[1]Department of Surgery and Integrated Clinic, Araçatuba Dental School, Univ. Estadual Paulista.
[2]Department of Basic Sciences, Araçatuba Dental School, Univ. Estadual Paulista.

The purpose of this clinical case was to show the treatment of zygomatic fracture with 6 months of evolution. Patient A. E. A., 58 years old, female, was referred to the Surgery and Integrated Clinic Department of Araçatuba Dental School reporting diplopia in upper and lower right quadrant. After physical examination mild ocular dystopia and a decrease of the zygomatic bone projection were noticed; a computed tomography image showed the fracture consolidation in all bone sutures and a blow-out fracture in the orbital floor leading to an increased orbital volume. Surgical treatment of zygomatic bone and blow-out fracture was chosen. Under general anesthesia, the approach was made to expose the zygomatic-maxillary crest, infraorbital rim and the fronto-zygomatic suture to re-fracture the zygomatic bone by chisels and drills. After this, the bone fracture was reduced and fixed with 1.5 mm titanium miniplates and screws on fronto-zygomatic suture, infra-orbital rim and zygomatic-maxillary crest. To treat the orbital floor defect, a titanium mesh was modeled and fixed with 1.5 mm screws. After 10 months of follow-up, the zygomatic bone projection was recovered and the patient did not complain about diplopia anymore. In conclusion, the reconstruction of orbital walls is important to restore the correct eyeball position avoiding functional and aesthetic problems.

C098 - Facial injury in motorcycle accidents: patient profiles

Talita Roberta SCARABOTO[1]; Denise da Rosa FURTADO[1]; Tiago GAI AITA[1]; Glaykon Alex Vitti STABILE[2]

[1]Department of Dentistry, State University of Londrina.
[2]Department of Oral Medicine and Children's Dentistry , State University of Londrina.

Among injuries involving motorcycle accidents, those on the face and skull contribute significantly to the morbidity, mortality and hospital costs. The identification and prompt treatment are important to reduce the consequences of facial injuries. The aim of this study was to conduct a retrospective evaluation of the profile of victims of face trauma whose etiology has been motorcycle accidents. From June 2011 to June 2015, all standardized medical records for all patients who entered the University Hospital, victims of face trauma due to motorcycle accidents, were evaluated and the variables related to the profile of patients were analyzed. A total of 54 victims of motorcycle accidents have been identified. Incomplete records were excluded from the final sample, and the final number for analysis was 48 cases. Forty three patients (89.5%) were male and five (10.5%) were female. The average age was 28.5 years. The average length of hospitalization was 6.4 days. The most prevalent type of fracture was the mandible (68.5%), followed by fracture of the zygomatic-orbital complex (25%), and 16 patients (33.3%) had more than one type of fracture. Helmet use was observed in 35 patients (72.9%). The most common treatment was reduction and fixation of the fracture (68.7%), followed by closed treatment and ambulatory control (31.3%). It is concluded that facial trauma due to motorcycle accidents is more prevalent in young adult male patients; the jaw is the most affected bone and the most common treatment is the reduction and fixation of the fracture, and patients are on average hospitalized for less than one week.

C099 - Extraoral implants in the rehabilitation of auricular defects

Thalita Campos NUNES[1]; Marcos Martins CURI[2]; Patrícia Martins BUENO[1]; Camila Lopes CARDOSO[2]; Anthony Benites CONDEZO[2]; Marcelo Ferraz OLIVEIRA[2]; Rafael Zetehaku ARAUJO[2]

[1]School of Dentistry, University of Sagrado Coração.
[2]Department of Oral Surgery, University of Sagrado Coração.

The objective of this study was to evaluate implant and prosthesis survival rates and the soft tissue reactions around the extraoral implants used to support auricular defects. Following the favorable decision of Ethical Committee, a retrospective study was performed of patients who received implants for craniofacial rehabilitation from 2003 to 2015. Two outcome variables were considered: implant and prosthetic success. A statistical model was used to estimate survival rates and associated confidence intervals. Data were analyzed using the Kaplan-Meier method and log-rank test to compare survival curves. A total of 39 titanium implants were placed in 17 patients. The 2-year overall implant survival rates were 94.1% and the 2-year overall prosthesis survival rates were 100%. From this study, it was concluded that craniofacial rehabilitation with extraoral implants is a safe, reliable, and predictable method to restore the patient's normal appearance.

C100 - Rehabilitation with dentals implants after excision of ameloblastoma

Vinicius Matheus ROSA[1]; Michelle Maria CASCINI[2]; Jéssica Lemos GULINELLI[3]; Edilson José FERREIRA[4]; Marcos KUABARA[4]; Pâmela Letícia dos SANTOS[3]

[1]Student at Sagrado Coração University.
[2]Dentist by Sagrado Coração University.
[3]Graduate and post graduate Professor in Sagrado Coração University.
[4]Post graduate Professor in Implantology of IMPPAR, Londrina-PR.

Ameloblastoma is a relatively rare tumor that affects the maxillomandibular region. Despite displaying histological characteristics of benignity, it has a high probability of being locally invasive and recurrent. Surgical resection is almost always indicated and oral rehabilitation becomes a challenge. The aim of this study was to report the mandibular rehabilitation with implant supported prosthesis in immediate loading then resection of ameloblastoma. Patient AA, 53 years old, with confirmed diagnosis of multicystic ameloblastoma in the left jaw by means of histopathology underwent partial resection of the mandible and reconstruction with titanium plate. After 2 years of follow-up clinical, radiographic and tomographic examination and no signs of recurrence, the patient underwent the technique of immediate-load implants with installation of implants along with the technique of cemented cylinder to rehabilitate the mandible with implant-supported fixed prosthesis and the maxilla with conventional complete denture. During seven years of follow-up, there were no signs and symptoms of recurrence of ameloblastoma. The rehabilitation with oral implants under immediate loading demonstrated success and the technique of cemented cylinder used in this study coupled with passivity showed favorable prognosis for the longevity of the implants.

101 - Mandible resection for treatment osteoradionecrosis

Raphael Gustavo BINKO[1]; Bárbara FONSECA[1]; Jean Carlos DELLA GIUSTINA[2]; Hildebrando Massahiro NAGAI[2]

[1]Paranaense University.
[2]West Union Paranaense Studies and Fight Cancer.

Radiation therapy and surgery are the treatments most used in malignancies in the head and neck. Patients undergoing radiotherapy often develop changes and sequelae such as dermatitis, mucositis, xerostomia, candidiasis, dysphagia, taste changes, decay, lockjaw and osteoradionecrosis. Osteoradionecrosis is the most severe complication and the mandible is the most affected anatomical structure although it may affect the maxilla. A male patient, 43 years old, attended the Oral and Maxillofacial Surgery Clinic of Uopeccan/Cascavel-Pr with cancer treatment history in the mouth and oropharynx, undergoing radiotherapy for head and neck and chemotherapy. Clinical examination revealed bilateral intraoral bone exposure in the mandible. Conservative surgical treatment was proposed, performing surgical debridement on an outpatient basis. After 4 months of follow-up, the patient presented pathological fracture of the left mandible with displacement, reporting spontaneous painful symptoms, severe trismus and active extraoral fistula. Radiographically, bilateral bone thinning and mandibular fracture with displacement were observed. Patient underwent surgery under general anesthesia and intubation via preoperative tracheostomy. Hemi mandibulectomy with left submandibular extraoral access of Hidson type and the right side intraoral surgical debridement were performed. At the 15th postoperative 15 day, the patient presented intraoral communication on the left side, and was instructed to perform irrigation with 0.12% chlorhexidine until the closure of the communication. At follow-up of 8 months, the patient was well, with favorable aesthetics, without pain and without fistula. Thus, it is essential to perform the dental care both before and after the-radiotherapy treatment in order to prevent and mitigate consequences of this treatment.

OR001 - Maxillary posterior discrepancy and upper molar heights in open bite

Aron ALIAGA-DELCASTILLO[1]; Luis Ernesto ARRIOLA-GUILLÉN[2]; Guilherme JANSON[1]

[1]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.
[2]Department of Orthodontics, University of San Marco.

The objective of this research was to determine the influence of maxillary posterior discrepancy (MPD) on upper molar heights (UMH) in subjects with or without anterior open bite (AOB). Pre-treatment lateral cephalograms of 139 young adults were examined. The sample was divided according to their sagittal and vertical pattern and MPD (with or without). UMH, overbite, lower anterior facial height and facial height ratio were measured. Independent t-test was performed to determine differences between the groups considering MPD. No statistically significant differences were found when comparing the UMH according to MPD for the Class I group with open bite or the Class I group with adequate overbite ($p=0.631$ and $p=0.176$, respectively). The Class II group without MPD had greater first and second upper molar heights when compared with Class II group with MPD (1.27 mm, $p=0.025$ and 1.14 mm, $p=0.035$ respectively). The Class III group without MPD had greater first and second upper molar heights when compared with Class III group with MPD (2.46 mm, $p<0.001$ and 3.49 mm, $p<0.001$ respectively). Overall MPD does not appear to have a clear impact on UMH. Only the SOB Class III group without MPD had a clinically significant increased upper molar height.

OR002 - Alveolar bone assessment of CI adjacent to grafted alveolar cleft

Felicia MIRANDA[1]; Gabriela Manami NATSUMEDA[2]; Marilia YATABE[1]; Guilherme JANSON[1]; Daniela GARIB[1,3]

[1]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.
[2]Bauru School of Dentistry, University of São Paulo.
[3]Department of Orthodontics, Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.

The aim of this study was to verify the alveolar bone thickness and level of maxillary central incisors neighboring to grafted alveolar cleft, after orthodontics. The sample comprised 30 patients with unilateral complete cleft lip and palate with a mean age of 20.5 years. Cone-beam computed tomography images of maxilla were obtained 6 months to 2 years after comprehensive orthodontic treatment has been completed. The contralateral maxillary central incisor was used as control. Paired t tests and Wilcoxon tests were used to compare cleft and noncleft sides ($p<0.05$). At the cleft side, labial and lingual alveolar bone thickness corresponded to 0.31 mm and 1.31 mm. Alveolar bone crest level related to CEJ was 2.97 and 1.21 mm, at the labial and lingual aspects of cleft side, respectively. There were statistically significant differences between the cleft and noncleft sides. There was a thinner thickness of the buccal and lingual bone plates at the cleft side. There was a slight apically displaced buccal alveolar crest level compared with the noncleft side. In patients with unilateral cleft lip and palate, maxillary central incisors adjacent to grafted alveolar cleft presented an adequate labial and lingual alveolar bone morphology, although slightly different from the contralateral incisor.

OR003 - Orthodontics presence in SUS

Joanna Adami DELPINO[1]; Tais Garani Pimenta DUTRA[1]

[1]Department of Pediatric Dentistry, National Institute of Higher Education and Graduate Padre Gervasio.

Due to the high prevalence of malocclusions, the wide epidemiological change by passing the oral health and before the reference of the constitutional principles of integrity and equality has become essential to allow the incorporation of orthodontic procedures by the public health sector. Knowing that the prevalence of clinical care is positive provided there is an adequate structure to meet the needs of the population; that experts consider themselves unprepared to carry out the necessary procedures so that there would be the need for training; that there would be no need to deploy other orthodontic procedures in primary care than those reviewed; and that the main complications that would be seen would be related to excess demand and the lack of human resources, even with these obstacles, the most professional sees as positive and viable expansion/introduction of this service, thus improving the health of the population. The aim of this study is a literature review with operating books, papers, magazines and websites in order to report the importance of orthodontics in the Health System. Thus, we concluded the inclusion of preventive orthodontic treatments as desirable, timely and can be carried out, believing that the treatment of the simplest solutions orthodontic pass to attend the day-day in oral health actions of public services, following the example of several developed and developing countries.

OR004 - Class II malocclusion treatment with Jones jig distalizer

Lorena Vilanova Freitas de SOUZA[1]; José Fernando Castanha HENRIQUES[1]; Mayara Paim PATEL[1]; Deborah Brindeiro de Araújo BRITO[1]; Sorileé Carlina Ramón PUJOLS[1]

[1]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.

There are many ways to treat Class II malocclusion such as distalization of maxillary molars with fixed intraoral devices, which are efficient and mainly independent of patient compliance. The Jones jig appliance was used in this case. Patient M.C.F., a 12-years-old girl, had Class II malocclusion division 2, with ½ cusp Class II molar relationship, an overjet of 3 mm and an overbite of 4 mm. The cephalometric evaluation showed no skeletal discrepancies, the patient had an acceptable profile and therefore it was decided to correct the molar relationship with Jones jig appliance. Distalization lasted 6 months followed by treatment with fixed appliance which lasted 2 years and 9 months. During the anterior retraction, the patient used the headgear and class II elastics to maintain the results obtained with the distalizer. Treatment goals were successfully achieved and the Jones jig was effective in distal movement of the maxillary molars, minimizing the need for patient compliance and reducing total treatment time.

OR005 - Orthodontic traction of included canine: a case report

Ricardo Gandur LOPES[1]; João Paulo BONARDI[1]; Valthierre Nunes LIMA[1]; Rodrigo Santos PEREIRA[1]; Jonathan Ribeiro SILVA[1]; Eduardo Hochuli VIEIRA[1]

[1]Department of Surgery and Integrated Clinic, Araçatuba Dental School, Univ. Estadual Paulista.

When there is talk of treating included teeth, one considers the extraction, however when it comes to included canines this idea is no longer the same. Since the canine is one of the most important teeth in the dental arch, it makes up the aesthetics of the smile and is an important pillar. When there is an included canine efforts must be made to be able to put the tooth in position and function. The goal of this work is to describe a 16-year old female patient case that had the tooth 23 included in transalveolar position, which was treated by orthodontic traction. The patient is in a 12-month follow-up where the entire crown of tooth 23 in mouth was observed clinically, showing a favorable prognosis and preventing the extraction of the impacted tooth.

OR006 - Brackets adhesion on teeth submitted to dental bleaching

Ricardo Natã Fonseca SILVA[1]; Caio César Garcia PEREIRA[2]; Fernando Accorsi OROSCO[3]; Lúcia Coelho Garcia PEREIRA[2]

[1]Federal University of Goiás.
[2]University Center of Anápolis.
[3]University of Sagrado Coração.

There are patients who undergo dental whitening without professional supervision, that somehow have access of bleaching agents. Some of these can do orthodontics treatment or need restoration right after tooth whitening which can cause damage to adhesion. It is known that repeated bracket bonding is time-consuming and has a negative effect on the success of orthodontic treatment, delaying its evolution. Therefore it is important that the orthodontist knows the effects that bleaching can lead brackets adhesion on tooth enamel and how to overcome them in clinical practice. Thus, the aim of this literature review is to present the existing information about brackets adhesion on teeth submitted to bleaching, while pointing out the most favorable options for a better union. In the literature it was observed that the effect of whitening on enamel surface morphology and the bond strength between the resin and the bleached enamel and post-whitening effect is still a controversial subject. However, it has been said that the cause of reducing the bond strength between the bracket and the tooth enamel after bleaching may be due to loss of prismatic formation and calcium, hardness reduce, interference of residual oxygen that can inhibit the polymerization. Various methods are proposed for recovering the reduced bond strength including the removal of the glaze layer surface, late the adhesion procedure, treatment the surface with antioxidants, use of bonding agents based on alcohol or pretreatment the surface with ethanol. We conclude that the bond strength to bleached enamel is influenced by the bleaching agent when the self-etching adhesive is used. It is suggested to wait two weeks of post-whitening for the brackets collage. Anti-oxidant agents such as 10% sodium ascorbate are viable alternatives to reduce the waiting time for bonding.

OR007 - Interrelationship between orthodontics and periodontics

Lannay de Cássia Silva LOPES[1]; Mariana Junqueira AQUINO[1]; Thaynara de Castro CLEMENTE[1]; Rafael Aguiar VILELA JUNIOR[1]

[1]National Institute Of Higher Education and Graduate Padre Gervasio.

For orthodontic movement it is necessary the quality and health of the periodontium, which can often be affected by active disease, unable to bear the orthodontic forces. This study aimed to review the literature on the relationship between the specialty of orthodontics and periodontics. Orthodontic treatment is not contraindicated for patients with periodontal problems, provided that they are in constant treatment and supervision. The interdisciplinarity is favorable to the patient, brings highly favorable results from both orthodontic point of view as periodontal, and improve self-esteem of the patient. It takes the ethics of professional responsibility for referral to the periodontist. Therefore, we can conclude that cooperation between orthodontics and periodontics can turn dental and gum problems in a beautiful and efficient smile, clinically healthy.

OR008 - Root resorption in Dentistry

Mariana Junqueira AQUINO[1]; Thaynara de Castro CLEMENTE[1]; Lannay de Cássia Silva LOPES[1]; Ademir Tadeu Ribeiro GROSSI[1]

[1]National Institute of Higher Education and Graduate Padre Gervasio.

During orthodontic treatment, root resorption may occur as a result from the combination of biological activities of each patient, associated to mechanical forces applied. This study aimed to review the literature on the root resorption occurred in orthodontic treatment. Among the etiological factors we can mention the individual predisposition, age and gender of the patient, harmful habits, among others. Although the process is multifactorial order, it is necessary to know the factors that can lead to this episode. The professional being aware of the problem may make consistent clinical choices. A correct diagnosis, mechanotherapy respecting biological structures and periodical radiographic follow-up are essential in the orthodontic treatment. Therefore, root resorption should be considered in all orthodontic treatment.

OR009 - The versatility of the Ricketts utility arc

Thaynara de Castro CLEMENTE[1]; Mariana Junqueira AQUINO[1]; Lannay De Cássia Silva LOPES[1]; Ademir GROSSI[1]

[1]National Institute of Higher Education and Graduate Padre Gervasio.

Ricketts utility arch is one of the basic elements of bioprogressive therapy and due to its broad applicability for the development of orthodontic mechanics it is recognized in the specialty for its versatility in the treatment of malocclusions. It is used both in adults and in children because of their excellence in the mixed and permanent dentures. It is made with square wire 0.016”x 0.016”; blue Elgiloy, an easy wire to be modeled. The

objective of this work was to review the literature on the versatility of the Ricketts utility arch during orthodontic treatment. Biomechanical movements for intrusion, extrusion, proclination and retroclination of incisors, and maneuvers to control torque and arch perimeter maintenance can be applied both in the upper arch as the bottom in both dentitions, with the aim of achieving the objectives therapeutic of treatment. Therefore, it is concluded that this therapeutic action is of great applicability in the performance of orthodontic therapy.

OR010 - Traction of front tooth with removable and fixed mechanics

Alyssa Teixeira OBEID[1]; Bianca Zeponi Fernandes de MELLO[2]; Eloá Cristina Passucci AMBROSIO[2]; Claudia Cristina da SILVA[3]; Fabrício Pinelli VALARELLI[3]; Thais Marchini de OLIVEIRA[2]

[1]Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.
[2]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.
[3]Dental Institute of Postgraduation - IOPG.

Case report: when the eruption of the permanent incisors does not occur in the expected time, it is essential that the dentist determines the etiology of this condition and proposes the best treatment for the patient. To achieve an accurate diagnosis a proper clinical and radiographic examination is required. The objective of this study is to describe the treatment performed in a 9-year old boy who had delayed eruption of the maxillary permanent left incisor. Radiographic examinations were performed and computed tomography showed that the intraosseous horizontal position of the tooth and revealed the possibility of orthodontic traction to get its normal position in the arc. The proposed treatment was the use of a removable traction plate with occlusal stop from the use of elastic relying on the plate and a lingual button on the tooth 21. Once the tooth crown was viewed in the oral cavity, it was possible to fix the braces to achieve the correct position of the maxillary incisors, allowing an acceptable occlusion and a harmonious smile for the patient. Early diagnosis and appropriate treatment enabled the emergence and the natural position of the impacted tooth, avoiding invasive surgical techniques and resulting in good esthetics and periodontal condition.

OR011 - Class II open bite treated with multiloop edgewise archwire (MEAW)

Aron ALIAGA-DELCASTILLO[1]; Luis GARCÍA-GONZALES[2]; Luciano SOLDEVILLA[2]; Lorena Vilanova Freitas de SOUZA[1]; Guilherme JANSON[1]

[1]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo
[2]Department of Orthodontics, University of San Marcos.

Anterior open bite malocclusion is difficult to manage because of its multifactorial etiology. Over time it has had a wide range of treatments. Multiloop Edgewise Arch Wire (MEAW) is based on the elimination of posterior discrepancy, reconstruction of the occlusal plane and mandibular repositioning. The objective of this report it to present the treatment of an 13.6 years old male patient, diagnosed with: tongue thrusting habit, severe anterior open bite malocclusion and skeletal Class II relationship, overjet 12 mm, overbite – 7 mm, and hyperdivergent growth. The patient presented a history of Rapid Maxillary Expansion and tongue crib therapy. The main goal of treatment was to correct the open bite and achieve adequate intercuspation. After alignment and leveling phases, MEAW with anterior and class II elastics were implemented. Correction of the anterior open bite malocclusion and sagittal relationship were achieved in only 10 months with functional and esthetic results. MEAW therapy is a very efficient alternative for severe open bite treatment.

OR012 - Orthodontic traction for the periodontal biologic width recovery

Daniel Kohl GREGHI[1]; Mariana Schutzer Raghiantti ZANGRANDO[2]; Carla Andreotti DAMANTE[2]; Adriana Campos Passanezi SANT'ANA[2]; Maria Lúcia Rubo de REZENDE[2]; Sebastião Luiz Aguiar GREGHI[2]

[1]Department of Dentistry, University of Sagrado Coração.
[2]Department of Prosthodontics, Discipline of Periodontics, Bauru School of Dentistry, University of São Paulo.

The preservation of periodontium marginal biologic unit is essential in maintaining oral health. Thus, the tissues that form the biological width reflect directly the tissue health and esthetic. In many instances the biological width is compromised by cavities, fractures, root perforation, etc., resulting in inflammation, bone loss, and unbalance of homeostasis. In all cases an intervention is required to restore healthy conditions. The treatment for the recovery of biological width depends on factors as the tooth and the dental face involved. In sites where esthetic is not critical a surgery with osteotomy is the most readily used option, producing immediate effect and earlier prosthetic rehabilitation. Attention must be paid on how the insertion loss in the osteotomy will compromise the remaining periodontium. On the other hand, in esthetic sites, a crown lengthening procedure may result in an esthetically unacceptable condition. Thus for those situations surgical treatment is contraindicated and coronal orthodontic movement is indicated, aiming to keep away the "aggressor"; from the crestal bone and to allow a new supra-alveolar root space to reorganize the biological width without compromising esthetics. The aim is to present a case of tooth traction, indication for the treatment, dynamics of movement in periodontal treatment. This is a report of a clinical case of biological width recovery in the tooth 11, with a cervical root perforation on the distal face, through fast coronal orthodontic traction, complemented by surgery flap. The approach used with periodontal concepts associated to orthodontics, allowed to obtain an appropriate biological and esthetic result. Integrated dental specialties can provide valuable treatment options, when considering biological concepts.

OR013 - Orthodontic traction for impacted maxillary canine: 4-year follow-up

Felicia MIRANDA[1]; Francyle Simões Herrera SANCHES[1]; José Fernando Castanha HENRIQUES[1]; Daniela GARIB[1,2]

[1]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.
[2]Department of Orthodontics, Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.

Maxillary canine impaction is a common occurrence, especially in the palate, despite sufficient space in the arch for tooth alignment. A proper approach requires knowledge of different specialties of dentistry, such as orthodontics, surgery, radiology, and periodontology. The causes for canine impaction may be either general or local, and the diagnosis should be made through specific clinical and radiographic examination. A 14-year old female patient showing impacted right maxillary canine and the maxillary deciduous canine in position seek for orthodontic treatment. She presented a balanced profile and Class I canine and molar relationships, with slight mandibular anterior crowding. Deciduous canine was extracted and the traction of the permanent canine was performed with a 0.010" flexible archwire after its surgical exposure. Treatment lasted 18 months and the 4-year follow-up showed a great stability of the obtained results.

OR014 - Incisor intrusion with mini-screws in the improvement of the smile

Gerson Aparecido FORATORI JUNIOR[1]; Mayara Paim PATEL[1]; José Fernando Castanha HENRIQUES[2]; Fabrício Pinelli VALARELLI[1]; Danilo Pinelli VALARELLI[1]

[1]Dental Institute of Postgraduation - IOPG.
[2]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.

Deep bite is a very frequent malocclusion in adults and children. It can be corrected by various ways and the appropriate choice will depend on the diagnosis and treatment goals. One way of correcting this malocclusion is with anterior teeth intrusion, posterior teeth extrusion or a combination of both. In patients with deep bite associated with gummy smile, the intrusion of the anterior teeth is an alternative to compensation skeletal problem and it can lead to improvement in smile esthetics. The aim of this case report is to show the treatment of a 27-year old female patient, with a Class II Division 2 Angle's malocclusion, deep bite and gummy smile. Using mini-screws, which enable skeletal tissue anchorage, the central incisors were intruded and, with the action of compensatory curved archwires, the correction of the deep bite and gummy smile was promoted, resulting in the improvement of the smile's aesthetic. Therefore, it is possible to conclude that the association of orthodontic mechanics, promoting dental intrusion and extrusion, are efficient in the correction of deep bite and in the improvement of the smile's aesthetic.

OR015 - Miniscrew-anchored cantilever for maxillary molar distalization

Lorena Vilanova Freitas de SOUZA[1]; José Fernando Castanha HENRIQUES[1]; Roberto Henrique da Costa GREC[1]; Mayara Paim PATEL[1]; Luiz Sérgio VIEIRA[1]

[1]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.

The distalization of maxillary molars with intraoral fixed appliances is one of the Class II malocclusion treatment protocols without performing teeth extractions and without producing orthopedic effects, with minimal requirement for patient compliance. However, it is associated with undesirable effects such as distal angulation of the molars and loss of anterior anchorage with subsequent increase of overjet. The effects on the maxillary molars can be minimized by applying a force as close as possible to the center of resistance of the tooth in order to produce a body movement of this element. The loss of anchorage can be solved with the use of skeletal anchorage. The cantilever for distalization made in the Discipline of Orthodontics, at the Bauru School of Dentistry, is a simplified appliance. It is easy to confect, to install and to activate. This device has support on the buccal side of the maxillary first molar and has a nickel-titanium spring as active unit anchored to a mini screw. The purpose of this paper is to present the characteristics of this distalizer and its installation associated with skeletal anchorage in a patient with Class II molar relationship. It was obtained Class I molar relationship in approximately six months. Therefore, it was effective in molar relationship correction.

OR016 - Microbial contamination of orthodontic acrylic resin-appliances

Olga Benário Vieira MARANHÃO[1]; Larissa Vanessa Gomes MOREIRA[2]; Ana Gláucia de Oliveira MACEDO[1]; Anderson Farias da CUNHA[1]; Kenio Costa de LIMA[3]; Maria Regina MACÊDO-COSTA[4]; Sergei Godeiro Fernandes Rabelo CALDAS[5]; Hallissa Simplício Gomes PEREIRA[5]

[1]Division of Dentistry, Department of Orthodontics, Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.
[2]Federal University of Rio Grande do Norte.
[3]Department of Public Health, Dental School, Federal University of Rio Grande do Norte.
[4]Department of Oral Microbiology and Immunology, Dental School, Federal University of Rio Grande do Norte.
[5]Department of Orthodontics, Dental School, Federal University of Rio Grande do Norte.

Patients and professionals involved in Dentistry are constantly exposed to potentially pathogenic microorganisms, which may be present in agents such as instruments and equipment. The production of orthodontic appliances is made in a dental laboratory which can represent a potential cross-infection. Nevertheless, there aren't studies evaluating the presence of bacterial contamination of orthodontic appliances after routine procedures in the dental laboratory. Also, there isn't clinical protocol for infection control of orthodontic appliances before installing in the patient. This study aimed at evaluating bacterial contamination of orthodontic appliances and the effectiveness of disinfection with 2% chlorhexidine and 0.12% chlorhexidine. Two microbiological collections were done from 60 orthodontic appliances made of chemically active acrylic resin. The first collection was made before disinfection and the

second was done after, in order to evaluate bacterial growth. The colony forming units (CFU) were manually counted in each Petri dish with the aid of a magnifying glass. Thereby the number of colonies of the sample was converted into score, based on the following parameters: score 0 for devices with no colonies/biofilm; Score 1 for devices presenting from 1 to 100 CFU; score 2 for 101 to 1,000 CFU and score 3 more than 1,000. After analysis it was found that 85% of sampled devices introduced were contaminated and that disinfection protocol performed with 2% chlorhexidine was effective. Furthermore, the adopted disinfection protocol should have the device soaked in 2% chlorhexidine for 10 minutes to prevent patient contamination from contaminated orthodontic appliances.

OR017 - Influence of Class II treatment protocol in the profile attractiveness

Marcelo Vinicius VALERIO[1]; Lucas Marzullo MENDES[1]; Cinthia Helena Zingaretti JUNQUEIRA[1]; Marcos Roberto de FREITAS[1]; Guilherme JANSON[1].

[1]Department of Pediatric Dentistry, Orthodontics and Community Healthy, Bauru School of Dentistry, University of São Paulo.

Extraction's effect on the facial profile was always a doubt. This study aimed to assess if there is influence of 3 different treatment protocols for Class II division 1 in the profile attractiveness by the end of treatment and in the long-term. Cephalometric measurements were obtained from the radiographs through the software Dolphin Imaging 11.5 and comparisons were made among the groups for the two times. The groups were divided according to the treatment protocol: without extraction (XP0), with extraction of 2 (XP2) or 4 (XP4) maxillary premolars. Sixty-eight full Class II division 1 treated patients, matched by sex, end of treatment age, long-term posttreatment age, occlusal outcomes (index Objective Grading System) and overjet (final and in the long-term) were evaluated. The group XP0 consisted of 20 subjects, on average 29.94 (±7.35) years old and 15.62 (±7.22) years posttreatment. In XP2, 27 individuals on average 30.56 (±5.74) years old and 15.09 (±4.79) years posttreatment. In XP4 group, 21 individuals on average 32.29 (±5.70) years old and 17.20 (±5.76) years post-treatment. The lateral radiographs taken by the end of treatments and in the long-term resulted in two profile black silhouettes of each patient. Through a website, laymen (77) and orthodontists (77) assigned scores from 1 to 10 to the each silhouettes attractiveness, according to their personal criteria. Analysis of covariance revealed that the age or sex of the evaluators did not interfere on their opinions. Analysis of variance revealed that the facial pattern was slightly more vertical in the group XP4 compared to XP2. Two-way Analysis of Variance revealed that the attractiveness in XP2 was significantly higher than in XP4 by the end of treatments and in XP0 were similar to both. In the long-term the attractiveness in XP2 group was significantly higher than both groups XP0 and XP4. There were no significantly differences between the cephalometric changes in the posttreatment period.

OR018 - Facial morphology and obstructive sleep apnea

Anderson Paulo Barbosa LIMA[1]; Anderson CAPISTRANO[1]; Ana Claudia de Castro Ferreira CONTI[1]; Danilo Pinelli VALARELLI[1]; Mauricio de Almeida CARDOSO[1]; Renata Rodrigues de ALMEIDA-PEDRIN[1]

[1]Department of Orthodontics, University of Sagrado Coração.

The aim of this study was to evaluate the possible association between Facial Morphologic Patterns and Facial Types (Brachyfacial, Mesofacial and Dolichofacial) and Obstructive Sleep Apnea (OSA) patients of a sleep disorder center. For that, were used facial photographs of front, profile and smile of 260 individuals randomly selected among patients attending a clinic specialized in polysomnography. For the establishment of the Facial Morphologic Diagnosis, the sample was sent to three experienced professors of Orthodontics trained in the classification of Facial Pattern and each was instructed to rate the Facial Pattern using the following code: 1- Pattern I, 2 – Pattern II, 3 – Pattern III, 4- Long Face Pattern and 5- Short Face Pattern. The inter-rater reliability was assessed using the Kappa Index. The diagnosis of Facial Pattern was established through facial index (n-gn/zy-zy) which takes into account the ratio between the width and height of the face. The results showed that in the multiple linear regression model the Pattern II had the ability to worsen the apnea-hypopnea index (AHI) in 6.98 while Pattern III patients had this index attenuated in 11.45. Concerning the Facial Type, the Brachyfacial Type patients had an average AHI of 22.34 while the group classified as Dolichofacial Type showed a lower index of 10.52, with statistical significance. The morphological facial design was shown as a significant factor in aggravation or protection of OSA, as Brachyfacial Type and Pattern II individuals had higher AHI, while in Pattern III patients this index was reduced.

OR019 - Impact of orthodontic treatment on self-esteem and quality of life

Andrea Maria de Souza CONSTANTINO[1]; Vanessa de Couto NASCIMENTO[1]; Ana Claudia Castro Ferreira CONTI[1]; Mauricio de Almeida CARDOSO[1]; Danilo Pinelli VALARELLI[1]; Renata Rodrigues de ALMEIDA-PEDRIN[1]

[1]Department of Orthodontics, University of Sagrado Coracão.

This study aimed to evaluate whether orthodontic treatment in adults requiring oral rehabilitation is effective for increasing patients' self-esteem and quality of life (QoL). The sample consisted of 102 adult patients (77 women and 25 men) aged between 18 and 66 years (mean, 35.1 years) requiring oral rehabilitation and orthodontic treatment simultaneously. Rosenberg's Self-Esteem (RSE) Scale and a questionnaire about QoL based on the Oral Health Impact Profile (OHIP-14) were used to determine self-esteem and QoL scores retrospectively. Questionnaires were carried out in two stages, T1 (start of treatment) and T2 (6 months after). To compare score changes between T1 and T2, the data obtained from the RSE Scale were evaluated with paired t tests, and data from the quality-of-life questionnaire were assessed by applying descriptive statistics. The results showed a statistically significant increase in self-esteem ($p<0.001$) and a great improvement on patients' QoL. Orthodontic treatment causes a significant increase in self-esteem and QoL, providing psychological benefits for adult patients in

need of oral rehabilitation.

OR020 - Class II treatment with the Forsus appliance: case report

Beatriz Lima de OLIVEIRA[1]; Fernando BARTH[1]; Maurício de Almeida CARDOSO[1]; Renata Rodrigues de ALMEIDA-PEDRIN[1]; Leopoldino CAPELOZZA FILHO[1]; Ana Cláudia de Castro Ferreira CONTI[1]

[1]Department of Orthodontics, University of Sagrado Coração.

Among orthodontic treatments proposed for correcting Class II malocclusion in adult patients, the protocol with dentoalveolar compensation stands out. The therapy to be applied is related to the severity of the sagittal error added by facial disharmony, both identified by patient and orthodontist. Although compensatory treatment does not aim to correct the facial profile of the patient, a propulsive mechanics enables dentoalveolar block protrusion of the lower arch, allowing a reduction in sagittal deviation that may consequently contribute to facial balance. Thus, the present clinical case reports an adult patient (initial age of 29 years and 9 months) presenting Class II malocclusion, mandibular deficiency, reduced lower third of the face, but with relative facial profile pleasantness. Corrective fixed appliances were recommended, associated with the mandibular protractor Forsus, aiming particularly to incline lower incisors in order to decrease overjet, increase vertical dimension of the middle third of the face, as well as to improve occlusal relationship and perioral tissues posture. The results, after 32 months of treatment, showed improvement of occlusal relationships and a significant change in facial pleasantness, even with facial pattern being compromised by mandibular deficiency. These results were stable in the post-treatment follow-up of 3 years, for both occlusal aspect and facial profile. Thus, the compensatory treatment proves to be an adequate mechanotherapy to correct Class II in adult patients, allowing an adjustment in occlusal relationships associated with an improvement of facial contours and soft tissue.

OR021 - Condylar hyperplasia on post-pubertal growth in Class III patients

Carolina Martins FROTA[1]; Adriano Porto PEIXOTO[1]; Ary dos Santos PINTO[2]; Emily Tamie Sá NAKAMURA[1]; Daniela Aparecida de Godoi GONÇALVES[3]; Daniela Gamba GARIB[1]; João Roberto GONÇALVES[2]

[1]Department of Orthodontics, Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.
[2]Department of Orthodontics, Araraquara Dental School, Univ. Estadual Paulista.
[3]Department of Dental Materials and Prosthodontics, Araraquara Dental School, Univ. Estadual Paulista.

The aim of this study was to evaluate the influence of condylar hyperplasia in the post pubertal mandibular growth of Class III patients one year before surgery. 40 skeletal Class III patients consecutively selected were paired in two Groups (Group WCH= without condylar hyperplasia and Group CH= active unilateral or bilateral condylar hyperplasia) according to gender, age and craniofacial pattern. Lateral cephalograms were traced and digitized using DFPlus software at the initial observation (T1) and immediately before surgical treatment (T2). Significant cephalometric differences during the one year follow up period (T2-T1) were compared between the two paired Groups. Analysis of covariance was used to adjust for the potential confounding factors (age and gender at the initial observation). During the observational period, Group WCH mean differences were smaller than Group CH for all variables that indicated sagital mandibular position: SNB (mean= -1.1; sd= 0.17 degrees), SN.Pog (mean= 0.72, sd= 0.16 degrees), Go-Me (mean= -1.99, sd= 0.39 mm), Ar-Gn (mean= -2.5, sd= 0.37 mm) and S-Gn (mean= -1.9, sd= 0.45 mm). After controlled by age and gender differences between Groups, our paired sample showed that condylar hyperplasia promotes higher total mandibular (Ar-Gn) and corpus length (Go-me) growth for skeletal Class III patients during postpubertal period.

OR022 - Evaluation of the facial profile of Class II patients treated with APM

Daniela Lasmar de MENDONÇA[1]; Eliana de Cássia Molina de PAULA[1]; Danilo Pinelli VALARELLI[1]; Ana Cláudia de Castro Ferreira CONTI[1]; Maurício de Almeida CARDOSO[1]; Renata Rodrigues de ALMEIDA-PEDRIN[1]

[1]Department of Orthodontics, Sagrado Coração University.

The aim of this retrospective study was to evaluate the aesthetic effects of mandibular protraction appliance (M P A) associated with fixed appliances in the treatment of Class II, Division 1 malocclusion subjects. Sample comprised 54 (27 pretreatment and 27 posttreatment) lateral cephalograms of 27 (14 females and 13 males) subjects with a mean age of 12.27 years, during an average period of 2.9 years. From the lateral cephalograms of the 27 subjects (pretreatment and posttreatment) a black silhouette of each patient´s profile was randomly created. Then, 60 orthodontists and 60 laypersons selected the most aesthetic facial profile (A or B), and the amount of profile changes observed in the pretreatment and posttreatment silhouettes, according to a visual analog scale (VAS). The results showed statistically significant differences ($p \leq 0.05$) when comparing pretreatment and posttreatment profiles, however in both groups (orthodontists and laypersons), the majority of the evaluators preferred the posttreatment profile. To quantify the perception of evaluators in the amount of similarities or differences between pretreatment and posttreatment facial profiles a visual analog scale was used, results showed that the laypersons group evaluators identified a largest difference between pretreatment and posttreatment facial profiles than orthodontists´ group ($p<0.001$*). Based on the studied sample, the applied methodology and the results obtained, it is concluded that, in the judgment of the evaluators (orthodontists and lay people), treatment with mandibular protraction appliance promoted a positive effect on soft tissue profile.

OR023 - Dentoalveolar changes in digital models of patients with anterior open bite

Danieli Maciel Streling de OLIVEIRA[1,2]; Thais Maria Freire FERNANDES[1,2]; Thiago SLAVIEIRO[1,2]; Ana Carolina Tristao da Rocha HERAS[1,2]; Paula Vanessa Pedron OLTRAMARI-NAVARRO[1,2]; Marcio Rodrigues de ALMEIDA[1,2]; Marcelo Lupion POLETI[2]; Renato Rodrigues de ALMEIDA[1,2]

[1]Department of Orthodontics, University North of Paraná.
[2]Federal Institute of Paraná.

The objective of this research was to evaluate the dimensional changes of dental arches, on digital models, before and after one year of treatment of open bite, with fixed and removable palatal crib. The sample was composed of 41 patients, of both genders, Caucasians, mixed dentition, aged 7-10 years, Angle Class I molar relationship, negative overbite of at least 1 mm. The sample was divided into two groups: GF: fixed palatal crib and GR: removable palatal crib. Models of initial cast and after one year of treatment were scanned by a 3D scanner 3Shape R700, reproducing a three-dimensional scanned image, on which measurements were performed by one calibrated examiner using the Ortho Analyzer™ 3D software. In T1, in the comparison between groups it was possible to observe similar results in all variables. The results showed an average reduction of open bite of 3.68 mm. In T2-T1 differences were observed between the groups regarding the overjet. Therefore, it can be concluded that treatment protocols performed demonstrated similar dentoalveolar characteristics produced by the two devices used, contributing to the reduction of anterior open bite, with no significant differences.

OR024 - Treatment of Class II Division 1 malocclusion with MARA

Deborah Brindeiro de Araújo BRITO[1]; José Fernando Castanha HENRIQUES[1]; Lorena Vilanova Freitas de SOUZA[1]; Sorileé Carlina Ramón PUJOLS[1]

[1]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.

The treatment of Class II, Division 1 malocclusion should suit the characteristics of each clinical situation. The fixed functional appliance Mandibular Anterior Repositioning Appliance (MARA) has become widely used because it is effective and hard to solve this type of malocclusion and independent of patient compliance for use, which reduces the treatment time. A female patient G.C.S., aged 13 years and 11 months, sought orthodontic treatment. In the initial evaluation, it was observed facial symmetry, soft convex profile and lack of passive lip seal. The intraoral clinical examination showed that the patient was in the permanent dentition, with Class II, Division 1 malocclusion, bilateral, complete Class II severity of right and ¼ Class II on the left. Cephalometric, it was observed protrusion of the maxillary incisors and retrusion of mandibular incisors. The patient's growth pattern was favorable. Once the diagnosis, the chosen treatment plan was the MARA. The patient used this device to overcorrection malocclusion, for a period of 7 months, and remained the unit for over 5 months as containment. After removing this appliance, the fixed orthodontic appliance was settled, with 14 months of treatment time. At the end of treatment, improvement in the patient's profile with passive lip seal was obtained with improved occlusion and satisfactory cephalometric changes.

OR025 - Treatment of Class II subdivision – case report

Demi Lisbôa Dahás JORGE[1]; Rogério Almeida PENHAVEL[1]; Thaís Lucarelo LAMONATO[1]; Adriano Porto PEIXOTO[1]; Ingrid Ivanna Huayta AGUIRRE[1]; Tiago Turri de Castro RIBEIRO[1]

[1]Department of Orthodontics, Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.

Currently, Class II malocclusion still attracts much scientific and clinical interest, since it is the sagittal problem with higher incidence in clinical orthodontics. In diagnosis of Class II subdivision, it can be classified into Type 1, when the upper midline match and the lower are offset in relation to the median sagittal plane and Type 2 when it has diverted upper midline and coincident lower midline than the median sagittal plane. The choice of therapeutic approach in the treatment of Class II subdivision depends on the differential diagnosis between these two types. The objective of this study is to present a case report of a malocclusion of skeletal Class II division 1, subdivision Type 1 (when the largest deviation from the lower midline in relation to the median plane) in a leucoderma patient aged 12 years and 8 months, female, with no passive lip seal and gently convex profile in the permanent dentition, with ¼ Class II relationship on the right side and ¾ Class II on the left. The therapy of choice was the use of extra-oral appliance low traction, concomitant with braces upper and lower leveling for 9 months. After 1 year of treatment, in wire .018"x0.25" steel, started the intermaxillary elastics. Class II intermaxillary elastics were used on the left and front side (middle line). The finalization of the case was carried out in 2 years and 6 months of treatment, with the correction of sagittal relationship and alignment of the upper and lower midlines with the median sagittal plane.

OR026 - Application of the differential expander in unilateral cleft patient

Emily Tamie Sá NAKAMURA[1]; José Carlos da Cunha BASTOS JÚNIOR[2]; Claudia Resende LEAL[2]; Adriano Porto PEIXOTO[3]; Rita de Cássia Moura Carvalho LAURIS[3]; Daniela Gamba GARIB[3]

[1]Preventive and Interceptive Orthodontics, Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.
[2]Department of Oral and Maxillofacial Surgery, Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.
[3]Department of Orthodontics, Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.

Maxillary transverse deficiency can be early observed, especially in patients with cleft lip and palate. When treated earlier, orthopedic procedures are performed successfully; however, in proportion to the increasing age of the patient, there is a reduction of the success in this type of treatment, requiring the application of orthodontic-surgical techniques for correction of transverse deformities in adult patients. This paper presents the case of the patient A.B.P.S, 20 years old, male, unilateral left cleft lip and palate, enrolled at HRAC. The patient showed a left crossbite, as a result of moderate maxillary atresia observed in the region. Taking into account the age and

the severity of the case, we opted for the surgically assisted rapid maxillary expansion (SARME) as part of the treatment plan. Contrary to commonly used protocol, we installed the differential expander appliance. The surgery was made with Le Fort I osteotomy and disruption of the medial palatine suture, pterygomaxillary suture and the nasal septum. During surgery, the appliance was activated 1 mm. 72 hours after surgery the appliance was activated 0.5 mm in the morning and 0.5 mm at night, totaling 1 mm per day. It was necessary 7 days of activation to correct the cross bite. The technique cited above was considered successful since it was necessary few days of activation comparing to the other protocol, besides the expanding quality which could be seen in the immediate postoperative. Moreover, the use of the differential expander appliance had as the main benefit the existence of a single surgical procedure, without exchange for other appliance or a new surgery, since it is possible to enlarge both the anterior and posterior maxilla region.

OR027 - Study of McNamara Jr. analysis in three different races of Brazil

Fabiola Esther ALVAREZ[1]; Arnaldo PINZAN[1]; Juliana Moura STORNIOLO[1]; Ludmila Mangialardo LIMA[1]

[1]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.

Many studies have shown that different ethnic groups have distinct cephalometric patterns. The cephalometric analysis of McNamara Jr. is a tool used for the diagnosis of these dentoskeletal discrepancies. In the present study, was evaluated the mean cephalometric values of normality related to the analysis of McNamara Jr., in Japanese-Brazilian mestizos' adolescents, with normal occlusion, and the results were compared with the samples of Caucasians and Japanese Brazilian adolescents. Cephalograms of 40 Caucasian, 32 Brazilian-Japanese and 33 Japanese adolescents, were used. Using analysis of covariance (ANCOVA) followed by Tukey test it was found a statistically significant difference ($p<0.05$) between the races just for the nasolabial angle in males. As conclusion, the samples showed similar characteristics of the studied variables, as only the nasolabial angle in males showed a statistically significant difference.

OR028 - Orthodontic treatment of incisor's impaction associated to mesiodens

Fernanda Coelho da SILVA[1]; Marcio Rodrigues de ALMEIDA[2]; Renato Rodrigues de ALMEIDA[2,3]; Natalia Martins INSABRALDE[2]; Renata Rodrigues de ALMEIDA-PEDRIN[4]

[1]Sector of Dental Radiology and Imaging, Hospital for Rehabilitation of Craniofacial Anomalies, University of Sao Paulo.
[2]Department of Orthodontics, University of Northern Paraná.
[3]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.
[4]Department of Orthodontics, University of Sagrado Coração.

It is known that the prevalence of supernumerary teeth is more common in the anterior region of the maxilla between the central incisors, when they are called mesiodens. Usually, mesiodens are impacted and often discovered in routine radiographs or when associated with complications, including delayed eruption or impaction of adjacent teeth, crowding, rotations, and diastema, among others. This work reports a case about a female patient, eight years and six months old, who presented retention of the deciduous maxillary central incisor on the left, with impaction of its permanent successor due to the presence of a mesiodens. The objectives consisted of mesiodens extraction, space recovery for the impacted tooth and its traction. The results obtained with the chosen treatment achieved its objectives. In short, when analyzing this case, it can be inferred that it is essential to emphasize the importance of early diagnosis of dental anomalies, such as mesiodens, so that orthodontic treatment can be the most optimized and simplified as possible. Moreover, it is highlighted the importance of applying an adequate mechanical of traction with predictable results.

OR029 - Root length and bone level of tractioned canines and adjacent teeth

Fernando BARTH[1]; Aldir Cordeiro da SILVA[1]; Maurício de Almeida CARDOSO[1]; Renata Rodrigues de ALMEIDA-PEDRIN[1]; Ana Cláudia de Castro Ferreira CONTI[1]; Leopoldino CAPELOZZA FILHO[1]

[1]Department of Orthodontics, University of Sagrado Coração.

The aim of this retrospective split-mouth designed study was to evaluate the long-term effects of orthodontic traction in root length and alveolar bone level in impacted canines and adjacent teeth. Sample consisted of 16 patients (9 males and 7 females) presenting with unilaterally maxillary impacted canines, palatally displaced, treated with the same surgical and orthodontic approach. The teeth from the impacted-canine side were assigned as Group I (GI), and the contralateral teeth as control, Group II (GII). The mean age of patients at the end of orthodontic treatment was 14 years and 2 months and the mean post-treatment time was 5 years and 11 months. Both contralateral erupted maxillary canines and adjacent teeth served as control. Root length and alveolar bone level (buccal and palatal) were evaluated on cone-beam computed tomography (CBCT) images. The comparison of root length and alveolar bone level changes between groups was assessed by applying paired t test, at a significance level of 5% ($p<0.05$). There were no statistically significant differences in root length and buccal and palatal bone levels of canines and adjacent teeth among groups. Impacted canine treatment by means of closed-eruption technique associated with canine crown perforation has a minimal effect on root length and buccal and palatal alveolar bone level in both canine and adjacent teeth, thus demonstrating that this treatment protocol has a good long-term prognosis.

OR030 - Dentoalveolar changes in Class II treatment with elastics

Honório TÓTTOLI[1]; Cristina de Almeida Paschotto Pezzo MARIN[1]; Ana Claudia de Castro Ferreira CONTI[1]; Renata Rodrigues de ALMEIDA-PEDRIN[1]; Mauricio de Almeida CARDOSO[1]; Danilo Pinelli VALARELLI[1]

[1]Department of Orthodontics, University of Sagrado Coração.

The aim of this study was to compare, through lateral cephalograms, dentoalveolar changes promoted by treatment protocols Class II malocclusion, with or without

the extraction of two maxillary premolars, associated with the use of intermaxillary elastics. A retrospective sample of 44 patients, Class II malocclusion, division 1, was divided into two groups: GROUP 1: 22 patients, with initial mean age of 18.87 years, treated with intermaxillary elastics without extraction of two maxillary premolars; GROUP 2: 22 patients, with initial age of 18.31 years, treated with intermaxillary elastics associated with extraction of two maxillary premolars. The lateral cephalograms were used to compare the outcomes of two groups in initial and final phases. For intragroup and intergroup variables comparison was applied t-test. There were significant changes in 1-NB(mm), 6S-PTV(mm), 6S.SN(°), molar relation and Li-Plane E(mm). Both groups had lower incisor protrusion, more pronounced in Group 1. The molar relation at the end of treatment showed a most distal position of maxillary first molar in relation to mandibular first molar in Group 1 and more mesial position in Group 2. The correction of Class II malocclusion with intermaxillary elastics in non-extraction cases generates greater protrusion of the lower incisors. Both treatment protocols show similar soft tissue changes.

OR031 - Treatment of Class III malocclusion associated with severe crowding

Isabela Vasconcellos BARBOSA[1]; Victor de Miranda LADEWIG[1]; Renata Rodrigues de ALMEIDA-PEDRIN[1]; Danilo Pinelli VALARELLI[1]; Maurício de Almeida CARDOSO[1]; Ana Cláudia de Castro Ferreira CONTI[1]

[1]Department of Orthodontics, University of Sagrado Coração.

Class III facial growth is characterized clinically by a straight or concave profile due to excessive mandibular growth associated with maxillary deficiency. In addition to the esthetic effects caused by middle third deficiency, often, there is a narrowing of the upper arch and tooth malpositioning, especially in the anterior region, due to the decreased development of this bone base. The diagnosis should be made early, thus enabling an orthopedic intervention to correct Jaw relationship, eliminating aggravating factors. Thus, the unfavorable growth will be subject only to genetic influence, which favors the patient's prognosis and reduces the possibility for surgical intervention. When orthodontic correction is indicated, it should be performed as soon as the permanent dentition is established. This study aims to present a clinical case of a female patient, presenting Class III malocclusion with severe crowding in the upper arch. Treatment consisted of two phases, the interceptive, at 8 years old, and a second phase, which comprised a corrective approach. At the end of 4 years of treatment, excellent esthetic and functional results were achieved, for both, face and occlusion.

OR032 - Force degradation of intermaxillary orthodontic elastics

Jessica Lais Sampaio dos SANTOS[1]; Betina RAMOS[1]; Lucas Estambassi SILVA[1]; Renata Rodrigues de ALMEIDA-PEDRIN[1]; Ana Claudia de Castro Ferreira CONTI[1]; Danilo Pinelli VALARELLI[1]

[1]Department of Orthodontics, University of Sagrado Coração.

Due to the interference of several factors in the force degradation of intermaxillary elastics used in orthodontic treatments, many studies are conducted to determine the frequency of exchange of these elastics by the patient to achieve optimal results, but studies show controversial results. The purpose of this in vitro study was to evaluate the amount of force degradation of intermaxillary elastics to seek parameters for the use of a protocol on the frequency of exchange of these elastics by the patient in orthodontic therapy. Two groups each containing 30 elastics were selected. Group 1 consisted of 30 elastics Morelli medium strength and diameter of 3/16"; and group 2 was consisted by thirty elastic Morelli, medium strength and ¼"; diameter. They were stretched by 4 cm, submerged artificial saliva and kept at 37 degrees Celsius. They had their strength measured with an orthodontic dynamometer, initially and after intervals of 24, 48, 72 and 120 hours after immersion. The evaluation of strength degradation was performed by calculating the power lost in percentage compared to the initial strength in each time interval. The elastic 3/16"; suffered losses of 20%, 24%, 28% and 32% (24 h, 48 h, 72 h and 120 h). The elastic ¼"; suffered losses of 16%, 24%, 27% and 30% (24 h, 48 h, 72 h and 120 h). For both tested groups, strength losses were greater in the first 24h followed with minor losses up to 120 h after the start. Thus, it is recommended to exchange these elastic after 2 days of use, so that the force is intermittent and close to the ideal of tooth movement.

OR033 - Orthopedic treatment of a Class III patient with family history

João Gabriel Paulino MAZZON[1]; Arthur César de Medeiros ALVES[1]; Louise Resti CALIL[1]; Luis Sérgio VIEIRA[1]; Daniela Gamba GARIB[1]

[1]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.

Unlike other malocclusions, Pattern III has no potential for self-correction and its development should therefore be intercepted early. Pattern III malocclusion presents with morphogenetic character and may be the result of maxillary retrognathia, mandibular prognathism or a combination of both. Regardless of its origin, the Western orthopedic treatment for Pattern III patients consists of a rapid maxillary expansion (RME) followed by maxillary protraction with facemask appliance. The aim of this paper is to present a case in which the Pattern III was intercepted through facial mask therapy. A 7-year old male patient presented with concave facial profile, absence of zygomatic projection, increased nasolabial angle, increased chin-neck line and shallow mentolabial sulcus. These are common facial features in a skeletal Class III patient with maxillary retrognathia and mandibular prognathism. Regarding his occlusion, the patient presented early mixed dentition with Class III canine relationship and severe anterior crossbite. Knowing that the main etiological factor of Pattern III is genetic, family history was investigated and it was found similar facial architecture in the patient's father, who was a bearer of severe skeletal Class III. Early interceptive treatment consisted in performing rapid maxillary expansion with Hyrax appliance, followed by the use of a Petit facemask. Once overjet had been overcorrected, the chin cup appliance was used at night, as an active retainer for one year. At the end of treatment, the patient showed significant skeletal and dental improvements, with an important positive impact on dentofacial aesthetics. It is concluded, therefore, that interceptive treatment of Pattern III provides aesthetic and functional improvements contributing to the patients'

quality of life from an early age.

OR034 - Orthopedics and orthodontics – from prevention to interception. Case report

Jose Gregorio Pelayo GUERRA[1]; Adriano Lia MONDELLI[1]; Sergio Elias Neves CURY[2]; Rodrigo Andres Naveda ARAQUE[1]

[1]Deparment of Orthodontics, CPO Bauru, Ingá College.
[2]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.

Early treatment as defined by the College of Diplomats of the American Board of Orthodontics is treatment started in the primary or mixed dentition to enhance the dental and skeletal development before the establishment of the permanent dentition. From the first sign of development of primary teeth, there should be a clinical and radiographic following each period until the permanent teeth. Where assess the growth and correct positioning of the teeth in the dental arch. The aim of this study was report a case of a male patient of 5 years old with a follow-up of the development of temporary teeth until the first transitional period when it was intercept a mild transverse maxillary deficiency treated with a mechanical orthopedic Haas appliance to perform a disjunction for 4 days and 6 months retention. After that, we proceeded to continue monitoring until the second transitional period, where a butterfly expander executed a new disjunction during 4 days and 6 months retention in order to get a perimeter bone improvement in anterior zone, which atresia remained. After 7 months, the patient presented a complete permanent dentition. It was indicated a dental alignment and leveling with conventional orthodontic dental brackets for 12 months. Subsequently it was carried out the removal of appliances, installation of retainers and monitoring. Two years after and for the next 4 years post-orthodontic treatment stability was evaluated. In the second year of evaluation the 3x3, contention was removed. Two years after removal of the lower fixed retention, there was a mild anterior-inferior crowding that was corrected with a transparent aligner Essix® for 2 months. It can be concluded that monitoring in different periods of the dentition, and the post-treatment control, are effective tools for the interception of malocclusion or control of relapse, thus having the opportunity of interrupting the malocclusion advance and making treatment technically simpler.

OR035 - Traction of mandibular canine impacted by odontoma: case report

Juliana SCHIAVINATO[1]; Pedro Augusto COSTA[1]; Ana Claudia de Castro Ferreira CONTI[1]; Renata Rodrigues de ALMEIDA-PEDRIN[1]; Fabrício Pinelli VALARELLI[2]; Danilo Pinelli VALARELLI[1]

[1]Department of Orthodontics, University of Sagrado Coração.
[2]Department of Orthodontics, Ingá College.

The impaction of canines is more frequent in the maxillary arch, but when it occurs in the mandibular arch, it is usually related to the abnormal position of the dental germ or the presence of mechanical or pathological obstacles to its irruption. The aim of this case report is to show an orthodontic traction of a mandibular canine impacted by the presence of an odontoma. Immediately after the odontoma surgical removal, the orthodontic traction was made through a cantilever and auxiliary arch. At the end of the treatment, it was observed the correct position of the mandibular canine as well as normalization of the occlusion and the patient's smile aesthetics.

OR036 - Surgical-orthodontic approach of the premaxilla repositioning

Julianna de Oliveira Lima PARIZOTTO[1]; José Carlos Cunha BASTOS JUNIOR[1]; Claudia Resende LEAL[1]; Emily Tamie Sá NAKAMURA[1]

[1]Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.

The aim of this work is to report a clinical case of a female patient with bilateral cleft lip and palate severely protruded and extruded premaxilla affecting masticatory function, speech and respiration, besides the elevated aesthetic effect. Rapid maxillary expansion was carried out, followed by fixed retention and surgical repositioning of the premaxilla. The surgery was performed when the patient was in early adolescence and under general anesthesia. Vomer bone osteotomy was made to correct the premaxilla discrepancy, closure of oronasal communication and placing of autogenous bone graft from the iliac crest in both cleft area. After the surgery, the patient stayed 60 days with liquid and doughy diet waiting for healing, stabilization of the premaxilla and bone formation in the grafted area to enable the beginning of the corrective orthodontics. Once the premaxilla was stable and there was enough bone in the grafted area for dental movement, the orthodontic treatment consisted in alignment and leveling of the arches, upper canine teeth in place of the lateral incisors due to the patients' bilateral agenesis of maxillary lateral incisors, the premaxilla was maintained on the surgically achieved position, the case was finalized in bilateral Class II. By the end of the treatment the functional issues and aesthetics were restored. The elevated self-esteem of the patient and social inclusion were the best benefits achieved, as nowadays the patient does not remember how she was before the surgical-orthodontic treatment.

OR037 - Uprighting of lower molars with mini-implants as anchorage

Lucas Estambassi SILVA[1]; Renata Furqui Moura MONTEIRO[1]; Solange de Oliveira Braga FRANZOLIN[1]; Danilo Furquim SIQUEIRA[1]; Gastão MOURA NETO[1]; Danilo Pinelli VALARELLI[1]

[1]Department of Ortodontics, University of Sagrado Coração.

The early loss of posterior teeth generates the slope mesial tooth. In this case, the verticalization is essential for the reestablishment of normal occlusion, however, conventional orthodontic mechanical generate undesirable side effects such as tooth to be extruded vertically. Mini-implants have been a common method in mechanics molar verticalization. The aim of this study was to quantify, through panoramic radiography, angulation and extrusion of lower molars upright with the aid of mini-implant as anchorage. The experimental sample consisted of 18 Brazilian patients (20 verticalized molars). The vertical was made by means of a simple cantilever supported on a mini-implant. Panoramic radiographs were made at the beginning T1 and T2 at the end of the movement of

verticalization. The measurements obtained in T1 were compared to the measurements obtained in T2. The duration of treatment ranged from 4-11 months. It was concluded that there was a statistically significant increase in angulation and extrusion mesial of upright lower molars.

OR038 - Case report: agenesis of upper lateral incisors

Luciana Lindolpho CREMONESI[1]; Luis Gustavo Massariolli OLIVEIRA[2]; Solange de Oliveira Braga FRANZOLIN[1]

[1]University of Sagrado Coração.
[2]APCD, Bauru, SP.

The treatment aimed to return the aesthetic and functional occlusion of the patient with dental agenesis. Leucoderma patient, female, 21 years old, Class II dental malocclusion, but with facial pattern I, with diastema in the upper anterior region due to agenesis of upper lateral incisors, with occlusion and esthetics committed and being the main complaint. The proposed treatment plan and accepted by the patient was fixed appliance installation of Straight pre-wire pattern set I type in the upper and lower arches to obtain the sufficient space for the installation of dental implants and prosthetic rehabilitation with implant-supported metalloceramic crowns. After 12 months of orthodontic treatment surgery was performed for installation of Pi-Brånemark Philosophy CM 3.3x10 mm titanium implants. After waiting for a period of three months for osseointegration with healing abutments in position, crowns were installed on the implants to improve the aesthetics of the patient. Then, orthodontic appliance was removed, temporary crowns on the implants were placed and five months gingival conditioning was obtained. The case was finalized with the installation of implant-supported metalloceramic crowns, thus obtaining the aesthetic and functional occlusion of the patient, with very satisfactory results.

OR039 - Influence of laser irradiation on orthodontic movement and pain level

Ludmila Mangialardo LIMA[1]; Fabiola Esther Alvarez AVILA[1]; Juliana Moura STORNIOLO[1]; Arnaldo PINZAN[1]

[1]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.

The aim of this study was to analyze the orthodontic tooth movement and painful sensitivity of maxillary and mandibular canine submitted to irradiation with low-level laser therapy (LLLT) in a monthly dose. Eleven Class I malocclusion individuals with extraction of the first maxillary and mandibular premolars were selected. The LLLT was applied after activation of canine initial retraction, performed with NiTi coil springs. Monthly, a couple of dental models were obtained before laser application, which was subsequently scanned with 3Shape's Ortho System and three-dimensional images were evaluated with Ortho Analyzer software to measure the amount of movement of the retracted canines. Patients completed a visual scale after 12, 24, 48 and 72 hours of initial activation for assessment of pain. There was statistically significant difference between the amount of retraction of the irradiated canines only for the mandibular canines in the first month of laser application. Regarding the painful sensitivity, LLLT was not effective at any time. LLLT application protocol showed statistically significant acceleration of tooth movement of the mandibular canines only in the first month of application, but did not cause any reduction in pain.

OR040 - Maxillary incisors AP position and profile attractiveness

Marcelo Vinicius VALERIO[1]; Lucas Marzullo MENDES[1]; Cinthia Helena Zingaretti JUNQUEIRA[1]; Marcos Roberto de FREITAS[1]; Guilherme JANSON[1]

[1]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo

The objective of this study was to verify whether profile attractiveness is correlated with maxillary incisors anteroposterior position in relation to the forehead (Element II). Secondarily, it was also evaluated whether different Class II malocclusion treatment protocols provide similar positions of Element II. The sample consisted of lateral teleradiographies and photographs from 58 Class II division 1 malocclusion patients treated non-extraction (XP0), with 2-maxillary premolar extractions (XP2) or with four premolar extractions (XP4). The groups were comparable regarding age, sex and OGS index at the post-treatment stage. There was a significant but low negative correlation (r^2=-0.33, P=0.01) between Element II position and profile attractiveness. The AP position of the incisors in relation to the forehead was similar in the three groups, even though group XP2 had greater attractiveness than the others.

OR041 - Tomographic study of midpalatal suture maturation

Natália Maria VIEIRA-BARBOSA[1]; Diego Luiz TONELLO[1]; Maurício de Almeida CARDOSO[1]; Leopoldino CAPELOZZA FILHO[1]; Ana Claudia de Castro Ferreira CONTI[1]; Renata Rodrigues de ALMEIDA-PEDRIN[1]; Victor de Miranda LADEWIG[1]

[1]Department of Orthodontics, University of Sagrado Coração.

This study aimed at evaluating the midpalatal suture maturation stages in 11 to 15 year-old subjects by using cone beam computed tomography (CBCT) images. Considering that the rapid maxillary expansion (RME) has a high success rate at this age, the suture maturation status in those patients could be used as a comparison parameter for RME prognosis in older patients. Sample consisted of 84 subjects, with ages ranging from 11 to 15 years old (40 males and 44 females), classified by using a midpalatal suture evaluation method comprised of 5 distinct stages (A, B, C, D and E). The measurement error was evaluated by kappa coefficient test. Stage A was only observed in one 11 years-old female subject. Stage B was observed at all ages, however with higher prevalence until the age of 13 (11 years old: 30.8%; 12 years old: 33.3%; 13 years old: 41.7%) and lower prevalence in 14 and 15 years-old subjects (6.7% and 11.8% respectively). Stage C was the most prevalent in all evaluated ages (11 years old: 61.5%; 12 years 51.9%; 13 years 50.0%; 14 years 53.3%; 15: 35.3 %). Stages D and E showed a low prevalence (13.1% and 10.7% respectively). The results of this study showed a major prevalence of C stage, suggesting that conventional RME performed in subjects aged over 15 years would present

a good enough prognosis, justifying this approach when the midpalatal suture maturational status indicates the C stage or less.

OR042 - Effectiveness of maxillary molar intrusion using mini-implants

Pedro Augusto COSTA[1]; Isabela Serodio BATISTA[1]; Renata Rodrigues de ALMEIDA-PEDRIN[1]; Ana Cláudia de Castro Ferreira CONTI[1]; Maurício de Almeida CARDOSO[1]; Danilo Pinelli VALARELLI[1]

[1]Department of Orthodontics, University Of Sagrado Coração.

Molar extrusion is frequently found in adult patients. In these cases the teeth intrusion is possible with fixed anchorage devices such as mini-implants. The aim of this study was to evaluate the effectiveness of maxillary molar intrusion supported by mini-implants as anchorage. Thirteen adult patients presenting 17 extruded molars due to the antagonist tooth absence were selected. To the intrusion mechanics two mini-implants were fixed being one in the mesio-vestibular region and the other in the distal-palatine region of the molar simultaneously to the fixed appliance. The intrusion quantity was assessed by initial and final panoramic radiographs. The results of the changes were compared by the pared "t" test and revealed a real molar intrusion of 2.9 mm.

OR043 - Dental compensation on Class III treatment

Raíssa Jorge RELVAS[1]; Renata Rodrigues de ALMEIDA-PEDRIN[2]; Marcio Rodrigues de ALMEIDA[2]; Fernando Pedrin Carvalho FERREIRA[2]

[1]Department of Biological Sciences, University of Sagrado Coração.
[2]Department of Biological Sciences, Bauru School of Dentistry, University of Sao Paulo.

Among all existing types of malocclusions, Class III is probably the malocclusion that causes the most discomfort for those who have it. In addition, it also compromises the masticatory function. Hence, early diagnosis is advisable in order to improve quality of life in patients with such condition. The goal of this presentation is to show the account of a clinical case of a Class III Compensatory Treatment, which achieved favorable aesthetic and functional results. The clinical case presents patient A.F.L, of male gender, 11 years and 10 months old. He complained that his "front tooth was behind". The diagnosis was reached by a compilation of facial morphological, occlusal and imaging tests the treatment plan was determined: Hyrax appliance with digital spring was chosen to uncross teeth 21 and 22, and expand the mandible at the first phase of intervention. It was followed by placement of fixed appliance for alignment, leveling and dental compensation. The treatment was successful, considering that the patient recovered his masticatory function through compensation and presented a harmonious smile. The conclusion shows that election of dental compensation on Class III treatments should be meticulously considered by the orthodontist; It is necessary to evaluate the level of skeletal anteroposterior discrepancy and vertical types; lower incisor positioning and patient's facial profile in order to determine whether the treatment should be orthodontic or surgical. In cases that dental compensation is possible. Each possibility should be thoroughly addressed, always aiming for an esthetic and functional result of excellence.

OR044 - Stability of anterior open bite treatment with bonded spurs

Raquel Andrade SANTOS[1]; Thais Maria Freire FERNANDES[1]; Paula Vanessa Pedron OLTRAMARI-NAVARRO[1]; Flaviana Alves DIAS[1]; Márcio Rodrigues de ALMEIDA[1]; Bruno D'Aurea FURQUIM[1]; Renato Rodrigues de ALMEIDA[1]

[1]Department of Orthodontics, University of North Paraná.

The anterior open bite is a malocclusion with great aesthetic and functional consequences and may result in dental and skeletal alterations. This malocclusion can be defined as a negative overbite between maxillary and mandibular incisors. There are multiple etiological factors, with predominance of deleterious oral habits. The bonded spurs appliances appear as an efficient treatment of this malocclusion. Although there are different methods to correct the anterior open bite, the posttreatment stability is still a controversial point. The aim of this report is to present a clinical case of an eight-years-old child with -2.0 mm initial anterior open bite, Angle Class I, who was treated with spurs bonded to maxillary and mandibular incisors. At the end of treatment, the patient had 2.7 mm positive overbite and remained with 2.7 mm at the 2-year follow-up. It can be concluded that this treatment protocol showed stability for 2 years after treatment.

OR045 - The Carriere distalizer: an alternative for maxillary molars distalization

Ricardo Martin Rengifo VÁSQUEZ[1]; Victor Hugo VALDIVIESO-GARCIA[2]; Lorena Vilanova SOUZA[1]; Arón ALIAGA-DELCASTILLO[1]; Guilherme JANSON[1]

[1]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.
[2]Deparment of Orthodontics, National University Mayor of San Marcos.

Treatment of Class II malocclusion in growing patients has various approaches. When the problem is predominantly dental, it may be corrected with intraoral distalizers. This report presents the distalization of molars, prior orthodontics, of a 12 years old mesofacial patient, diagnosed with: Angle Class II, Division 2 malocclusion, slight deep bite, overjet of 1 mm, palatal inclination of maxillary incisors, and lower anterior crowding of 3.5 mm. The objective of this phase was to correct the class II molar relationship. After 10 months of using the Carriere intraoral distalizer, the relationship of the molars, premolars and canines was in Class I in both sides. The Carriere distalizer showed effectiveness in molar distalization without presenting either angulation or inclination side effects of the molars, but the lower anterior crowding was a little greater. Patient compliance was an important factor for treatment success, due to the necessity of elastics use in mechanics.

OR046 - Moyers table modified for the Brazilian people

Rodrigo Andres Naveda ARAQUE[1]; Sergio Elias Neves CURY[2]; Jose Gregorio Pelayo GUERRA[1]; Arnaldo PINZAN[2]; Célia Regina Maio Pinzan VERCELINO[3]

[1]Deparment of Orthodontics, CPO Bauru, Uningá.
[2]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.
[3]Deparment of Orthodontics, CEUMA College.

The discrepancy of dental perimeter and bone perimeter is one of the main problems found by orthodontist, and the possibility to analyze the temporarily dentition to determine whether or not there will be the presence of this problem in the permanent dentition is very helpful in the planning of preventive and interceptive treatments. The objective of this review is to determine the need for a modified Moyers' table for the Brazilian people, who have a big population with different characteristics from those that gave rise to the values advocated by Moyers. Moyers' analysis which uses the mesiodistal size of the four lower incisors to determine the possible size of definitive canines as well as upper and lower premolars by comparing it with the size available in the dental arch, which is distal incisor lateral to mesial of the first permanent molar, was conducted in plaster models of Brazilian young people with normal occlusion, representing white, black, feoderm, xhantoderm and whitexanthoderm (Japanese-Brazilian descent). It was compared the relation of the values of the Moyers' table and those found for the racial groups named before. It was found that the values advocated by Moyers were higher when compared with the actual values obtained for the feoderm's group for both genders and both dental arches, and underrated for whitexanthoderm (Japanese-Brazilian descent) of both genders and both dental arches studied, which may interfere with in the expectations of the arch space available for permanent teeth. The same results were found in other studies, where multiple populations present different values from those found by Moyers.

OR047 - Class II Division 1 with maxillary atresia in different phases

Rodrigo Hitoshi HIGA[1]; Rogério Almeida PENHAVEL[2]; Fernanda Pinelli HENRIQUES[1]; José Fernando Castanha HENRIQUES[1]

[1]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.
[2]Department of Orthodontics, Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.

This study aims to present a case report of a patient with Angle Class II, division 1, malocclusion with maxillary atresia treated at different stages. The patient was female and had ½ Class II on the right side and ¾ on the left one, with upper and lower arches atresia, and lower anterior crowding. She had started treatment when she was 9 years old, with an interceptive approach, using Hyrax appliance for maxillary disjunction, together with the lower W arch, to increase the width of both arches. After the retention time, the headgear conjugated appliance was used for seven months to correct the sagittal discrepancy, until a satisfactory overcorrection was achieved. Finally, the brackets were installed for alignment and leveling of the teeth and getting spaces among the central and lateral incisors, besides the canines, since the patient had Bolton discrepancy and an aesthetic procedure on these teeth was planned to increase the crown size. However, patient's parents dropped out of the aesthetic procedure and the treatment extended for more 9 months, reaching 1 year and 9 months of brackets use. The 3x3 fixed retainer was adopted for both arches, due to bad initial positioning of the upper incisors and lack of perspective for cooperation of the patient. The sagittal discrepancy was corrected, finalizing the treatment with normal molar and canine relationships. Satisfactory overjet and overbite and good alignment and dental leveling were achieved. The arch form and occlusal and facial aesthetics were improved considerably. The 2.5-year follow-up showed good stability for sagittal relationship and dental alignment. The protocol with different phases using the young age of the patient optimizes the orthodontic treatment and the final results.

OR048 - Stability of molar distalization with the Distal Jet appliance

Sorileé Carlina Pujols RAMÓN[1]; Deborah Brindeiro de Araújo BRITO[1]; Lorena Vilanova Freitas de SOUZA[1]; José Fernando Castanha HENRIQUES[1]

[1]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.

Maxillary molar distalization for nonextraction treatment of Class II patients has been used for many years. The commonly used appliances are extraoral traction, Cetlin removable plate, and Wilson arches, depending upon patient's cooperation to correct the molar relationship. Since the end of the 1990s, the use of intraoral distalizers has begun, which consist of appliances with intramaxillary anchorage for distalization described as an alternative to headgear due to their advantages since they act with continuous forces and do not compromise aesthetics or rely on cooperation patients. The Distal Jet is one of the most used appliances for molar distalization. It promotes distalization with application of force by palatine, closer to the center of resistance of molars, with three advantages: the upper molars are distalized without the lingual movement that occurs with the pendulum; it can be easily converted to a Nance button holding, when distalization is completed, and produces less angulation of the molar crown with increased body movement. The aim of this work is to present a clinical case of treatment of a 13-year old patient with Class II malocclusion dental bilateral using the distalizer Distal Jet and its stability. The treatment began with the Distal Jet distalizer activation once a month to reach a normal molar relationship. After distalization, Distal Jet was converted to a passive Nance button. Headgear and Class II elastics were used as active containment and fixed appliances were installed for alignment, leveling and finishing of the case. The side effects of distalization were corrected with the fixed appliances. Class II malocclusion was corrected without the need of tooth extraction and the results were stable both from a static and a functional perspective five years after the end of treatment.

OR049 - Compensatory orthodontic treatment: midline malformation

Thaís Lucarelo LAMONATO[1]; Adriano Porto PEIXOTO[1]; Ingrid Ivanna Huayta AGUIRRE[1]; Demi Lisbôa Dahás JORGE[1]; Rogério Almeida PENHAVEL[1]; Tiago Turri de Castro RIBEIRO[1]

[1]Department of Orthodontics, Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.

The purpose of this study is to describe the compensatory orthodontic treatment of a patient with craniofacial anomalies accompanied in the Orthodontics Department of the Hospital for Rehabilitation of Craniofacial Anomalies (HRAC/USP). Patient: J.A.S., female, with presence of congenital anomalies in the extremities and tongue with a diagnosis related to syndromes with oral manifestation; Skeletal Class II malocclusion with mandibular deficiency, agenesis of the lower incisors and ectopic eruption of the upper right canine. The therapeutic approach adopted started with a transpalatal arch welded in the bands of the first permanent molars associated with cantilever to orthodontic traction of the upper canine (tooth 13). In the sequence a rapid maxillary expansion with HAAS appliance modified to Herbst associated with a lingual arch was carried out, allowing the adjustment of the telescopic mechanism for mandibular advancement. After the mandibular advancement, the installation of the upper and lower orthodontic fixed appliances was done. The lower leveling was performed with protrusion and mesialization of lower canines in place of agenesis of the lower incisors and maintenance of space for an implant in the region of the tooth 42. When the treatment goals were achieved, Hawley appliance and 3x3 retainer were installed. The adequate occlusal relation and facial harmony obtained at the end of treatment derive from the adoption of an appropriate diagnosis and a treatment plan implemented in proper time.

OR050 - Orthodontic procedure for rehabilitation with prosthetic implants

Thaís Yumi UEDA[1]; Francyle Simões HERRERA[1]; Patrícia Bittencourt Dutra dos SANTOS[1]; Arón Aliaga del CASTILLO[1]; Arthur César de Medeiros ALVES[1]; Daniela Gamba GARIB[1]

[1]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.

Multiple loss of teeth still is commonly observed in adult patients nowadays. When these absences are not rehabilitated, the edentulous spaces tend to close with the angulation of the adjacent teeth, determining occlusal trauma and not allowing the installation of dental implants in these regions. Thus, the oral rehabilitation of adult patients often requires a multidisciplinary approach involving many specialities of Dentistry such as Orthodontics, Oral Surgery and Prosthodontics. The aim of the present study was to describe the treatment of an adult patient diagnosed with Class I relationship of canines and premolars, absence of mandibular first permanent molars and mesial angulation of the mandibular second permanent molars. The multidisciplinary treatment planning aimed to determine a physiological occlusion to the patient using an orthodontic-surgical-prostetic approach. The orthodontic treatment consisted in use of cantilevers together with fixed orthodontic appliance to upright the mandibular second permanent molars. After occlusal trauma removal, reduction of biofilm retention sites, recuperation of spaces for dental implants installation and the correction of slight crowding, the fixed orthodontic appliance was removed and the Hawley's plate and a fixed 3x3 lingual retainer were installed. The patient was referred to the installation of the dental implants and subsequent prosthetic rehabilitation. Thus, the multidisciplinary approach is the best treatment option to rehabilitate adult patients with teeth loss, once a physiological occlusion can be acquired, minimizing necessity of tooth wear.

PE001 - Cancer patients treated in COB's project of FOA-UNESP

João Pedro Paulino MAZZON[1]; Anne Cristina de Faria COCATO[1]; Daniene Tesoni Cassavara RIBEIRO[1]; Francisco Urbano COLLADO[1]; Gabrielle Dias DUARTE[1]; Janaína Zavitoski da SILVA[1]; Maria Lúcia Marçal Mazza SUNDEFELD[1]; Regiane Mazzarioli Pereira NOGUEIRA[1]; Sebastião CONRADO NETO[1]; Suzy Elaine Nobre de FREITAS[1]; Daniel Galera BERNABÉ[1]; Eder Ricardo BIASOLI[1]

[1]Oral Oncology Center, Faculty of Dentistry of Araçatuba, Univ. Estadual Paulista.

The Oral Oncology Center (COB) is an auxiliary unit of simple structure of the Faculty of Dentistry of Araçatuba (FOA) Unesp performing the diagnosis and interdisciplinary treatment of patients with malignant neoplasms of the head and neck. This study aims to provide quantitative data (annual average) of execution of six years of the extension project "Assistance to patients of Oral Oncology Center of Araçatuba Dental School (FOA) – UNESP", which includes the participation of teachers, staff professional interdisciplinary, undergraduate students and graduate. Details of the interdisciplinary care of the years 2010 to 2015 were collected from patient charts and tabulated with the help of Microsoft Excel program. The annual average of registered cancer patients was 70 and not cancer, 209. The average number of consultations was: cancer (1,115), anesthesiology (74), nursing (1371), dental (1328), speech therapy (701), physical therapy (549), psychological (360). The average of medical surgical procedures was 44 and 9 videolaryngoscopies. The average dental procedures were: preventive (598), dressings (1,652), minor surgery (186), biopsies (100), and maxillofacial prosthetics (35). Regarding maxillofacial prostheses, the annual average was: conventional total (10), conventional removable (2) Total obturator (3), removable obturator (1), eye (16), eye-lid (2). Based on the data presented, it can be concluded that the project has an interdisciplinary focus, watching the patient in their general health needs from diagnosis, treatment, rehabilitation and monitoring cancer. In addition, it promotes interaction between professionals, undergraduates and graduate; allowing for a positive exchange of knowledge and mutual professional growth.

PE002 - Oral lesions and colonization by yeasts on hemodialysis patients

Letícia Boaventura Sá PONHOZI[1]; Daniele RUGGERO[1]; Janine Silva Ribeiro GODOY[2]; Patrícia de Souza Bonfim de MENDONÇA[2]; Terezinha Inez Estivalet SVIDZINSKI[2]; Nelí PIERALISI[1]

[1]Department of Dentistry, State University of Maringá.
[2]Section of Medical Mycology, Department of Clinical Analysis, State University of Maringá.

Chronic kidney disease (CKD) is characterized by progressive, irreversible and slow deterioration of renal function. CKD affects about 8-16% of the world population, constituting a major public health problem. When the patient presents kidney failure or the stage 5 of CKD, a renal replacement therapy is need, such as hemodialysis, peritoneal dialysis or kidney transplantation. As a result, an immunosuppression makes patients more prone to fungal infections, which can evolve from a yeasts oral colonization, and a candidiasis can evolve to systemic dissemination of high mortality in this population. The objective of this study is to assess the presence of yeasts with oral lesions in this group of patients. This study was approved by Ethics Committee for the Research Involving Human Beings of the State University of Maringá (UEM), Brazil (decision 408/2009). Therefore, the oral mucosa of 52 patients CKD on hemodialysis was examined. For the collection of biological samples, the patients rinsed with 10 ml of mineral water for 30 seconds. The obtained liquid was collected into a conic tube and analyzes within 2 h in the Medical Mycology Laboratory at the Clinical Analysis Education and Research Laboratory of UEM, by plating on Petri dishes with Sabouraud dextrose agar supplemented with chloramphenicol. Among the patients studied 50% had LB and 42.31% had some type of yeast colonization. *Candida* genus occurred in 100% of positively valued crops, with 69.23% of them belonging to the species *C. albicans*. Patients with any oral lesion showed more 2.62 times more likely to be colonized by yeast, which increased to 6:33 if carrying removable dentures. It was concluded that the oral mucosa of CKD patients undergoing hemodialysis should be monitored by clinical and mycological tests, especially if carrying oral lesion and removable dentures for early diagnosis and treatment to prevent complications.

PE003 - Treatment of labial mutilations in patients with special needs: case report

Sandy Lais TATIBANA[1]; Alessandra Marcondes ARANEGA[1]; André da Silva FABRIS[1]; Liliane Passanezi LOUZADA[1]; Regina Rodrigues LUCIANO[1]; Allan Oliveira da SILVA[1]; Leonardo Antônio de MORAIS[1]

[1]Department of Surgery and Integrated Clinic, Araçatuba Dental School, Univ. Estadual Paulista.

The Centre for Dental Care for disabled person (CAOE) assists patients with neurological disabilities, behavioral or psychiatric disorders that require differentiated dental care. The planning, the need and opportunity are always analyzed in a multidisciplinary way and the complaint and the family history taken into account. Dental extractions sound teeth can be performed when the restoration of oral and general health depends on such conduct. Although the center has as its premise the establishment of conservative treatment plans, sometimes faced with the lack of solution for such plans. The aim of this paper is to present case reports of patients who were treated by CIOS team and presenting habit of mutilating her lips. NVSR patient, female, 7 years, with cerebral palsy with neurodevelopmental delay, gastroesophageal reflux, asthma, do not walk, speak and seizures. Assisted by the center since 2013, the patient had onset of involuntary movements and in 2015 had great lip mutilation. There was speech therapist guidance, finger cot adapted for oral hygiene, but because there is no improvement in their systemic framework, generating lip mutilation and bleeding and have previous primary teeth, we opted for the tooth extraction under antibiotic therapy. In the second case, JCO, male 13 years old, with muscular scoliosis, dislocation of both shoulder prosthesis in the femur, jaw locking and epilepsy, fed by gastric tube, full dentition carrier, began to mutilate her lip causing bleeding recurrent. By aspirating the blood, it was admitted more than once, requiring even from the ICU and required to take antibiotics all year by staff of recurrent pneumonias. On occasion relented the possibility to fabricate prosthetic element for the protection of the anterior teeth, however, the respiratory and historical difficulty of epilepsy, for not feed the mouth irreversibly, the possibility of risk of death; it was decided by extractions dental total in hospital. As

the deficiencies presented by the patients, the severity of injuries caused by the permanence of sound teeth and even the lack or difficulty in creating technological resources that could provide optional conditions to keep them meant that we encounter with the difficult decision for a treatment more radical avoiding the aggravation of labial mutilations.

PE004 - Obesity and periodontal disease in patients with Down syndrome

Ana Carolina Cunha RODRIGUES[1]; Rafael FERREIRA[1]; Sebastião Luiz Aguiar GREGHI[1]; Adriana Campos Passanezi SANT'ANA[1]; Mariana Schutzer Ragghianti ZANGRANDO[1]; Carla Andreotti DAMANTE[1]

[1]Department of Prosthodontics and Periodontology, Bauru School of Dentistry, University of São Paulo.

Obesity is characterized by the increase of body fat due to energetic unbalance, genetic, environmental and behavioral factors. Down Syndrome (DS) patients have high prevalence of obesity and periodontal disease (PD). The aim of this study was to verify a possible correlation between anthropometric values as body mass index (BMI), waist circumference (WC), hip circumference (HC), waist-hip ratio (WRR), and periodontal conditions. This work was approved by an Ethical Committee (FOB-USP #386.460). Patients were weighed with a digital scale and other measures were done with a measuring tape. Periodontal parameters were probing depth (PD), bleeding on probing (BOP), Clinical attachment level (CAL), plaque index (PI). Thirty three patients (20 men and 13 women) with mean age 27.06 ± 9.29 years were included in the study. Results showed high severity of periodontal disease (PD 3.92±0.77 mm; BOP 56.96±4.72%; CAL 0.78±0.18 mm; PI 86.06±0.34%). Pearson's correlation test showed association between BMI and BOP ($r=0.355$)/ CAL ($r=0.396$) ($p<0.05$). There was a tendency of BMI increase with age ($r=0.521$) and inverse correlation with number of teeth ($r=-0.447$) and HC ($r=-0.3886$). There was a positive correlation between WRR and number of teeth ($r=0.4520$) ($p<0.05$). High values of WC, HC, BMI and WRR are present in DS patients. High values of PD and BOP are present, which demand a global whole attention and treatment to DS patients.

PE005 - Hospital dentistry: oral health of patients under hemodialysis

Fabio Vanderlei Ribeiro de FREITAS[1]; Letícia Fernanda Moreira dos SANTOS[1]; Marilia Beatriz Ferreira FIGUEIREDO[1]; Geovane Evangelista MOREIRA[1]; Leandro Araújo FERNANDES[1]; Daniela Coêlho de LIMA[1]

[1]Department of Clinic and Surgery, Faculty of Dentistry, Federal University of Alfenas.

Chronic kidney disease (CKD) is a condition that causes several oral manifestations which may aggravate the patient's health status and negatively impact on their quality of life. The objective of the university extension project "Hospital Dentistry", which takes place in the hemodialysis center of Alfenas, in the state of Minas Gerais, Brazil, is to assist patients with CKD, considering the importance of oral health on the treatment of hospital patients, through preventive, educational and diagnostic activities. The project's actions include oral hygiene instructions and distribution of informative leaflets and oral hygiene kits. There are also interviews to find out what were the alterations and oral manifestations that appeared after the disease's diagnostic. Next, clinical examinations are performed to evaluate caries prevalence, use of prostheses and their conditions, alterations in soft tissues and presence of periodontal diseases. In 2015 fifty one individuals (26 women and 25 men) were interviewed; the predominant age group was 50-59 years of age. The majority of patients (60%) had xerostomia (or dry mouth), 23.5% had halitosis and 39.2% noticed oral alterations after initiating the hemodialysis sessions. About two thirds (56.9%) of the patients believed they needed some kind of dental treatment though 70.6% said they had never received any information about oral health. However, 92% considered important the presence of a dentist inside the hemodialysis center. Out of 10 clinical examinations, a DMFT index of 5.9 was obtained. It can be concluded that oral manifestations of CKD are frequent in the analyzed population. Also, it was noticed that there is a need for dentists to be in the hospital setting because this would probably provide better oral and general health to the patients besides promoting a better quality of life.

PE006 - Evaluation of oral condition after head and neck anticancer therapy

Adrielle Lindolpho CREMONESI[1]; Emanoele Paixão da Silva SILVA[1]; Cássia Maria Fischer RUBIRA[1]; Paulo Sérgio da Silva SANTOS[1]

[1]Department of Stomatology, Bauru School of Dentistry, University of São Paulo.

This study aimed to evaluate and compare the oral health of cancer patients after antitumor treatment of head and neck cancer and compared with a control group. Project approved by the CEP/FOB (No. 703115). We selected 75 patients divided into study group (SG) with 30 adults of both sexes after antineoplastic therapy for head and neck cancer. For the control group (CG) were selected 45 patients with good general health, paired with the experimental group according to age. The oral health status was assessed according to the classification of the DMFT, community periodontal index (CPI), use of assessment and need for prosthesis (WHO). We found in SG25 (83.3%) men and 5 (16.7%) women, the CG 17 (37.8%) men and 28 (62.2%) women. The age range for both groups was 35-78 years. The average DMFT of SG=24.43 and CG=25.24. Regarding the CPI, the CG 40% of patients had all healthy sextants. The SG presence of calculations was the worst periodontal condition observed (33.3%), followed by shallow pocket (26.7%) ($p<0.0001$). For the Use of Higher Prosthesis, 60% SG wore some type of prosthesis, while 86.7% of the CG did not wear upper dentures. ($P=0.002$). Regarding the use of lower denture there was no statistical difference between the groups ($p=NS$). The percentage of Superior Prosthesis Need for SG was 70%, and the CG was 22.2% ($p=0.001$). In the CG 77.8% not needed to lower denture, while 96.7% of SG needed some kind of lower prosthesis ($p<0.0001$). The DMFT index was very high in both groups. Periodontal disease was more prevalent in SG. Individuals SG had a higher use rate and need for prostheses when compared with the CG.

PE007 - Salivary parameters in patients undergoing gastrostomy

Amanda dos Santos Pinto FERREIRA[1]; Heloísa Aparecida Barbosa da SILVA[2]; Marília Afonso Rabelo BUZALAF[2]; Melissa Thiemi KATO[1]; Sara Nader MARTA[1]

[1]Department of Health Sciences, University of Sagrado Coração.
[2]Department of Biological Sciences, Bauru School of Dentistry, University of São Paulo.

The change in the exclusive food condition by way of probe in patients with cerebral palsy (CP) and submitted to gastrostomy can cause oral manifestation problems. It is observed a large accumulation of dental calculus and the incidence of caries reduction and in some cases the presence of dental erosion is a multifactorial condition. Thus, it is expected that patients with CP and underwent gastrostomy present sialochemistry and sialometric changes. Thus, the aim of this study was to evaluate possible changes in salivary CP patients underwent gastrostomy. After approval by the Research Ethics Committee and signing of the consent form clarified, the sample consisted of 25 research subjects, 15 patients with CP and gastrostomy (study group), making use of similar routine drugs and 10 healthy nonsmoking volunteers (control). The unstimulated saliva was collected and evaluated salivary pH, buffer capacity, the concentration of protein, calcium and phosphorus. For analysis of buffer capacity, concentration of phosphorus and calcium concentration was applied t test ($p<0.05$). As for the data pH and protein concentration was applied Mann-Whitney test after logarithmic transformation ($p<0.05$). The pH of the saliva of patients with gastrostomy has values that tend to alkaline, but no significant difference when compared to the pH of the control group. A significant increase in buffering capacity, strength and protein concentration of calcium in patients with PC and gastrostomy. There was no difference for phosphorus concentration. Therefore, it was concluded that the salivary parameters of patients with CP and underwent gastrostomy are significantly increased compared to the saliva of control group, which could explain the excessive accumulation of dental calculus, although power is exclusively by way of probe.

PE008 - Surgical procedure in elderly with acupuncture analgesia: case report

Andréia Affonso Barretto MONTANDON[1]; Ligia Antunes Pereira PINELLI[2]; Laiza Maria Grassi FAIS[2]; Andressa TURCI[3]

[1]Department of Social Dentistry, Araraquara Dental School, Univ. Estadual Paulista.
[2]Department of Dentistry Materials and Prosthodontics, Araraquara Dental School, Univ. Estadual Paulista.
[3]University Center of Araraquara.

Acupuncture, recently recognized as a Dentistry specialty, has become more popular in various healthcare segments as a more natural form of treatment. It has been successfully used in this area mainly for analgesia and relaxation of the anxious patient. Patient MGR, 61, female, sought treatment in the Integrated Clinical Department at FOAr-UNESP with gingival hyperplasia complaint in the vestibular region of the tooth 15, fixed prosthesis pillar. In history, it was found that the patient was hypertensive, claustrophobic, with extreme anxiety by dental and adept of treatment complementary therapies. Clinical and radiographic examination showed root fracture in tooth 15 being established as the extraction treatment plan of this element and filling with biomaterial and collagen membrane. Analgesia was achieved through systemic and auricular acupuncture associated with electric current. Therefore, the E44 and IG4 points were used bilaterally and stimulated with 60 Hz frequency with the negative pole on the right side (surgery) and the positive pole on the left side. In the right ear Shenmen points were used (positive pole), SNV (negative pole), Kidney (positive pole) and maxilla (negative pole). After susceptibility testing in the region to be operated and finding is profound analgesia, there was surgery without sudden movements. In the postoperative period there was the prescription of homeopathic medicine (Arnica montana CH12) in the dosage of 4 cells every 30 minutes. It was concluded that electroacupuncture analgesia was effective, allowing the realization of extraction safely without requiring use of vasoconstrictors.

PE009 - Rubinstein-Taybi syndrome: 10-year follow-up

Débora de Melo TRIZE[1]; Claúdia Akemi NACAMURA[1]; Sara Nader MARTA[1]

[1]Department of Health Sciences, University of Sagrado Coração.

The Rubinstein Taybi syndrome (RTS) is an autosomal dominant inheritance, where a genetic disorder has penetrance and variable expressivity, with a prevalence of 1:300,000. The study aims to present a clinical case report in order to describe the treatment and dental monitoring for a period of 10 years of an individual diagnosed with SRT. The clinical characteristics include the presence of birthmark red and flat on forehead and excess hair, broad thumb-hallux, joint hyperextensibility, antimongoloid slits in the eye, thick eyebrows, hypertelorism; strabismus, maxillary hypoplasia, morphological changes in the teeth accompanied by growth problem and and intellectual disabilities in varying levels. A male patient 8 years old, with a diagnosis of SRT, was referred to the dental clinic of special patients at the University of Sagrado Coração. The child was in mixed dentition with severe maxillary hypoplasia, teeth anomalies and with a lot of resistance to dental intervention. In addition, the child presented great difficulty of phonation, repeated episodes of otitis and mild intellectual disability. Preventive and restorative dental treatment was carried out followed by corrective orthodontic in association with speech therapist and physiotherapeutic treatment. After 10 years of treatment and follow-up, the patient presents good standard of oral hygiene, in addition to development of speech that gave him and his family a better quality of life.

PE010 - Device development for flossing for people with physical and mental disabilities

Fernanda Conceição Antonio FERREIRA[1]; Cristiane Maria Montanari FIGUEIRA[1]; Maria Paula Jacobucci BOTELHO[1]

[1]Department of Dentistry University, Center Unicesumar.

Anyone with temporary or permanent handicaps that prevent them from carrying out their activities without the help of other people or devices can be considered a person with special needs or disabilities. When this deficiency is motor or mental it may hinder basic tasks of everyday life that interfere with quality of life. To maintain oral health is necessary to have a healthy diet and good oral hygiene. This should be performed to promote the

removal of biofilm efficiently, which is not always possible in the interproximal regions of patients with disability. The device creation for multiple cleaning of the teeth was developed to allow this action. This consists of a tray that will facilitate the use of dental floss in the oral cavity of the people who, by deficiency of upper limbs or mental disabilities, cannot perform the proper movements for oral hygiene properly flossing. This technology was developed through a descriptive and analytical study the step by step description of the preparation and drafting of the tray, analyzing materials and shapes, making means of adaptation and fixation of dental floss in it. The absence of flossing contributes to the onset of various diseases in the oral cavity, especially the disabled who already have certain limitations. The device is a product that can be included as an aid that will benefit oral health in order to contribute to social inclusion.

PE011 - Papillon-Lefèvre syndrome and its oral clinical manifestations: a literature review

Gabrielle dos Reis BOLINA[1]; Rodrigo Israel SALES[2]

[1]Department of Patients with Special Needs, School of Dentistry, Institute Undergraduate and Graduate Padre Gervasio.
[2]Department of Patients with Special Needs, University of Franca.

Periodontitis is one of the oral clinical manifestations more evident in patients with Papillon-Lefèvre syndrome and may be associated to a severe and generalized periodontitis which, when manifested early, can lead to tooth mortality and cause irreversible consequences to periodontium. Thus, early diagnosis is fundamental. The treatment may be performed with antibiotic therapy to reduce the pathogenic flora in the oral cavity, as surgical periodontal treatment and nonsurgical. The purpose of this study is to report by the incidence of periodontitis literature review in children with the Papillon-Lefèvre syndrome and how it manifests itself. The methodology used was based on articles found in the SciELO, PubMed and LILACS databases from 2000 to 2015. It is concluded that it is essential to approach a multidisciplinary team for these patients, such as periodontal surgery, orthodontics and prosthetic treatments for a complete rehabilitation of the patient directing the importance of strict control of plaque and bacterial biofilms to a favorable prognosis.

PE012 - Bone age of children with Down syndrome and those phenotypically normal

Jéssica Elita PAIVA[1]; Isabel C. C. Assis SALAMA[1]; Luhana Santos Gonzales GARCIA[1]; Sandra Maria Herondina Coelho Ávila de AGUIAR[1]

[1]Department of Social and Children's Dentistry, Araçatuba Dental School, Univ. Estadual Paulista.

The aim of this study was to obtain the bone age of Down syndrome children and to compare it with the bone age of normal children. 180 carpal x-rays were used, being 90 of the left hand of children with Down syndrome, and 90 of the left hand of normal children of both genders and with ages ranging from 6 to 14 years. The carpal x-rays were scanned, following the method extolled by Eklof and Ringertz, using software of computerized cephalometry. The statistical analysis was performed at the level of 1%, Tukey test, at the level of 5% and the correlation coefficient, through the Healthy software System-version 8. According to the results, there is no statistically significant difference in bone age, in gender, in all age groups in both groups; no statistically significant difference between bone and chronological ages in both groups; children with Down syndrome showed more delayed bone age than normal children, in all studied ages and both genders; children with Down syndrome showed bone age to chronological age in all age groups and both genders; normal children, of both genders, bone age showed slightly higher than the chronological age, almost all age groups. It was concluded that there is a statstically significant difference among the studied groups. The method of Eklof and Ringertz can be used to estimate Brazilian children's bone age, as well as for the children with Down syndrome.

PE013 - Dental wear and salivary flow volume in individuals with obesity level III

João Pedro do Prado Moura ROMANINI[1]; Joselene Martinelli YAMASHITA[1]; Francisco Juliherme Pires de ANDRADE[1]; André de Carvalho SALES-PERES[1]; Sílvia Helena de Carvalho SALES-PERES[1]

[1]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.

Obesity has been considered a public health problem and may interfere in people's oral conditions. The aim of this study is to identify the prevalence of tooth wear and the volume of salivary flow in obese and eutrophic individuals. The sample consisted of two groups: obese (GO) with 16 individuals and eutrophic (GE) with 13 individuals. Anthropometric assessment was performed using the Body Mass Index (BMI). To evaluate dental wear it was used Dental Wear Index (IDD) and to evaluate saliva, the stimulated salivary flow volume. For the statistical analysis it was performed the normality test, dispersion box plot and the T test for independent variables to compare groups, adopting a 5% significance level and a 95% confidence interval. There was no significant difference between the GO and GE groups to tooth wear (GO=1.44±0.33; GE=1.29±0.13) and the salivary flow (GO=0.63±0.61; GE=1.08±0.76). A significant difference in the volume of saliva was found (GO=3.63±2.73; GE=5.69±2.69) (p=0.050). In conclusion, the obese patients have a smaller volume of saliva which may contribute to increase the oral problems. The dental wear does not seem to be influenced by anthropometric status of the individual. Future studies should be conducted to better clarify the two outcomes in obese patients level III.

PE014 - Anophthalmic patient rehabilitation through ocular prosthesis

Júlia Silva CARVALHO[1]; Cayque Martins SILVA[1]; Marcela Filié HADDAD[1]

[1]Department of Restorative Dentistry and Prosthodontics, Faculty of Dentistry, Federal University of Alfenas.

The aim of this study is to report a case of unilateral anophthalmic patient rehabilitation through ocular prosthesis. An impression of the socket was made with irreversible hydrocolloid impression material. Flasking was performed and packing was done with the selected heat cure ocular acrylic resin (HCAR) color N3. The obtained artificial sclera was tested in patient and received the necessary adjustments. Then, the centralization of the pupil was performed, plateau was made, artificial iris was painted and glued on the plateau. The sclera surface received characterization and the whole was covered with colorless HCAR. Finally, the ocular prosthesis was finished, polished, and it was installed. The patient was instructed about the use and cleaning. It was observed that after installing the prosthesis facial aesthetic was restored, lid support has been restored and corrected tear direction, in addition to the integration of the individual to social life. It is concluded that the rehabilitation treatment achieved its goal of restoring facial aesthetics and was of great importance for the patient, because it redeemed the lost self-esteem and can return to social life without constraints.

PE015 - Perception of parents and caregivers of patients with Down syndrome

Juliana Carvalho JACOMINE[1]; Rafael FERREIRA[1]; Carla Andreotti DAMANTE[1]; Mariana Schutzer Ragghianti ZANGRANDO[1]; Bruna Bunduki de OLIVEIRA[2]; Valeria Nicole Jurfest TEODOVICH[2]

[1]Department of Prosthodontics, Discipline of Periodontology, Bauru School of Dentistry, University of São Paulo.
[2]Department of Speech-Language Pathology and Audiology, Bauru School of Dentistry, University of São Paulo.

The aim of this study was to report the perceptions of parents and/or guardians on oral health, and to clarify and identify the main doubts and difficulties concerning the oral hygiene of the patient with Down Syndrome (DS). This project was approved by the Ethics Committee in Research with human beings, FOB-USP (Protocol 386 460). A set of multiple choice and open questions were applied before and after a health education activity. The questionnaire referred to the perception of parents and/or caregivers regarding oral health of patients with SD. The study included 15 subjects with some form of relationship with a patient with SD the Association of Parents and Friends of People with Down Syndrome form Lençóis Paulista-SP. It was observed that initially 100% of the participants believed that antibiotic caused harm to the teeth, but knew the etiology of SD (genetic matter). There is little knowledge (34%) that gingivitis or periodontitis may be caused by improper tooth brushing. Many participants (87%) believed they should have a specialized dentist, and 73% believe that a patient with SD has the independence to make tooth brushing without supervision/complementation by the responsible. After health education activity, there was greater uniformity in the answers, and then 100% of the responses were that the antibiotic does not "weaken the teeth", as well as greater uniformity about the dangers of incorrect brushing. All parents and caregivers improved their knowledge as well as awareness of the importance of oral health to patients with SD. Therefore, knowing the perceptions of parents and caregivers of patients with SD is fundamental in promoting oral health. It is noteworthy that caregivers are key tools in the process of health and disease and the promotion of knowledge is essential for obtaining quality of life of these patients.

PE016 - Dental aspects of Sotos syndrome: case report

Monique Gabrielly BAIS[1]; Cristiane Oliveira Ferreira do AMARAL[1]; Adilson OLIVEIRA[1]; Arlete Gomes Santos PARIZI[1]; Gustavo de Almeida LOGAR[1]

[1]College of Dentistry, University of West São Paulo.

The Sotos syndrome, or cerebral gigantism, is one of the most complex growth syndrome with macrocephaly. It is an autosomal dominant condition that occurs due to mutation in the NSD1 gene. The patient may have exacerbated growth with advanced bone age, macrocephaly, facial characteristic appearance and learning difficulties. The purpose of this case report is to check the dental and systemic aspects of a patient with Sotos syndrome and show the role of the dentist in the treatment of this patient. It was conducted a case report of 18-year-old patient with Sotos syndrome diagnosed by a neurologist when the patient was 8 years old based on the clinical features and radiographic examination of the wrist that showed advanced bone age. The patient has mild mental retardation, macrocephaly, chin proeminence, hypertelorism, flat nasal bridge and unilateral right posterior cross bite, mandibular prognathism and supernumerary tooth. The dental assistance was important to identify occlusal changes and referral to an orthodontist for occlusal correction, in addition to the extraction of supernumerary tooth. It was concluded that Sotos syndrome is a disease that can manifest numerous systemic and craniofacial alterations, and present with intellectual deficit. For the full treatment of this patient the presence of a multidisciplinary team is necessary and the dentist can help in the treatment of oral amendments and endocarditis prevention in the case of patients with heart disease.

PE017 - Low-level laser therapy in the prevention of oral mucositis – HCB

Talita Rolim Felício da COSTA[1]; Gerlídia Araújo RODRIGUES[2]; Keyse Loyanne Batista da SILVA[3]

[1]Department of Dentistry, Catholic University of Brasilia.
[2]Secretary of State and Health of Distrito Federal.
[3]Children Hospital of Brasilia "José Alencar".

Oral mucositis (OM) manifests in more than 60% of patients undergoing chemotherapy, impacting their quality of life, increasing morbidity and mortality rate. Therefore, it is important establishing a suitable protocol for the treatment and also the prevention of OM. Low-level laser therapy (LLLT) is an effective method of prevention, but there is no consensus regarding an appropriate dosimetry. This research objective was to verify effectiveness of preventive laser in children undergoing treatment for acute lymphoblastic leukemia (ALL) at the Hospital da Criança de Brasilia (HCB). While in hospital care, patients who use

Methotrexate (>1 g/m^2), received application of LLLT in order to prevent OM, starting at a day after the beginning of the cycle, with at least three consecutive applications in the same week. They were selected and distributed in two groups of 22 patients. G1: It was applied an energy density of 2J/point at an approximate distance of 1 cm, touching the tissue during 2 s. G2: It was applied an energy density of 2J/point at a distance of 2 cm between points, touching the tissue during 2 s. Patients returned on the 8th day to evaluate their oral cavity. Statistical analysis was performed by using SSPS Statistics. During years 2012-2014 patients diagnosed with ALL, 37.68% had OM manifestation of varying degrees during chemotherapy. Yet in 2015 and 2016 patients allocated in G1, 88.5% showed no signs of OM and G2 92.9% also showed no signs of OM. It was concluded that the preventive use of LBP has been beneficial, and that irradiated patients in less points (G2) had better answer. And those who showed predisposition to OM had less severe form. The adoption of an appropriate protocol of the preventive use of LBP, and motivation of oral hygiene and early search for a dental treatment led to a scenario of nonexistence of severe OM manifestations in pediatric patients treated at HCB.

PE018 - Orofacial changes related to the Williams-Beuren syndrome

Tomás Roma ZANCHETTA[1]; Deise Helena de SOUZA[1]; Danilo MORETTI-FERREIRA[1]; Eduarda Gimenez CORREA[1]

[1]Faculdade Paulista West.
[2]Genetic Counseling Service, Univ. Estadual Paulista.

Williams-Beuren syndrome (SWB) is a genetic disease related to 7q11.23 microdeletion of 1.5 Mb, with loss of 28 genes. Key features include phenotype characterized by psychomotor, cognitive and dysmorphic alterations and may be cited, among these, the orofacial changes. The goal is to introduce the orofacial changes and its developments in a patient with Williams-Beuren syndrome, as well as the treatment. A study was realized with a male patient, 35 years old, who had his proven diagnosis to 20 years and 4 months by the technique of fluorescence *in situ* hybridization (FISH) in genetic counseling service (SAG) of the IBB-Unesp, and performs dental treatment since 19 years. Planning and diagnostic radiographic images were used intraoral and extra, as well as plaster models and chart analysis. Thus, characteristical dental alterations were found: buccalized and protruded incisors, Class II, dolichofacial, with disabilities and mandibular retrusion, Chin-neck short, agenesis of lower second premolars, upper conoid lateral incisors, enamel hypoplasia, receding gums, partial anodontia and mixed dentition. Posterior teeth restorations were performed and endodontic treatment in upper central incisor due to loss by trauma led to installation of orthodontic appliances, gleaming implant placement, which, after installed, was twice rejected. Fixed prosthesis were then installed. It is concluded that changes include from orthodontic problems to tooth agenesis, and the treatment should be performed carefully, since the changes present in the syndrome can interfere directly in the success or failure of treatment.

OD001 - Regional odontodysplasia: case report with 19 years of follow-up

Angela Rodrigues de ÂNGELI[1]; Dayla Thyeme HIGASHI[1]; Márcio Grama HOEPPNER[1]; Marília Franco PUNHAGUI[2]

[1]Department of Restorative Dentistry, State University of Londrina.
[2]Department of Oral Medicine and Children's Dentistry, State University of Londrina.

Regional odontodysplasia is an anomaly of unknown etiology, non-hereditary, which affects the development of enamel and dentin in primary dentition and/or permanent. Typically it involves only one quadrant, being maxilla more affected than mandible, and the number of affected teeth usually ranges. Radiographically, teeth have a radiolucent image due to the low mineral density, discrete boundary between the enamel and the dentin, giving appearance of "ghost teeth". Pulpal calcifications can be seen in the coronary pulp, and acute or chronic periapical lesions may develop in association with the affected teeth. The purpose of this case report was to monitor the evolution of a patient with regional odontodysplasia and his functional and esthetic rehabilitation. The patient was referred to the Baby Clinic of State University of Londrina (UEL) in 1995. Early losses of some deciduous teeth occurred when the patient was 3 years old. After clinical and radiographic evaluation, the diagnosis of regional odontodysplasia was established. The pathology affected the left quadrant and part of the right quadrant of the maxilla. Some deciduous teeth erupted with porous structure, were very fragile and exfoliated soon. In order to rehabilitate the function and aesthetics, a removable acrylic plate with some fixed teeth was installed. The plate was replaced in specific periods according to the facial growth and teeth eruption. A surgery was performed to expose tooth #11, which did not erupt passively. In 2013, the dental plate was replaced by a removable partial denture and aesthetic adjustments were made in tooth #11. During the 19 years of follow-up, the ghost teeth were located intrabony and presented no adjacent lesions. This case report showed that following patients with regional odontodysplasia since childhood allows monitoring the intrabony teeth against complications and providing an adequate functional and aesthetic planning of the missing elements.

OD002 - Alveolysis associated with deciduous lower left first molar: a case report

Fabio Vanderlei Ribeiro de FREITAS[1]; Letícia Fernanda Moreira dos SANTOS[1]; Ana Luiza Coelho LEITE[1]; Ana Beatriz da Silveira MORETTI[1]

[1]Department of Clinic and Surgery, Faculty of Dentistry, Federal University of Alfenas.

Alveolysis is a progressive atrophy of the alveolar bone around one or more teeth that may occur during the process of deciduous root resorption, being characterized by the "expulsion" of a tooth from its alveolus without actual root resorption. Although its etiology is not yet very well understood, some experts believe in the relationship with chronic infections or with any sort of dental trauma. The objective of this work was to report a clinical case study of alveolysis and to analyze possible causes and treatments. Patient M.A.H.A., 6 years old, male, born in the city of Nepomuceno, State of Minas Gerais, Brazil, attended the Federal University of Alfenas's Pediatric Dentistry Clinic, referred by his hometown's public healthcare service, complaining of pain. During anamnesis, the patient's mother reported that the pain had started about a year before the appointment, with episodes of remission and relapse. In extraoral examination no significant alterations were noticed. During the intraoral examination, several extensive carious lesions were noticed; the majority of such cavities were unsatisfactorily sealed with a temporary restorative material. It was also noticed that the deciduous lower left first molar had root exposure on its buccal aspect, associated with inflammation of the surrounding tissues, though without mobility. After radiographic examination, the alveolysis diagnostic was confirmed. Treatment consisted of tooth extraction and placement of a space maintainer on the deciduous lower left second molar in order to maintain space for the eruption of the permanent teeth. Because the extracted tooth had only a temporary filling, it was concluded that initially there was an extensive carious lesion that reached the dental pulp and, due to the lack of adequate endodontic treatment, the infection persisted and spread to the surrounding alveolar bone. Keeping in mind that the literature lacks scientific evidence related to this alteration, new studies are needed to provide a better understanding of it.

OD003 - Effect of phosphate nanoparticles on enamel erosion

Gabriel Pereira NUNES[1]; Marcelle DANELON[1]; Juliano Pelim PESSAN[1]; Francyenne Maira Castro GONÇALVES[1]; Sara Tiemi Felipe AKABANE[1]; Alberto Carlos Botazzo DELBEM[1]

[1]Department of Pediatric Dentistry and Public Health; Araçatuba Dental School, Univ. Estadual Paulista.

The aim of this study was to evaluate the efficacy of sodium trimetaphosphate nanoparticles (TMPnano) added to conventional dentifrice (1,100 ppm F) in erosive wear of the enamel in the presence of acquired pellicle. Bovine enamel blocks (4 mm x 4 mm, n=60), selected by the initial surface hardness (SHi), were divided into 5 experimental dentifrices (n=12): No F/TMP/TMPnano (Placebo); 1,100 ppm F (1,100 ppm F); 1,100 ppm F associated with 3% TMP micrometer (1,100 TMP); 1,100 ppm F associated with 3% TMP nanoparticulate (1,100 TMPnano) and 5,000 ppm F (5,000 ppm F). Then, half of each enamel block was sealed with nail varnish, and immersed 24 h in human saliva. After this period, the erosive challenge was for 5 days, produced by immersing the enamel blocks 4x/day citric acid 0.05 M/L, and treated with the respective dentifrice slurry. After 5 days, we evaluated the final hardness (SHf) and erosive wear on the enamel blocks (µm). Experimental toothpastes were considered as variation factor whereas SHf and erosive wear (µm) were considered as variables. Data were analyzed by ANOVA, followed by Student-Newman-Keuls test ($p<0.001$). SHF values were significantly higher in the groups treated with 1,100 TMPnano and 5,000 ppm F dentifrices, when compared to Placebo and 1,100 ($p<0.001$). No significant difference was observed between 1,100 TMPnano and 5,000 ppm F both for SHf and wear ($p=0.202$). 1,100 TMPnano had the same protective effect as compared with 5,000 ppm F ($p<0.001$). It was concluded that efficacy of a dentifrice containing 1,100 ppm F associated with TMPnano significantly improves the erosion resistance, reaching a level similar to that obtained after the use of 5,000 ppm F, regardless of the effect of acquired pellicle.

OD004 - Avulsion and intrusive luxation in primary dentition

Jéssica Behrens CRISPIM[1]; Marcos Sergio ENDO[1]; Nair Narumi Orita PAVAN[1]; Carlos Alberto Herrero de MORAIS[1]; Maria Gisette Arias PROVENZANO[1]; Izabela Volpato MARQUES[1]

[1]Department of Dentistry, State University of Maringá.

The occurrence of injuries that occur during childhood is high, and approximately one third of the children in primary dentition suffer dental trauma. The correct treatment of oral trauma in the primary dentition prevents the child of feeling pain and that the successor tooth germ is affected. The objective of this report was to describe a case of a 5 year old child, who seeked treatment in the Maringaense Specialized Center of Trauma in Dentistry, State University of Maringá, Brazil, three days after traumatic injury that caused severe intrusion of tooth #62 and avulsion of #61. After 4 months, complete spontaneous eruption of intruded tooth was observed. As far as avulsed tooth #61, it was decided not to carry out replantation to avoid injury to the germ of permanent tooth, and to wait for eruption of the permanent tooth. Regarding tooth #62, it was decided to wait for the spontaneous eruption by periodical monitoring through clinical and radiographic examinations. Tooth eruption occurred without color alteration, symptomatology, mobility or fistula, thus characterizing the success in the treatment choice.

OD005 - Esthetic rehabilitation in patient with ectodermal dysplasia

Thainara Alves CREPALDI[1]; Tássia Carina STAFUZZA[1]; Luciana Lourenço Ribeiro VITOR[1]; Paula Karine JORGE[1]; Daniela RIOS[1]; Thais Marchini OLIVEIRA[1]

[1]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.

Ectodermal dysplasia (ED) is a rare inherited disorder linked to recessive gene from X chromosome, within a group of syndromes characterized by abnormalities of ectodermic structures. Oral signs include hypodontia, anodontia, conical-shaped teeth, loss of vertical dimension of occlusion, protuberant lips, and underdeveloped alveolar ridges. The aim of this work was to present a clinical case of esthetic rehabilitation with direct resin composite restoration in a patient with ectodermal dysplasia. A male patient, aged 13 years, came to the Pediatric Dentistry Clinics with his mother with a main complaint of small maxillary anterior teeth. At extraoral clinical examination and anamnesis, we noted that patient had ectodermal dysplasia. At intraoral clinical and radiographic examination, the patient presented only the maxillary central and lateral incisors, which were all conoid; and hypodontia of all mandibular teeth. Treatment planning comprised the waxing-up of the working cast to construct a silicon template to help in the direct resin composite restoration accomplished with the aid of an operating microscope. The operating microscope was used aiming at the minimal intervention of dental tissue and greater reliability during clinical procedures due to magnification associated to coaxial illumination. After one week, finishing and polishing procedures were performed. Through using both the silicon template and operating microscope, the esthetics of maxillary anterior teeth was improved and was closer to that expected for the patient's face and age. Although ectodermal dysplasia is a congenital disorder causing tooth anomalies, the rehabilitation through direct resin composite allows a more favorable esthetics consequently improving the patient's self-esteem and social life.

OD006 - Effects of aPDT on microcosms of carious lesions in dentine

Eliézer GUTIERRES[1]; Daniela Alejandra Cusicanqui MENDEZ[1]; Agnes de Fátima Pereira CRUVINEL[2]; Maria Aparecida de Andrade Moreira MACHADO[1]; Evandro José DIONÍSIO[1]; Thiago Cruvinel da SILVA[1].

[1]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.
[2]Hospital for Reabilitation of Craniofacial Anomalies, University of São Paulo.

This study aimed to evaluate the effect of Antimicrobial Photodynamic Therapy (aPDT) on the viability of bacterial groups from dentin carious lesions. Samples of infected dentine were collected from children between 7 and 11 years old. The samples were used as inoculum for the growth of biofilms on bovine dentine discs for 72 h. The parameters adopted for aPDT associated 50 μM methylene blue and a red LED (Biotable®, 630±20 nm, 40 mW/cm²) at densities of energy of 0; 18.75; 37.5 and 75 J/cm². Viability of total microorganisms (TM) (Mitis Salivarius Agar), total streptococci (TS) (Tryptone Soy Blood Agar) and lactobacilli (L) (Rogosa Agar plus 0.13% glacial acetic acid) was determined by Colony Forming Unities (CFU) counts. The total microorganisms, streptococci and lactobacilli counts were, respectively, 4.37 log10, 4.43 log10 and 3.0 log10 in the control group. The bacterial counts were reduced to 3.78 log10, 2.88 log10 and 2.46 log10 in the groups treated only with methylene blue. The microorganism counts were also decreased to 3.81 (TM), 3.61 (TS), and 1.82 (L) log10 (18.75 J/cm²); 5.66 (TM), 5.16 (TS), and 3.73 (L) log10 (37.5 J/cm²); and 4.20 (TM), 5.19 (TS), and 3.30 (L) log10 (75 J/cm²) in groups treated only with red LED. The association between methylene blue and red LED also reduced the bacterial counts to 3.13 (TM), 2.51 (TS), and 1.9 (L) log10 (18.75 J/cm²); 3.37 (TM), 2.41 (TS), and 2.04 (L) log10 (37.5 J/cm²); 4.15 (TM), 4.15 (TS), and 3.34 (L) log10 (75 J/cm²). Therefore, aPDT reduced efficiently the viability of biofilms grown *in vitro*.

OD007 - Immediate treatment of deciduous tooth perforation – 24-month follow-up

Amanda FERNANDES[1]; Mariel Tavares de Oliveira PRADO[2]; Nádia Carolina Teixeira MARQUES[2]; Natalino Lourenço NETO[2]; Thiago Cruvinel da SILVA[2]; Thais Marchini de OLIVEIRA[2].

[1]Bauru School of Dentistry, University of São Paulo.
[2]Department of Pediatric Dentistry, Orthodontics, and Community Health, Bauru School of Dentistry, University of São Paulo.

During the removal of carious lesion or even during coronal opening procedure, accidental perforation may occur, thus compromising the maintenance of the deciduous tooth in the mouth. The objective of this study was to report a clinical case of perforation in furcation area

of deciduous tooth followed by immediate treatment with MTA. A male patient, aged 10 years, was diagnosed with deep carious lesion in the right mandibular primary second molar (#85) after clinical and radiographic examination. During the carious removal, pulp exposure occurred and pulpotomy was indicated. During the coronal opening procedure with high speed bur, the furcation area was accidentally perforated. The immediate perforation was treated with MTA paste, following the manufacturer's recommendations. Next, the tooth was restored with resin-modified glass ionomer cement. The tooth was clinically and radiographically followed-up at 3, 6, 12, 18, and 24 months. No pain, mobility, or fistula occurred during all following-up period. At the radiographic following-up, the radiolucent area decreased and new bone was formed at the furcation area. The immediate treatment with the proper material promoted the repair of the area and consequent tooth maintenance in mouth.

OD008- Molar-Incisor Hypomineralization - treatment and follow-up

Ana Beatriz Rocha PINTO[1]; Beatriz Sartori da SILVA[1]; Carlos Luiz Fernandes de SALLES[1]; Marina de Lourdes Calvo FRACASSO[1]; Maria Gisette Arias PROVENZANO[1]

[1]Department of Dentistry, State University of Maringá.

Molar-Incisor Hypomineralization (MIH) is defined as an enamel defect of systemic source that affects the molars, permanent incisors, with prevalence ranging from 3.6 to 25%. It occurs at the stage of maturation and causes change in translucency, with coloring areas ranging from white to yellow-brown. The etiology remains unknown, although it is known that changes that sensitize ameloblasts in the period between the last trimester of pregnancy and the first three years of life may be associated with defective enamel. In this condition, the hypomineralized enamel is fragile and can easily be displaced, leaving the dentin exposed and, thus, may cause tooth sensitivity and increased risk of caries. Restorative treatment in the child patient aims to preserve tooth structure, through the use of glass ionomer base materials, until the final rehabilitation treatment is performed when facial growth is accomplished. The objective of this work was to present a review of the subject and to present a case report of MIH in an 8 year-old child with great involvement of the dental structure of the upper and lower first permanent molars, which caused intense tooth sensitivity, thus directly influencing the child's quality of life. Immediate clinical treatment through conventional glass ionomer cement restorations, application of fluoride varnish and integration with orthodontic therapy were performed. During the bimonthly appointments, reapplication of glass ionomer cement in areas where there was loss of tooth structure and reapplication of fluoride varnish were performed. The clinical and radiographic follow-up lasted for 24 months. It was concluded, therefore, that early diagnosis along with the proposed treatment was effective, which minimized damage to hard tissues and maximally preserved the remaining enamel, aiming at a future rehabilitation during adulthood.

OD009 - Autogenous tooth transplantation in child with multiple missing teeth

Andressa Mioto STABILE[1]; Adilson Luiz RAMOS[1]; Gabriela Machado de Oliveira TERRA[1]; Gustavo Jacobucci FARAH[1]; Lilian Cristina Vessoni IWAKI[1]; Maria Gisette Arias PROVENZANO[1]; Marina de Lourdes Calvo FRACASSO[1]

[1]Department of Health Science, Department of Dentistry, State University of Maringá.

Autogenous tooth transplantation is a dental procedure that aims surgical movement of a tooth from its original position to another site in the alveolar bone of the same patient. It is one of its main indications for cases of tooth agenesis, a situation where the patient has edentulous regions and requires replacement of the missing tooth, whether for aesthetic or functional reasons. This work reports an autogenous tooth transplant performed on a patient with multiple tooth agenesis. The immature upper first premolar (14) was transferred to an artificial socket made in the contralateral region where the patient had tooth agenesis of premolars. After seven months of postoperative follow-up, the donor tooth presented with promising periodontal and pulp repair, and the patient was undergoing orthodontic treatment. High success rates are observed for autogenous transplants in young patients with available teeth with less than two-thirds of the root formed. The combination of this procedure with orthodontic treatment is indicated as a first alternative for patients with missing teeth. Due to the complexity of such cases, a multidisciplinary treatment is believed to be advantageous. Autogenous transplantation of premolar for a homologous region offers benefits to the patient, but a longer follow-up is necessary.

OD010 - Anticaries effect of toothpastes supplemented with phosphates

Sara Tiemi Felipe AKABANE[1]; Marcelle DANELON[1]; Luciene Pereira CASTRO[1]; Gabriel Pereira NUNES[1]; Alberto Carlos Botazzo DELBEM[1]; Célio PERCINOTO[1]

[1]Department of Pediatric Dentistry and Public Health, Araçatuba Dental School, Univ. Estadual Paulista.

The objective of this work was to evaluate the *in vitro* capacity of conventional dentifrices supplemented with different concentrations of sodium trimetaphosphate (TMP) in reducing enamel demineralization. Bovine enamel blocks (4 mm x 4 mm) were selected by the initial surface hardness (SHi) and then divided into 7 groups (n=12): Dentifrice without fluoride and TMP (Placebo); Dentifrice with 1,100 ppm F (1,100); Dentifrice with 1,100 ppm F associated with concentrations of 1% TMP (1,100 1% TMP) 3% TMP (1,100 3% TMP) 4.5% TMP (1,100 4.5% TMP), 6% TMP (1,100 6% TMP) and 9% TMP (1,100 9% TMP), which were submitted for seven days, five pH cycling. Treatment was performed daily with 2 mL of suspension dentifrices, twice a day. Final surface hardness (SHf) and in longitudinal section were determined for calculating the loss of integrated subsurface hardness (ΔKHN). The results of SHf showed that supplementation with TMP produces a maximum effect with 3% ($p<0.001$) and with concentrations greater than 3% a reduction in the effect of supplementation was observed ($p<0.001$). The 1,100 3% TMP group had lower mineral loss in depth (ΔKHN) ($p<0.001$). We conclude that supplementation with 3% TMP to a dentifrice with 1,100 ppm F promoted greater efficiency in reducing enamel demineralization.

OD011 - Relationship of light intensity and color of composite resin

Henrico Badaoui Strazzi SAHYON[1]; Camila Berbel SELOTO[1]; Paulo Henrique dos SANTOS[1]

[1]Department of Dental Materials and Prosthodontics, Araçatuba School of Dentistry, Univ. Estadual Paulista.

The purpose of this *in vitro* study was to evaluate the light intensity of light cured units of undergraduation students at Araçatuba School of Dentistry – UNESP and private dental clinics, evaluating the consequences of different light intensities in color stability of composite resins before and after thermocycling. Eighty specimens of TPH Spectrum composite resin (5.0 x 2.0 mm), colors A3 and C3, were divided into 4 groups according to the restorative material and light curing units used (VALO -Ultradent and EC 450 - ECEL) (n=20). For the measurement of light intensity a digital radiometer (Dabi Atlante RD7 Ecel) was used, with the highest light intensity of 1,431 mW/cm^2 and lowest of 101 mW/cm^2. Color stability values were determined using a spectrophotometer to determine the possible changes in composite resins before and after thermocycling (12,000 times, 5-55°C). Color stability data were analyzed using Mann-Whitney's test (p=0.05). Comparing the colors A3 and C3, there was no difference in color stability values of restorative light-cured material with both light curing units. In the analysis of the light curing, there was no difference in the composite A3 light cured with both devices; however C3, when polymerized with the photo-curing unit with higher intensity, showed less color change compared to the same polymerized material with the light curing unit of lower light intensity. Therefore, it is recommended a frequent maintenance of the polymerization units, since unsatisfactory light intensity can directly influence the color stability of composite resins.

OD012 - Dentifrice with TPM/CAGP in fluoride concentration on biofilm

Mariana Emi NAGATA[1]; Alberto Carlos Botazzo DELBEM[1]; Kevin Bruce HALL[1]; Marília Afonso Rabelo BUZALAF[2]; Thayse Yumi HOSIDA[1]; Márjully Eduardo Rodrigues da SILVA[1]; Liliana Carolina BÁEZ[1]; Juliano Pelim PESSAN[1]

[1]Department of Pediatric Dentistry and Public Health, Araçatuba Dental School, Univ. Estadual Paulista.
[2]Department of Biological Sciences, Bauru School of Dentistry, University of São Paulo.

The present study evaluated fluoride (F) and calcium (Ca) concentrations in the biofilm fluid formed *in situ* under cariogenic challenge after using F dentifrices, supplemented or not with sodium trimetaphosphate (TMP) or calcium glycerophosphate (CaGP). Volunteers (n=12) were randomly divided into 5 groups according to the toothpastes used: Placebo (no F, CaGP or TMP); 1,100 ppm F (1,100F); 550 ppm F (550F) and 550 F supplemented with 1% TMP (550F-TMP) or 0.25% CaGP (550F-CaGP). The volunteers used a palatal device containing 4 enamel blocks, following a double-blind, crossover protocol, and the cariogenic challenge was performed with 30% sucrose solution, 6 times/day. On the 8th day, biofilm was collected 1 h and 12 h after brushing and cariogenic challenge. F and Ca analyses were performed with the inverted electrode and by spectrophotometry, respectively. Data were submitted to two-way, repeated-measures ANOVA and Student-Newman-Keuls' test (p<0.05). A dose-response relationship was verified between F concentrations in the dentifrices and in the biofilm fluid. Significant differences were observed between F concentration in the biofilm fluid only 1 h after using the placebo, 550F and 1100F, with no significant differences between 550F, 550F-TMP and 550F-CaGP. No defined trend was observed among the groups regarding Ca concentrations in the biofilm fluid, with the highest values seen for Placebo and 550F-CAGP. It was concluded that the anticaries effects of low-fluoride toothpastes supplemented with TMP or CaGP cannot be related to an increased availability of F and Ca in the biofilm fluid.

OD013 - Antimicrobial action of HMP associated with silver and fluoride

Carla Corrêa MENDES-GOUVÊA[1]; Jackeline Gomes AMARAL[1]; Gabriela Lopes FERNANDES[1]; Renan Aparecido FERNANDES[1]; Luis Fernando GORUP[2]; Emerson Rodrigues CAMARGO[2]; Alberto Carlos Botazzo DELBEM[1]; Débora Barros BARBOSA[3]

[1]Department of Pediatric Dentistry and Public Health, Araçatuba Dental School, Univ. Estadual Paulista.
[2]Department of Chemistry, Center of Exact Sciences and Technology, Federal University of São Carlos.
[3]Department of Dental Materials and Prosthodontics, Araçatuba Dental School, Univ. Estadual Paulista.

The aim of this study was to synthesize a nanocomposite containing sodium hexametaphosphate (HMP), fluoride (F) and silver nanoparticle (SN) and evaluate its antimicrobial action by methods of counting colony forming units (CFU), XTT reduction and crystal violet (CV) pre-formed biofilms for 24 h. *Candida albicans* (ATCC 10231) and *Streptococcus mutans* (ATCC 25175) strains were used. For the syntheses, we used silver nitrate (10%), sodium borohydride, HMP and fluoride. The synthesized compound was evaluated by scanning electron microscopy (SEM) and 2D mapping by EDX. Concentrations of 100/1,000/10,000 µg/mL for *C. albicans* and 400/4,000/40,000 µg/ml for *S. mutans* were evaluated. The formation of SN associated to HMP/F was found. A reduction of *S. mutans* cells expressed as log10 CFUs, depending on the concentration of the compound, was observed. However, only *C. albicans* was sensitive to the concentration of 10,000 µg/mL. In XTT, *C. albicans* had reduced metabolic activity when exposed to a concentration 1,000 µg/mL, while *S. mutans* was more sensitive against the concentration of 400 µg/mL. Furthermore, all concentrations of compounds were effective in lowering total biomass of *C. albicans* and *S. mutans* except for the concentration of 40,000 µg/mL. It was concluded that there was SN association to the HMP/F when the synthetic process was used and that this compound showed antimicrobial activity and may be used as an alternative antimicrobial agent.

OD014 - Dentinal tubule obliteration after the use of toothpastes with TMP

Isabel Cristina Cabral de Assis SALAMA[1]; Carla Oliveira FAVRETTO[1]; Alberto Carlos Botazzo DELBEM[1]; Priscila Toninatto Alves TOLEDO[1]; Jéssica Enita PAIVA[1]; Denise PEDRINI[2]

[1]Department of Pediatric Dentistry and Public Health, Araçatuba Dental School, Univ. Estadual Paulista.
[2]Department of Dentistry, Araçatuba Dental School, Univ. Estadual Paulista.

The objective of this work was to evaluate the action of *in vitro* TMP microparticle (TMPm) and nanoparticulate (TMPn) associated with fluoride (F) in dentifrice formulations in the obliteration of dentinal tubules (TD). Bovine dental blocks (4x4x2 mm) were ground flat and polished and dentinal tubules were open with 10% NaOH during 12 h. The blocks (n=50) underwent mechanical brushing 2x/day for 7 days with toothpaste: placebo (no F and without TMP), 1,100 ppm F without TMP, 1,100 ppm F associated with 3% TMPm, 1,100 ppm F associated with 3% TMPn. Ten blocks did not undergo treatment. The dentin surface was analyzed for the area, the diameter and TD numbers not obliterated using scanning electron microscopy and quantification of the chemical elements of the precipitates present in the TD using the analysis by energy dispersive X-ray. Data were tested for statistical variance of one criterion as well as Student-Newman-Keuls test ($p<0.05$). All groups showed better results than the control group. The placebo and 1,100 ppm F groups had similar results. Higher % of Ca and P elements were observed in the groups with TMP. It is therefore concluded that addition of TMP nanoparticles and microparticles in dentifrice to a concentration of 1,100 ppm F is capable of forming precipitates and obliterating the dentinal tubules.

OD015 - Remineralizing action of toothpastes with phosphate nanoparticles

José Guilherme NEVES[1]; Marcelle DANELON[1]; Juliano Pelim PESSAN[1]; Sara Tiemi Felipe AKABANE[1]; Francyene Maira Castro GONÇALVES[1]; Alberto Carlos Botazzo DELBEM[1]

[1]Department of Pediatric Dentistry and Public Health, Araçatuba Dental School, São Paulo State University.

The aim of this study was to evaluate *in situ* the remineralizing potential of dentifrices supplemented with nanoparticles of sodium trimetaphosphate (TMP) in artificial caries lesions. This blind, crossover study was conducted on 4 experimental phases lasting 3 days each. Volunteers (n=12) wore palatal appliances containing 4 demineralized enamel blocks. Treatment regimens were: without F/TMP/TMPnano; 1,100 ppm F (1,100 ppm F); 1,100 ppm F supplemented with 3% TMP micrometer (1,100 TMP) and 1,100 ppm F supplemented with 3% TMP nanoparticulate (1,100 TMPnano). The volunteers were instructed to brush their natural teeth with palatal devices in the oral cavity; the blocks were treated with the dentifrice slurry for 1 minute (3x/day). After each stage, the percentage of surface hardness recovery ($\%SH_R$), recovery of integrated mineral loss (IML_R) and fluoride (F) in enamel were determined. The results were submitted to analysis of variance and Student-Newman-Keuls test ($p<0.05$). The enamel surface became 20% more remineralized when treated 1,100 TMPnano compared to 1,100 ppm F, and reduced by approximately 43% the body of the lesion when compared to 1,100 TMP ($p<0.001$). The absorption of the enamel F in the TMPnano group was 2 times higher when compared to 1,100 ($p<0.001$). It was concluded that the addition of 3% TMPnano to a conventional dentifrice promoted a significantly higher remineralizing effect compared to 1,100 ppm F.

OD016 - Delayed reimplantation and its aesthetic limitations on growth

Juliana Calistro da SILVA[1]; Catarina Ribeiro Barros de ALENCAR[1]; Gabriela Cristina de OLIVEIRA[1]; Natalia Santos MELLO[1]; Fernanda Lyrio MENDONÇA[1]; Priscila Santana Pinto GONÇALVES[1]; Heitor Marques HONÓRIO[1]; Daniela RIOS[1]

[1]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.

The immediate tooth reimplantation is the ideal treatment for permanent tooth avulsion. However, in face of its impossibility, delayed replantation can be performed. In the meantime, in these cases the chance of complications due to the pulp and periodontal ligament necrosis is increased. This work aims to report a case of delayed replantation of a permanent maxillary left central incisor (#21) with 4 years of follow-up. A 10-year-old patient was taken to a hospital due to face injuries and avulsion of tooth #21. Despite immediate medical care (up to 1 h) and correct storage of the tooth (milk) the treatment was not done. The reimplantation was performed after 24 h from the trauma in a university dental clinic after endodontic extraoral intervention with MTA. In the six months clinical and radiographic control an apparent change in tooth position without mobility or signs of reabsorption it could be observed. Nonetheless, during the 1 year follow-up areas of ankylosis and root resorption were observed, which progressed until the 4th year. Since the patient was in the growing phase, the dentoalveolar ankylosis resulted in a significant aesthetic involvement, but the extraction and endosteal implant installation were not indicated due to the age of the patient. Thus, as the patient's smile line was low, the unevenness of the tooth #21 was compensated with through reconstruction with composite resin, thus increasing the tooth crown and restoring aesthetics. Given the above, it is concluded that the delayed reimplantation may be a good option to avoid psychological changes due to the tooth loss. However, aesthetic maintenance is not guaranteed, especially in patients in growing phase, due to the alveolar bone growth impairment resulting from the dentoalveolar ankylosis of the reimplanted tooth. In the present case, the tooth reconstruction with composite resin solved partially and provisionally the aesthetic concerns until the endosteal implant can be performed.

OD 017 - *In vitro* effect of TMP addition to GIC on enamel demineralization

Lenara Queiroz Chaves OLIVEIRA[1]; Valéria Marisel de ABREU[1]; José Antônio Santos SOUZA[1]; Marcelle DANELON[1]; Alberto Carlos Botazzo DELBEM[1]; Denise PEDRINI[2]

[1]Department of Pediatric Dentistry and Public Health, Araçatuba Dental School, Univ. Estadual Paulista.
[2]Department of Surgery and Integrated Clinic, Araçatuba Dental School, Univ. Estadual Paulista.

The objective of this work was to evaluate the *in vitro* effect of the addition of sodium trimetaphosphate (TMP)

microparticle (m) and nanoparticulate (n) in the glass ionomer cement (GIC) on enamel demineralization. Bovine enamel blocks (n=96) were selected for the initial surface hardness test (SH_1). Twelve specimens of each material were prepared: GIC without TMP (GIC); GIC with 3.5%, 7% and 14% TMPm; GIC with 3.5%, 7% and 14% TMPn. As a control group 12 blocks without material were used. The specimens of GICs were adapted to the enamel blocks and daily immersed in demineralization (6 h) and remineralization (18 h) solution for 7 days. The final surface (SH_2) and cross-sectional (CSH) hardness as well as enamel F concentration were determined. Materials were considered as variation factors for the variables obtained after the pH-cycling (SH_2, %SH, ΔKHN and F). The results of SH_2, %SH and ΔKHN were subjected to analysis of variance; F data were subjected to Kruskal-Wallis analysis, followed by the Student-Newman-Keuls test ($p<0.05$). Evaluation of enamel hardness after pH-cycling showed that the placebo group had higher mineral loss (SH_2, %SH and ΔKHN) compared to the other groups ($p<0.001$). GIC showed similar mineral loss to groups 3.5% TMP ($p>0.05$). The addition of 14% TMP to GIC led to lower mineral loss compared to the other groups ($p<0.05$), regardless of particle size. The enamel F was similar between the GIC group and 3.5% TMP ($p>0.05$). Groups 7% and 14% TMP had higher enamel F values ($p<0.05$) when compared to the other groups, but without statistically significant difference between both. It can be concluded that the incorporation of TMP in the GIC promotes reduction in enamel demineralization. The reduction in particle size of TMP has not led to better results. The increase in TMP concentration reduces mineral loss.

OD018 - Nitrous oxide sedation in the pediatric dental patient

Letícia Maria Ramos ZANCHETA[1]; Henry BARRINOVO[2]; Cleide Felício de Carvalho CARRARA[1]

[1]Department of Pediatric Dentistry, Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.
[2]School of Dentistry, University Paulista.

Despite the huge advances of science, the unpleasant feeling related to dental experience as fear, anxiety and phobia still remains among children and adults. There are numerous nonpharmacological techniques currently available to control behavior and anxiety in pediatric dentistry, such as: "Tell-show-do", "Voice control", "Positive reinforcement", among others. But when these methods are not effective, the use of pharmacological techniques is necessary and varies from minimal sedation to general anesthesia. The technique of minimal sedation or conscious sedation with benzodiazepines exists for a long time, with proven efficacy and clinical safety, but there is still insecurity and lack of knowledge by many dentists in its use as an aid in the treatment of children. This literature review aims to highlight the indications and contraindications, and the advantages and disadvantages of nitrous oxide sedation. In addition, the technique, the adverse effects and the facilities and equipment needed for the different procedures in pediatric dentistry that require the need for sedation and analgesia will be described. In conclusion, nitrous oxide sedation is a technique that has achieved growing success in dental care, thus increasing safety in the care for special patients and promoting the achievement of a peaceful and comfortable care for both the patient and the dentist.

OD019 - Evaluation of fluoride concentration in table salts sold in Colombia

Liliana Carolina BÁEZ[1]; Alberto Carlos Botazzo DELBEM[1]; Mariana Emi NAGATA[1]; Thayse Yumi HOSIDA[1]; Marjully Eduardo Rodrigues da SILVA[1]; Juliano Pelim PESSAN[1]

[1]Department of Pediatric Dentistry and Public Health, Araçatuba Dental School, Univ. Estadual Paulista.

The aim of this work was to determine the fluoride concentration in table salts sold in Bogotá, Colombia, as well as to verify whether the values were consistent with the information provided by the manufacturer and with the standards of the national program of domestic salt fluoridation of Colombia (180-220 ppm F). Twenty one different samples of table salt were purchased in the main supermarkets of Bogotá, comprising coarse, refined and seasoned salts. Samples were analyzed by the direct method (n=15) or by hexamethyldisiloxane-facilitated diffusion (n=6), using an ion-specific electrode (9409 BN-Orion, USA) coupled to an ion analyzer (Orion 720 A, Orion, USA). Electrodes were calibrated with standards containing 0.5 to 20 µg F for direct method and 0.13 to 17.07 µg F for hexamethyldisiloxane-facilitated diffusion method. Analyses were performed in triplicates and data were submitted to descriptive statistical analysis. Mean (SD) fluoride concentration for all samples was 135.9 (43.8) ppm F, ranging from 4.1 to 209.8 ppm F. The majority of samples (95%) had values below those recommended for fluoridated salt program in Colombia. Mean (SD) fluoride concentration in seasoning-containing samples was 101.5 (50.6), ranging from 4.1 to 163.5 ppm F, despite this information was not reported on the labels. Mean (SD) fluoride concentration in refined salts was 149.6 (31.6), ranging from 88.2 to 209.8 ppm F. Most of the salts analyzed did not comply with the fluoride concentration norm for salt consumption in Colombia. Therefore, monitoring fluoride concentrations in salts for human consumption should be performed on a regular basis so that fluoride levels are kept at safe and effective levels for caries control, without increasing the risk of dental fluorosis.

OD020 - Importance of Dentistry in the diagnosis of cleidocranial dysostosis

Márjully Eduardo Rodrigues da SILVA[1]; Carla Oliveira FAVRETTO[1]; José Antônio Santos SOUZA[1]; Kelly Limi AIDA[1]; Natália Helena COLOMBO[1]; Mariana Emi NAGATA[1]; Thayse Yumi HOSIDA[1]; Liliana Carolina BÁEZ[1]; Alberto Carlos Botazzo DELBEM[1]

[1]Department of Pediatric Dentistry and Public Health, Araçatuba Dental School, Univ. Estadual Paulista.

The cleidocranial dysostosis is a rare genetic disorder, with a prevalence ranging from 1:200,000 to 1:1,000,000. It is characterized by abnormalities of clavicles developmental, skull bones, face, teeth and other bones, involving almost the entire skeleton. It shows an inheritance autosomal dominant pattern, with no predilection for gender and race. Diagnosis is based on clinical and radiological findings. Also, the following triad is considered pathognomonic: multiple supernumerary teeth, partial or total absence of clavicles and the sutures opening, such as fontanelles and sagittal sutures open. This study aimed to report a case of supernumerary teeth in a patient with cleidocranial dysostosis. An eight-year-old patient

male sought treatment in the Pediatric Dentistry Clinic of Araçatuba Dental School, where his mother complained of the child's permanent teeth absence. In the initial interview, his mother reported child's fontanelles still open and that he was being accompanied by a neurologist in São Paulo. Both panoramic radiography and computed tomography showed permanent teeth retained and a bunch of supernumerary teeth either in maxilla and mandible. In the physical examination, it was observed that patient shoulders mobility was abnormal, being able to move them to the median sagittal plane. After evaluation, the extraction of supernumerary teeth was performed successfully. This clinical report enhances the importance of the dentists in the diagnosis of cleidocranial dysostosis, because in most of the cases the dentist is the first professional searched due to the patient's complaint. In addition, it is important to emphasize the early diagnosis of this condition in order to minimize oral alterations, thus improving individual functional adaptation and a better quality of life.

OD021 - Reshaping of conoid lateral incisor in pediatric dentistry

Andréa Rodrigues SOUZA[1]; Alex Siqueira e SILVA[1]; Cecília da Costa CAMPOS[1]; Diogo SILVEIRA[1]; Edwaldo de Souza BARBOSA JÚNIOR[1]; Emily Souto MARTINS[1]; Igor Souto XAVIER[1]; Kleber Vinicius SOUTO[1]; Laís Vieira PINTO[1]; Maria José Lages de OLIVEIRA[1]; Verônica Oliveira DIAS[1]

[1]Department of Pediatric Dentistry, State University of Montes Claros.

The appearance of the smile has great influence on the individual facial aesthetics, and can affect self-esteem and social behavior. Thus, factors that can interfere significantly with the smile are dental anomalies, which may change the number, size, structure and form. This work aims to present a clinical case of reshaping conoid upper lateral incisor (#12), which was performed at the clinic of Pediatric Dentistry at our institution. We aim to emphasize the restorative aesthetic treatment without making the crown preparation through direct adhesive technique using composite resin with the aid of silicone guide. Impression of the upper arch was conducted to obtain a study model, which served to diagnostic wax-up of tooth #12. This allowed the observation and definition of the shape and contour of the final restoration. Then, a guide with condensation silicone was made from the waxed study model. This in turn assisted the professional during the restoration because the guide was cut and its palatal part reliably reproduced this face of the tooth, and precisely allowed to define the incisal portion made during the waxing phase in the laboratory. The technique using the direct adhesive restorative system to reshape conoid teeth, as a minimally invasive procedure without tooth structure wear, returns the harmony of the smile and aesthetics to the patient. The use of composite resins in a silicone guide to restore the tooth contour and shape is easier, more effective, with a low cost, less time-consuming and makes possible the subsequent adjustment of the aesthetic restoration. The correct selection of color, contour, tooth surface texture, the maintenance of oral health and the integrity of the dental arch shape are fundamental to the balance of the stomatognathic system, thus re-establishing a favorable aesthetics and the child's self-esteem.

OD022 - Pediatric medicine, oral hygiene and tooth decay: a preliminary study

Emily Souto MARTINS[1]; Carolina de Castro OLIVEIRA[1]; Itagiba de CASTRO FILHO[1]; Laís Vieira PINTO[1]; Lorenna Fonseca Braga de OLIVEIRA[1]; Naiara Gonçalves Fonseca MAIA[1]; Verônica Oliveira DIAS[1]; Maria José Lages de OLIVEIRA[1]

[1]Department of Pediatric Dentistry, State University of Montes Claros.

Most infant liquid medications have sugar in their composition, making their ingestion pleasant. However, the presence of sucrose in the medications shows evidence of cariogenicity. The risk for oral diseases is even higher with the cariogenic potential of sugar-containing liquid medicines associated with ineffective oral hygiene. This study verified the knowledge and attitudes of those responsible for children admitted to the University Hospital of UNIMONTES (HUCF) on the use of liquid pediatric medicine, oral hygiene and relationship with tooth decay, during hospitalization of their children. Data were collected from medical records of the children, and a pre-tested questionnaire was applied to parents of hospitalized children for at least five days with questions about oral health perception. Descriptive statistical analysis was performed using PASW® program. All parents who accompanied their children admitted to HUCF during the second semester of 2015, participated in the study after signing an informed consent (random sample of 27 parents). Through the medical records, it was found that 70.4% of the children consumed liquid medications with cariogenic potential; 42.1% used more than one type of liquid medication, from 4 to 14 times *per* day; 18.5% were hospitalized for an average of 10 days. Of these children, 25.9% did not perform oral hygiene and 61.1% performed only brushing. All the parents informed they had not received guidance on the sugar contained in the medicines and decreased saliva production caused by them; 88.9% did not receive information on the need for oral hygiene during the child hospitalization. It was noticed the necessity to provide promotion and health education programs to the health team and parents of children hospitalized at HUCF, with multidisciplinary approaches, focusing on the use of sugar-containing liquid medicines and caries development in the absence of proper oral hygiene.

OD023 - Anti-caries action of dentifrices with hexametaphosphate nanoparticles

Gabriel Pereira NUNES[1]; Giovanna DALPASQUALE[1]; Juliano Pelim PESSAN[1]; Emerson Rodrigues CAMARGO[2]; Alberto Carlos Botazzo DELBEM[1]; Marcelle DANELON[1].

[1]Department of Pediatric Dentistry and Public Health, Araçatuba Dental School, Univ. Estadual Paulista.
[2]Department of Chemistry, Federal University of São Carlos.

The aim of this study was to evaluate *in vitro* the capacity of fluoridated toothpastes containing 1,100 ppm F, supplemented or not with different concentrations of sodium hexametaphosphate nanoparticles (HMPnano), to reduce the demineralization of tooth enamel. Bovine blocks (n=72) were selected by the initial surface hardness (SHi) and then divided into 6 experimental groups (n=12): 1) Dentifrice without F/HMPnano (Placebo), 2) Dentifrice 550 ppm F, 3) Dentifrice 1,100 ppm F, 4) Dentifrice 1,100 ppm F associated with 0.25% HMP nanoparticulate (1,100 0.25%HMPnano), 5) Dentifrice 1,100 ppm F associated with 0.5% HMP nanoparticulate (1,100 0.5%HMPnano)

and 6) Dentifrice 1,100 ppm F associated with 1.0% HMP nanoparticulate (1,100 1.0%HMPnano). The blocks were submitted to five pH cycling and treatment 2x/day with dentifrice slurry. To evaluate mineral loss, the hardness of the end surface (SHf) was calculated, followed by the percentage of surface hardness loss (%SH). Data were submitted to analysis of variance (ANOVA, one-way) followed by Student-Newman-Keuls test ($p < 0.001$). Blocks treated with 0.5% in 1,100 HMPnano showed significantly less loss when compared to other groups ($p < 0.001$). 1,100 group was not significantly different compared to 1,100 0.25% HMPnano and 1,100 1.0%HMPnano groups ($p < 0.001$). It is concluded that supplementation of toothpastes with 0.5% HMPnano produced a greater protective effect on the inhibition of enamel demineralization when compared to other groups.

OD024 - Dental challenges and Down's syndrome – experience report

Luiz KAWAI JÚNIOR[1]; Rafael FERREIRA[2]; Sebastião Luiz Aguiar GREGHI[2]; Adriana Campos Passanezi SANT'ANA[2]; Carla Andreotti DAMANTE[2]

[1]School of Dentistry, University of Sagrado Coração.
[2]Department of Prosthodontics, Discipline of Periodontics, Bauru School of Dentistry, University of São Paulo.

There are several limitations in promoting oral health in Down's syndrome (DS) patients, among them is the behavior and particular characteristics of the syndrome. The aim of this work is to point all the variables that impose difficulty and harm to oral health of these patients. The project was approved by an Ethics Committee of the Bauru School of Dentistry (Protocol 386.460). During the appointments, the aspects that impose difficulty to the oral health of these patients were observed and reported as well as periodontal parameters were recorded for the full mouth (bleeding on probing-BOP, probing depth-PD, clinical attachment level-CAL and plaque index-PI). Thirty three patients (20 men; 13 women; mean age 27.06±9.29 years) were included in the study. They had periodontal problems such as gingivitis or periodontal disease. It was observed a high prevalence of periodontal disease with PD of 3.92 ±0.77 mm and 56.96±4.72% of BOP. The limiting factors for oral hygiene (OH) can be divided into clinical, behavioral and social. Periodontal diagnosis is achieved clinically by PD, which causes much discomfort and pain for the patient, thus may times generating the loss of patient's behavioral conditioning. Presence of pseudomacroglossia, enamel pearls, muscle hypotonia and diastemas impose difficulty to perform the correct mechanical biofilm control by the dental surgeon as well as patient and caregivers. DS patients' behavior deserves special attention since it may be associated with other comorbidities (such as autism spectrum). The main social challenge is the family compliance with the treatment. A high absenteeism in the appointments is noticed and parents do not supervise/reinforce the OH performed at home. It is the dentist's responsibility to work for the creation of resources and stimulate the formulation of public health policies so that the patient and the family are able to properly perform OH and adopt healthy habits aiming to promote a better quality of life to DS patients.

OD025 - Ectodermal dysplasia in child patient: from the diagnosis to the rehabilitation

Ana Paula de Oliveira MIRANDA[1]; Cassiana Jorge GARCIA[1]; Cristiane FIGUEIRA[1]; Elen de Souza TOLENTINO[1]; Maria Paula Jacobucci BOTELHO[1]; Luciana Manzotti de MARCHI[1]

[1]Department of Dentistry, University Center of Maringá.

Ectodermal Dysplasia is a hereditary disease in which the ectodermal tissues and their derivatives are affected and do not develop or develop partially. Affected patients require a multidisciplinary approach, in which dentists could work rehabilitating masticatory function, phonetics and aesthetics. Treatment of a patient with Ectodermal Dysplasia depends on the extent of clinical signs, and the complexity of this treatment is directly related to the age of the patient and the degree of involvement by the disease. This study aims to report a case of oral rehabilitation of a patient with Ectodermal Dysplasia aged 2 years and 6 months. The extraoral examination revealed dry patient's skin, low nasal bridge, retracted columella and thick everted lips. Intraoral examination revealed the presence of bifid labial frenum and that teeth #55, 51, 61, 84 and 85 were erupted and sound while teeth #65 and 75 presented eruption signs. The vertical dimension of the patient was decreased and a posterior cross-bite was detected on the left deciduous molars due to a slight maxillary atresia. Through radiographic examination, agenesis was observed for the other primary teeth (#54, 53, 52, 62, 63, 64, 74, 73, 72, 71, 81, 82 and 83) and the presence of germs of some teeth permanent teeth (11, 21, 36 and 46) was also detected. The treatment plan included the maintenance of oral health and prosthetic rehabilitation of the patient through upper removable partial denture with palatal expander and lower removable partial denture. The patient's 4-year-follow-up will be presented. This case presented a very satisfactory result since the patient felt well integrated in the society and maintained normal masticatory and phonetic functions.

OD026 - Presence of compound odontoma in a child: case report

Cynthia Camila da Rosa ALVARENGA[1]; Jessica Magalhães VILELA[1]; Priscila GUIMARÃES[1]; Adriana Silveira de Lima ELEUTÉRIO[1]

[1]Dental School, National Institute of Postgraduate Padre Gervasio.

This study aimed to report a case of compound odontoma in a male patient aged 11 years and 8 months with dental impaction of a permanent tooth. Odontoma is a benign tumour, composed histologically of the dental components (cementum, dentin and enamel), which is clinically asymptomatic and with slow growth. The patient went to the private dental office with his mother, with the complaint that the tooth had not erupted. During the clinical examination, the dentist noticed the absence of tooth #43; the radiographic examination revealed an irregular radiopaque image with denticles inside, surrounded by a well-defined radiolucent image. With this diagnosis, the proposed treatment was enucleation and curettage, with surgical excision of the lesion and orthodontic traction of the impacted tooth. Surgical treatment allowed the removal of the lesion and postoperative follow-up due to orthodontic traction. Histopathological examination confirmed the presence of a compound odontoma. In conclusion, odontoma is one

of the most frequent benign odontogenic tumors of easy clinical and radiographic diagnosis. In the present case, the treatment choice of a surgical excision of the lesion with curettage avoided the formation of other lesions or future sequelae to the patient.

OD027 - Knowledge of parents/ guardians and teachers about tooth avulsion

Isadora Messias Batista ROSA[1]; Priscilla Santana Pinto GONÇALVES[1]; Clara Ramos ZAMPIERI[1]; Natália Mello dos SANTOS[1]; Maísa Camillo JORDÃO[1]; Franciny Querobim IONTA[1]; Daniela RIOS[1]

[1]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.

Dentoalveolar traumatic injuries represent a serious problem of children's and adolescent's oral health and may compromise aesthetics, function and speech. When they occur in primary teeth, consequences to permanent successors may arise. A favorable prognosis in cases of dental trauma is directly related to the initial management, often performed by parents/guardians or teachers in emergencies. The aim of this study was to evaluate by means of a questionnaire, the level of knowledge of parents, guardians and public schools teachers on how to proceed in cases of tooth avulsion in the city of Bauru, São Paulo, Brazil. The sample consisted of 196 parents/guardians and 182 public schools teachers selected randomly. Data were analyzed descriptively. In both groups, the majority had no prior knowledge of avulsion (teachers: 82.42%; parents/guardians: 80.92%). Parents/guardians (55.67%) and teachers (48.9%) rated their knowledge as very important, and the two studied groups would like to receive more information about tooth avulsion: parents/guardians (94.84%) and teachers (96.15%). A good percentage of parents/ guardians (78.35%) and teachers (88.46%) were aware that they should not replant primary tooth, but they were not aware of what they should do in case of permanent teeth avulsion (correct answers of parents/guardians: 51.03% and teachers: 26.37%). In addition, less than half of parents/guardians and teachers knew how to replant permanent teeth. Within the limitations of this study, it is concluded that parents/guardians and teachers showed a low level of knowledge about emergency procedures related to dental avulsion and replantation. Thus, the knowledge of emergency treatment of avulsed teeth should be increased through educational programs in schools focused on parents/guardians and teachers.

OD028 - Complicated crown fracture and lateral luxation in permanent tooth

Marcela de Azevedo Garcia BASSOTO[1]; Franciny Querobim IONTA[1]; Rafael Massunari MAENOSONO[2]; Raquel Zanin MIDENA[2]; Priscilla Santana Pinto GONÇALVES[1]; Gabriela Cristina de OLIVEIRA[1]; Daniela RIOS[1]

[1]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.
[2]Department of Operative Dentistry, Endodontics and Dental Materials, Bauru School of Dentistry, University of São Paulo.

Trauma often occurs in children and can affect tooth support and hard dental tissues. The purpose of this case report is to describe the delayed treatment conducted in a 10-year-old child who suffered a complicated crown fracture associated with lateral luxation of tooth #21. Fifteen days after the trauma, parents searched for treatment in the Pediatric Dentistry Clinic of our institution. Clinical examination revealed the presence of tooth's splint with orthodontic wire fixed with composite resin (teeth #12-22) and enamel and dentin fracture involving the pulp, which was exposed and necrotic (tooth #21). In the radiographic examination, tooth #21 showed an open apex. In the anamnesis, parents reported that the patient fell out and he was immediately taken to the hospital where radiographs, tooth's splinting, suture and anti-inflammatory prescription were carried out, but no direct pulp capping was performed on tooth #21. Considering the above, the coronal access and debridement were conducted. The endodontic treatment of the tooth #21 was carried out to induce apexification with periodic changes of calcium hydroxide intracanal dressing and subsequently, the tooth was obturated with gutta percha. After the obturation (1- year post-trauma), the tooth presented discoloration, thus bleaching of tooth #21 was performed before autogenous bonding of the tooth fragment. The follow-up of the case was done twice a year and at the two-year follow-up an infraocclusion of tooth #21 in comparison with #11 was noticed. The mother reported that the child had grown a lot in the last 6 months. Thus, it was diagnosed that the tooth's splint in the first appointment was present due to the displacement of tooth #21 and the infraocclusion was due to ankylosis points resulting from damages to support tissues. It can be concluded that once trauma affects support and hard tooth tissues in a child, the prognosis may be negative even under adequate delayed treatment, especially if there are points of ankylosis and growth spurts.

OD029 - Isolation of stem cells from the dental pulp of deciduous teeth

Tatyane Borges BRIGAGÃO[1]; Marina Martins Moura do NASCIMENTO[1]; Paloma Gabriela SANDOVAL[1]; Thaíne Vieira DOMINGUES[1]

[1]Department of Pediatric Dentistry, National Institute of Higher Education and Postgraduate Education.

Stem cells are those capable of self-regeneration, such as dental pulp, bone marrow and umbilical cord. Dental pulp is one of the available sources of stem cells. Since deciduous teeth are not considered vital organs and that in most cases they are discarded after the eruption of permanent teeth, cells from deciduous teeth are young and in good quality as well quantity. The deciduous tooth is placed in an appropriate tube, where pulp cells are cultured with the purpose of extraction and multiplication of the stem cells. In the present work, a literature review was performed by conducting a survey in scientific articles found at SciELO and PubMed databases. The objective of this study was to show through a literature review that isolation of stem cells from the dental pulp of deciduous teeth is possible. In conclusion, the technique is performed in a minimally invasive way from an extracted deciduous or permanent tooth. The procedure is carried out by a certified and trained professional following all the protocols and standards with specific kits. Subsequently, the professional forwards the material to a laboratory with cryogenic conditions for isolation, proliferation and storing of multipotent stem cells.

OD030 - Endodontic techniques in primary teeth: literature review

Thais Freitas RIBEIRO[1]; Camila Cristina VILELLA[1]; Marina MOURA[1]; Edmundo de Sales DIAS[1]; Tatiany Gabrielle Freire ARAÚJO[1,2]

[1]School of Dentistry, National Institute Padre Gervasio.
[2]Department of Pediatric Dentistry, Faculty of Dentistry, National Institute of Higher and Postgraduate Education.

The incidence of dental caries in children had a major decline in recent years, but some children still have difficulty to perform oral hygiene due to the lack of access to dental care, with high indices of caries, many of these represented by cavities with pulp involvement. In order to establish the appropriate therapy in such cases, one must have knowledge of the biological behavior of dental pulp. This work aimed to review the literature on the endodontic techniques in primary teeth. A search was performed at Google Scholar with the following descriptors: "endodontic treatment in primary teeth". Only articles with a clear description the aim of the work were included in the analysis. The articles show some different techniques for the endodontic treatment, and the majority of them emphasize the importance of thorough disinfection of root canals. It is important to select an appropriate technique for endodontic treatment of primary teeth to provide antibacterial activity and biological action, aiming at the maintenance of these teeth in the dental arch, and restoring the integrity of the periapical tissues. Thus, it is concluded that it is very important the knowledge and skills of the dentist regarding the technique used during endodontic treatment procedure in primary teeth so that they can have a good prognosis.

OD031 - Action of tyrosol on *Streptococcus mutans* biofilms

Ana Paula Miranda VIEIRA[1]; Alberto Carlos Botazzo DELBEM[1]; Laís Salomão ARIAS[1]; Renan Aparecido FERNANDES[2]; Débora Barros BARBOSA[2]; Douglas Roberto MONTEIRO[1]

[1]Department of Pediatric Dentistry and Public Health, Araçatuba Dental School, Univ. Estadual Paulista.
[2]Department of Dental Materials and Prosthodontics, Araçatuba Dental School, Univ. Estadual Paulista.

Quorum sensing molecules have been studied as alternative antimicrobials in combating pathogenic microorganisms. The aim of this study was to assess the action of the quorum sensing molecule tyrosol on the acid production and biofilm formation by *Streptococcus mutans* on hydroxyapatite (HA) discs. Inocula of *S. mutans* (108 cells/mL) were added to wells of 24-well plates containing HA discs and the biofilms were formed during 48 h in the presence of tyrosol at 50, 100 and 200 mM. The effectiveness of tyrosol was assessed through the counting of colony-forming units (CFUs). In addition, 48-h biofilms were formed in the presence of subinhibitory concentrations of tyrosol and its effect on acid production by *S. mutans* was evaluated by pH determination. Scanning electron microscopy (SEM) was used to evaluate the structure of biofilms. Chlorhexidine gluconate (CG; 0.49 mM) was used as positive control in all assays. Data were analyzed by one-way ANOVA followed by Holm-Sidak's test (α=0.05). All treatments were able to reduce the number of CFUs and the greatest decreases were 4.4 and 4.54-log10 ($p<0.001$), respectively for CG and 200 mM tyrosol. SEM images showed alterations in the *S. mutans* biofilms, with less dense structures and more exposure of the HA surface by increasing the tyrosol concentration. On the other hand, tyrosol did not alter the acid production by *S. mutans*. In conclusion, tyrosol displayed inhibitory action against *S. mutans* biofilms formed on HA, without effect on acid production. Further investigations should be conducted in order to explore the therapeutic potential of this molecule against different oral diseases, such as dental caries.

OD032 - Treatment of deep carious deciduous dentin - preliminary results

Isabela Ribeiro MADALENA[1]; Thaís Manzano PARISOTTO[2]; Ana Flávia Bissoto CALVO[3]; Thais GIMENEZ[3]; José Carlos Petorossi IMPARATO[1,3,4]

[1]Department of Pediatric Dentistry, Faculty São Leopoldo Mandic.
[2]Microbiology and Molecular Biology Laboratory, Faculty of Dentistry, University of São Francisco.
[3]Department of Pediatric Dentistry, Dental School, University of São Paulo.
[4]Camilo Castelo Branco University.

Partial removal of carious tissue supported by Minimal Intervention Dentistry in outer dentin has already been well established, but debate continues about deep carious dentin. The aim of the present randomized clinical trial was to perform a clinical and radiographic evaluation of caries progression and/or arrest in deciduous molars that underwent partial or total removal of carious lesion in the inner half of dentin. The study included children in good health status presenting with grade 6 carious lesions, according to the International Caries Detection and Assessment System (ICDAS), in the occlusal and occlusal and/or occlusal-proximal surface of molars. Twenty-two teeth were randomly divided into two groups: control group (G1), in which the carious lesion was totally removed (n=11), and experimental group (G2), in which the carious lesion was partially removed (n=11). In both groups, teeth were covered with high-viscosity glass ionomer and restored with composite resin. Restorations were clinically evaluated by the same dentist who performed the procedure and classified into total retention, partial retention, and loss of restoration. Radiographic analysis was performed by invited dentists and was subsequently tested for interobserver agreement (kappa=0.76). Preliminary results were assessed by descriptive statistics and were satisfactory in terms of retention of restorative material in both groups and, in radiographic analysis, there was interobserver agreement that restoration was able to totally arrest the caries process, which lead us to conclude that partial removal of tissues with cavities affecting the inner third of dentin shows favorable outcomes with regard to caries arrest after 6-month follow-up.

OD033 - Risk factors for temporomandibular disorders in children

Jaqueline Adas Pereira VENÂNCIO[1]; Débora de Melo TRIZE[2]; Marta Nelisa VIEIRA[1]; Sara Nader MARTA[2].

[1]Department of Dentistry, University of Sagrado Coração.
[2]Department of Health Sciences, University of Sagrado Coração.

Signs and symptoms of temporomandibular disorders (TMD) can be detected at different ages of growth and development of the individual. The knowledge of the risk factors offers the support to the professional to establish

strategies in an attempt to prevent or delay the onset of adverse clinical conditions. Based on the premise of promoting the health of the individual, the need to understand the different situations associated with TMD precedes even the knowledge of early identification of signs and symptoms of TMD that may not represent the disease under development. The aim of this work was to review the literature about temporomandibular disorders and risk factors related to children and adolescents. The literature was searched using Medline, Cochrane Library, Embase, PubMed, SciELO and the Internet. The inclusion criteria were: a possible association between TMD and risk factors, samples of children (<19 years), studies with a clinical assessment or evaluation through the Research Diagnostic Criteria for Temporomandibular Disorders (RDC/TMD) for the diagnosis of TMD, studies written in English and Portuguese, and published between 2005 and September 2014. Forty records were found, 18 met the inclusion criteria. The prevalence of temporomandibular disorders in children and adolescents varies widely in the literature. Temporomandibular joint dysfunction is often defined on the basis of signs and symptoms, and the most common are: temporomandibular joint sounds, difficulty of mobilizing the jaw, limitation on opening of the mouth, preauricular pain, facial pain, head and jaw pain. Literature has not satisfactorily documented the influences that these factors may exert in children and adolescents, in each time period of life, and many extrapolations from research in adults have yet to be made.

OD034 - Ranula in the floor of the mouth in a child: case report

Jéssica Magalhães VILELA[1]; Cynthia Camila da Rosa ALVARENGA[1]; Gabrielle BOLINA[1]; Priscila Guimarães SILVA[1]; Adriana Silveira de Lima ELEUTÉRIO[2]

[1]Faculty of Dentistry, National Institute of Postgraduation Padre Gervásio.
[2]Department of Pediatric Dentistry, National Institute of Postgraduation PadreGervásio.

The aim of this work was to report a case of ranula in a child. Ranula is an injury of traumatic etiology that develops due to the interruption of one or more ducts of the salivary glands, which will result in extravasation or retention of mucus in the floor of the mouth. Patient T.O., 11 years-old and 3 months of age, female, white skin, was attended in a private dental office, when the mother reported an ulcer under the tongue, which disappeared and reappeared as a pea-sized swelling that caused discomfort. During the clinical examination, a purplish lesion on the right side of the flour of the mouth, localized laterally to the lingual frenum, with a smooth surface, and painful to touch was detected. Taken together all the aforementioned information, the diagnosis of ranula of right major salivary gland was achieved. Marsupialization was the treatment proposed for the lesion removal since it was quick and easy procedure to be carried out, and also well tolerated by the child. The patient is under clinical follow-up. It is concluded that ranula is a relatively common phenomenon of mucus retention in the oral cavity, whose treatment is exclusively surgical, and which presents a favorable prognosis, when it is properly diagnosed and surgery is well conducted.

OD035 - Prevalence of dental fluorosis and association with dental caries, DDE and MIH

Jéssica Patrícia CAVALHEIRO[1]; Manuel RESTREPO[1]; Diego Girotto BUSSANELI[1]; Camila Maria Bullio FRAGELLI[1]; Rita de Cássia Loiola CORDEIRO[1]; Lourdes SANTOS-PINTO[1]; Fabiano JEREMIAS[1]

[1]Department of Pediatric Clinic, Araraquara Dental School, Univ. Estadual Paulista.

This cross-sectional study determined the prevalence and severity of dental fluorosis (DF) in primary and permanent dentitions and its relationship with dental caries, Molar-Incisor Hypomineralization (MIH), developmental defects of enamel (DDE) and need to treat (NT) of schoolchildren in Araraquara, SP, Brazil. 1,193 students (probability sampling), aged 4 to 12 years, were examined by two calibrated examiners for the assessment of DF, according to Thylstrup and Fejerskov Index (TF; 1978). During the epidemiological survey DMFT, dmft, MIH and DDE indices were also evaluated. Data were collected and analyzed using descriptive statistics, chi-square test, at a significance level of 0.05, and the associations were verified odds ratio (OR). The prevalence of DF in Araraquara was 4.4% in the primary dentition and 22.8% in the permanent dentition. The most frequent scores were TF 1 (delicate lines) and TF 2 (discrete tracks). Second molars and second premolars were the most affected teeth in the primary and permanent dentition, respectively. In the primary dentition, there was no association between DF and DDE and dmft ($p>0.05$). In the permanent dentition, there was an association between DF and DMFT [$p=0.006$; OR: 0.59 (0.40 to 0.86)] as well as DF and NT [$p=0.04$; OR: 0.64 (0.42 to 0.98)], but not between DF and MIH. It was concluded that the prevalence of DF in the permanent dentition is considerably higher than that observed in the primary dentition, and in the permanent dentition DF represented a protective factor for the occurrence of dental caries.

OD036 - Effect of the exogenous tyrosol on *Candida albicans* biofilms

Laís Salomão ARIAS[1]; Alberto Carlos Botazzo DELBEM[1]; Renan Aparecido FERNANDES[2]; Ana Paula Miranda VIEIRA[1]; Débora de Barros BARBOSA[2]; Douglas Roberto MONTEIRO[1]

[1]Department of Pediatric Dentistry and Public Health, Araçatuba Dental School, Paulista State University.
[2]Department of Dental Materials and Prosthodontics, Araçatuba Dental School, Paulista State University.

Tyrosol is a quorum sensing molecule that participates in the morphogenesis of *Candida albicans*. However, the effect of its exogenous application on biofilms of this species is unknown. The aim of this study was to evaluate the effect of exogenous application of tyrosol on *C. albicans* biofilms in different stages of development, formed on acrylic resin (AR). Tyrosol at 25, 50, 100 and 200 mM (in artificial saliva) was added to the wells of 24-well plates containing AR specimens inoculated with *C. albicans*, and the plates were incubated for 2 (adhesion) and 48 h. Moreover, pre-formed biofilms (24 h) were treated with tyrosol at 100 and 200 mM twice a day for 1 min, in a total of 96-h biofilms. The effect of tyrosol was evaluated through the counting of colony-forming units (CFUs), assessment of metabolic activity (MA) and composition of the extracellular matrix. Biofilms were also formed during 48 h in the presence of subinhibitory

concentrations of tyrosol to determine the proteinase activity of *C. albicans*. Chlorhexidine gluconate was used as positive control. Data were analyzed by one-way ANOVA followed by Holm-Sidak's and Tukey's tests (α=0.05). Tyrosol was able to significantly reduce the MA for all stages of biofilm formation evaluated. For the adhesion phase, tyrosol promoted reductions ranging from 1.7 to 3.6-log10 ($p<0.05$), while for 48-h biofilms only tyrosol at 200 mM was able to reduce the CFUs (2.9-log10; $p<0.05$). For 96-h biofilms there were no reductions of CFUs. Tyrosol at 200 mM promoted a significant increase in the protein content of the extracellular matrix. Furthermore, this compound was not able to reduce the proteinase activity of *C. albicans*. In conclusion, tyrosol has better inhibitory effect on adhered cells and 48-h biofilms than on 96-h *C. albicans* biofilms.

OD037 - Impact of the correct treatment of early childhood caries

Larissa Di Bene KANDALAFT[1]; Natália Mello dos SANTOS[1]; Priscilla Santana Pinto GONÇALVES[1]; Gabriela Cristina de OLIVEIRA[1]; Catarina Ribeiro Barros de ALENCAR[1]; Franciny Querobim IONTA[1]; Daniela RIOS[1]

[1]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.

Early childhood caries (CPI) is a multifactorial disease involving cariogenic microbiota, high-carbohydrate, low exposure to fluorides and inadequate salivary characteristics. The difficulty in preventing and treating CPI is due to the complex cultural, social, behavioral, nutritional and biological interaction. CPI is a public health problem. The aim of this study is to report 2 clinical cases of two 24-month-old babies who were referred to Babies Clinic at our institution for treatment of CPI resulting from breastfeeding on free demand and lack of oral hygiene. In one clinical case the result was satisfactory, due to performance in the causal factors of CPI and parental collaboration. In this case, it was noticed a change in the patient's habits, resulting in paralysis of white spot lesions and absence of new lesions or recurrence. In a five-year follow-up there was a great condition of oral health. However, in the other case there was no success since the approach was made only in carious lesions so that in the next appointments no change in oral habits was observed and the presence of new carious lesions or recurrence was inevitable. In face of these cases, it was observed that the treatment of CPI should be beyond the preservation of the teeth, seeking the maintenance of oral and systemic health. However, due to the lack of a holistic approach in many cases, professionals direct their attention to the injury, focusing on restoration-rehabilitation treatment, which does not result in cure of the disease and new carious lesions might develop. We conclude that the role of the professional in the causal factors of the disease through education of children's parents/guardians is essential for the restoration and maintenance of babies' oral health with CPI. Thus, it is important that dentists know how to recognize and modify the risk factors of CPI with the family, as the events in childhood could impact the oral health status of school-age children.

OD038 - Bruxism in childhood: physiological or psychological aspect?

Larissa Pereira MATEUS[1]; Ana Cecília Pereira MAIA[1]; Tatiany Gabrielle Freire ARAÚJO[1]; Adriana Silveira de Lima ELEUTÉRIO[2]

[1]Department of Pediatric Dentistry, School of Dentistry, Nationtal Institute of Post-Graduation Padre Gervásio.

This paper aims to present a literature review about bruxism in children, which in the past was classified as a physiological problem, but now it turned out that it is most often solely caused by a psychological factor. In order to perform this review, articles in PubMed, SciELO and Google Scholar, published from 2006 to 2015, were researched, using the descriptors "Bruxism", "Stomatognathic System" and "Pediatric Dentistry". Bruxism is considered a parafunctional habit of the stomatognathic system, which can affect any stage of childhood, during the day and night. In this habit, the child gets used to grinding or clenching their teeth, which causes damages to the tooth structure and musculature of the individual, thus compromising the functional activities. According to the literature, the etiology of bruxism is multifactorial and may be associated with several factors such as: dental, psychological and neurological. The most common manifestation is the wear on incisal surfaces of anterior teeth and occlusal surfaces of posterior teeth in, fracture of cusps and restorations, besides dental hypersensitivity and mobility as well as hypertrophy of the masticatory muscles. Taking into consideration the bibliographic findings, we conclude that a multidisciplinary approach is needed, involving psychologists, dentists and especially the awareness of parents/guardians to avoid, especially in the evening, that the child performs activities that may leave him/her agitated, thus causing the deleterious oral habit (bruxism) that can affect oral and systemic health.

OD039 - Knowledge about oral health and dental caries index in early childhood

Luanna Rafaela Lopes FOGANHOLI[1]; Juliana Lujan BRUNETTO[1]; Marina ROLON[1]; Carolina Fernandes RUIZ[1]; Pâmela Letícia dos SANTOS[1]; Luciana Monti Lima RIVERA[1]

[1]School of Dentistry, University of Sagrado Coração.

Studies have shown that the knowledge of parents/guardians about eating habits and oral hygiene care influences the oral problems of their children. In addition, it has been shown that socio-economic condition interferes with the level of knowledge of the population studied. Thus, the aim of this study was to evaluate the socio-economic level and knowledge of a sample of 127 parents/guardians through a questionnaire about children's oral health care and to correlate it with the caries index diagnosed in their children aged between 3 and 5 years. A questionnaire/interview form, designed specifically for this study, with closed questions, was applied to address socio-economic conditions and the knowledge of parent/guardian on oral health hygiene and early childhood epidemiology of dental caries. In addition, a single calibrated examiner conducted an epidemiological survey in children whose parents completed the questionnaire. The intraoral exam was the same recommended by SB BRAZIL 2010 from the Ministry of Health, following the same criteria. Data were organized in Excel® program and statistically analyzed using descriptive analysis presented

as absolute and relative frequencies. The statistical analyses of correlations between socio-economic level, parents/guardians' knowledge and caries index in children were performed by software BioEstat® version 5.0, applying Pearson's Correlation Coefficient with 5% of significance level. The results showed that 60% of parents/guardians receive 3 to 5 minimum wages, 70% have completed high school and 73% of their children have dmft=0. It was concluded that there was a negative correlation between the dmft index and socio-economic level of parents/guardians, and a positive correlation between the knowledge about oral health and socio-economic level.

OD040 - Adding NPZnO to a GIC through calcination

Mônica Irma Aparecida Valdeci de SOUZA[1]; Alessandra Nara de Souza RASTELLI[2]; Angela Cristina Cilense ZUANON[1]

[1]Department of Clinical Infantil, Araraquara Dental School, Univ. Estadual Paulista.
[2]Department of Restorative Dentistry, Faculty of Dentistry of Araraquara, Univ. Estadual Paulista.

Glass ionomer cement (GIC) has excellent characteristics such as fluoride release and biocompatibility, being widely used in dentistry. However, it has limited mechanical strength and the incorporation of different substances in its composition seeks to increase its applicability and clinical longevity. The addition of nanoparticles (NP) has been shown to be a promising method, but the way they are added to GIC may result in changes in its properties. Thus, the present study aimed to analyze the microstructure and microhardness of the Ketac Molar Easymix GIC after the addition of zinc oxide nanoparticles (NPZnO) at different concentrations (3, 5 and 7%) by the manual method and calcination. The analysis of the microstructure was performed by means of a high resolution electron microscope (SEM-FEG) and a digital Micro Durometer was used for the Vickers hardness test (Micromet 2100) with a load of 50 kgf for 30 s. Fifteen specimens *per* group were made, in a total of 120 specimens. Data were subjected to analysis of variance (two way- ANOVA) followed by the Tukey's test at a 5% significance level. In the microstructural evaluation, the method of calcination showed better distribution of NPZnO in the GIC matrix, regardless of the concentration used. The calcination also provided higher microhardness values for all concentrations, being higher for 7%. Thus, it can be concluded that the addition of NPZnO to GIC by means of calcination proved to be a promising method because it showed the best results for the physical properties studied.

OD041 - *In vitro* analysis of antimicrobial effect of a pulpar bandage

Giovanna Teixeira MATTEUSSI[1]; Mariana dos Santos Silva CAVERSAN[2]; Natalino Lourenço NETO[2]; Rodrigo Cardoso de OLIVEIRA[3]; Silvia Aparecida COSTA[4]; Maria Aparecida de Andrade Moreira MACHADO[2]

[1]Bauru School of Dentistry, University of São Paulo.
[2]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.
[3]Department of Biological Sciences, Bauru School of Dentistry, University of São Paulo.
[4]School of Arts, Sciences and Humanities, University of São Paulo.

The search for a therapeutic device that can be applied to pulp tissue helping the healing process is a challenge for dentistry. The purpose of this study was to develop a bandage for pulp capping with different incorporated cements and evaluate *in vitro* the antimicrobial effectiveness on *Streptococcus mutans*. The bandages were made of chitosan, which is a biocompatible, biodegradable, bio-obtainable biopolymer, indicated for use in several segments of healthcare with low cost. The bandage allowed the incorporation of three different Portland cement formulations. With the samples obtained, the antimicrobial action of the bandages was tested against *Streptococcus mutans* through sensitivity, and the bandages were divided into the following groups: G1 – Bandage with chitosan without cement (control group); G2 – bandage with Portland cement; G3 – bandage with Portland cement + iodoform; G4 – bandage with Portland cement + zirconiun. Data were submitted to one-way ANOVA statistical test, and the bandages did not statistically inhibit the growth of microorganisms as the formation of inhibition zones was not observed. The bandages presented bacteriostatic capacity, once no growth under the bandages was observed. More studies are still needed to improve the incorporation of new medicaments to the bandage aiming to increase the antimicrobial capacity without compromising the biocompatibility with the pulp tissues.

OD042 - The importance of maternal breastfeeding in the stomatognathic system

Bianca Lima de BARROS[1]; Camila Gomes de ALMEIDA[1]; Eduarda Gimenes CORRÊA[1]; Elaine Cristina Ramos ALVAREZ[1]; Luciene Patrici PAPA[1]

[1]School of Dentistry, Faculty of Sudoeste Paulista.

The importance of breastfeeding is discussed constantly to public awareness especially about the development of the newborn infant. Various professionals including dentists, doctors, speech therapists, nurses, dietitians and psychologists must address the breastfeeding. Thus, the aim of this study was to describe the factors related to the importance of breastfeeding and the alternatives to artificial feeding in the literature for dentistry for the perfect development of the stomatognathic system. This is a literature review, which included the last ten years, considering that maternal breastfeeding provides nutritional, immunological and emotional benefits and the importance for the development of speech, bone and oral muscles, because the baby places the tongue in the correct position inside the mouth while performing suction. The baby's dental arches, cheeks

and tongue move harmoniously and all neuromuscular mouth function develops properly. Thus, the absence of natural breastfeeding could develop mixed or mouth breathing and atypical swallowing, which leads to inappropriate stomatognathic development that causes malocclusions. The literature indicates no correlation between breastfeeding and the tendency to develop oral habits like thumb sucking, pacifier use and related objects. This is due to the muscular work disability performed during breastfeeding, which generates tired perioral muscles. Deleterious oral habits observed commonly have an important role in the etiology of malocclusion such as crossbite, anterior open bite and overjet. As an alternative to breastfeeding the use of suction cup is indicated. The use of feeding bottles facilitates food release that could affect the subsequent introduction of breastfeeding and cause deleterious habits that cause disharmony of stomatognathic system.

OD043 - Impact of different treatment approaches in root fracture

Bianca Tozi Portaluppe BERGANTIN[1]; Priscilla Santana Pinto GONÇALVES[1]; Maisa Camilo JORDÃO[1]; Franciny Querobim IONTA[1]; Maria Aparecida de Andrade Moreira MACHADO[1]; Thiago Cruvinel da SILVA[1]; Daniela RIOS[1]

[1]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.

Root fractures are treated according to their location and orientation. The treatment of transversal root fracture in the middle third can involve from observation and follow-up to tooth extraction. The aim of this work was to report 2 clinical cases of transversal root fractures in the primary dentition, with conservative and invasive treatment, showing its impact for the child. In first case report, 45-month-old patient fell and hit the mouth in the school ground. Clinical and radiographic examination revealed that the tooth #61 had mild extrusion, mobility and transversal root fracture in the middle third. Treatment was conservative and only the periodic follow-up was performed. In the 15-day-follow-up there was slight tooth mobility of tooth #61 and obliteration of the root canal of tooth #51. In 3- and 7-month follow-ups 1/3 apical root resorption and clinical normality of #61 were observed. In the second case, 42-month-old patient fell and hit the mouth on the living room floor. On examination, teeth #51 and #61 presented slight mobility and radiographic examination revealed transversal root fracture in the middle apical third. The treatment was the extraction of the involved teeth, without removing the remaining apical to preserve the germs of the permanent teeth. At the 1-year-follow-up, root remnants had been reabsorbed. Due to a parental request for aesthetic recovery, despite the uncertainty of use due to the young age of the child, a removable prosthesis with natural teeth #51 and #61 of the patient was made. In the next follow-ups, it was observed that the child wore the appliance a few times. It is concluded, under the reported treatment approaches in root fracture, the importance of an individualized planning considering the social, behavioral and family factors to focus on a more conservative approach to the child, avoiding more invasive procedures, which sometimes require higher costs and can affect the child's emotional and social behavior.

OD044 - Resin-based materials as protective agents against erosive enamel wear

Clara ZAMPIERI[1]; Gabriela Cristina de OLIVEIRA[1]; Evandro José DIONÍSIO[1]; Franciny Querubim IONTA[1]; Maisa Camillo JORDÃO[1]; Heitor Marques HONÓRIO[1]; Daniela RIOS[1]

[1]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.

This study aimed to evaluate *in situ* the application of resin-based materials on the initially eroded enamel for the protection against erosive tooth wear. Four types of treatment (infiltrant, sealant, adhesive and control/no treatment) were evaluated in two different wear conditions (erosion/ERO and erosion+abrasion/ERO+ABR) in a single stage of study. The blocks were prepared from bovine enamel previously etched (0.01 M HCl, pH 2.3 for 30 s) and randomized between treatment, wear condition and volunteers. The application of resin-based materials followed the manufacturer's recommendations. Seven volunteers used the palatal intraoral device, a row corresponding to ERO and other ERO+ABR, and in each row all kinds of treatment were represented by two specimens. For 5 consecutive days, 4 erosive cyclings (immersion in 0.01 M HCl, pH 2.3 for 2 min) were performed, two of which were followed by abrasion (brushing with electric toothbrush for 15 s/specimen), and the fluoride dentifrice solution was applied in all specimens. The enamel wear was measured by profilometry (initial, after treatment and 5 days after cycling) through graphic overlay, and analyzed by ANOVA and Tukey test ($p<0.05$). The results showed that treatment with resin-based materials did not cause enamel wear with a statistically significant difference in comparison with the control group. After the *in situ* erosive tooth wear, there was no difference between the different conditions of ERO and ERO+ABR. All materials promoted protection against erosion in comparison to the control group, and the infiltrant layer group was kept thicker when compared to the other materials in this study ($p<0.05$). It is concluded that the application of resin-based materials resulted in protection of the initially eroded enamel when subjected to an *in situ* erosive and abrasive challenge of 5 days.

OD045 - Dental caries: revealing possibilities of conservative treatment

Vinícius CERON[1]; Franciny Querobim IONTA[1]; Gabriela Cristina de OLIVEIRA[1]; Catarina Ribeiro Barros de ALENCAR[2]; Fernanda Lyrio MENDONÇA[3]; Natália Mello SANTOS[1]; Daniela RIOS[1]

[1]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.
[2]School of Dentistry, State University of Paraíba.
[3]Faculty of Science and Technology of Salvador.

The conservative treatment of dental caries has succeeded in dentistry. It is based on preventive measures, remineralization and minimally invasive procedures for caries removal or even approaches without caries removal. The aim of this study is to report the current conservative therapies based on scientific knowledge of the carious lesions at various levels of development. In carie's initial stage (white spot), remineralization (fluoride varnish) can be used in an attempt to revert or stop the

lesion. However, in some cases, when this procedure is not effective, the infiltration and sealants may arrest the lesion progression until the patient changes its inadequate oral habits. When the carious lesion reaches dentin, the complete removal of carious tissue has been replaced by conservative approaches such as partial caries removal, in which carious tissue is totally removed from lateral walls and partially from pulpal. Other techniques such as sealing or using a prefabricated metal crown (Hall technique) over the carious tissue are employed to create a physical barrier that hamper direct contact of the biofilm and the tooth, thus preventing the progression of the lesion. In addition, for dentine caries an ultraconservative treatment can be adopted with the aim of maintaining the caries cavity free of biofilm, extending the cavity's borders and daily removing the biofilm by tooth brushing. In conclusion, the knowledge of the etiology and the dynamics of caries process allow the professional to understand that carious lesion can be arrested in several stages. Thus, the clinical success of the conservative approach is related to the knowledge of carious process for choosing the most suitable technique for each case, considering advantages and limitations.

OD046 - Cell culture: a tool for cell behavior studies

Letícia Florindo PEREIRA[1]; Mariel Tavares de Oliveira PRADO[2]; Nádia Carolina Teixeira MARQUES[2]; Natalino Lourenço NETO[2]; Rodrigo Cardoso de OLIVEIRA[3]; Thais Marchini OLIVEIRA[2]

[1]Bauru School of Dentistry, University of São Paulo.
[2]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.
[3]Department of Biological Sciences, Bauru School of Dentistry, University of São Paulo.

Cell culture, today, is a valuable tool to investigate the cell mechanisms under many stimuli. The present study aimed to isolate human cells from the dental pulp of deciduous teeth and to study the proliferation capacity of this cell lineage, as well as to standardize the culture techniques for application in researches on the behavior of cells from dental pulp tissue of human deciduous teeth. Three patients from the Clinic of Pediatric Dentistry, Bauru School of Dentistry, University of São Paulo, representing a total of four healthy deciduous teeth indicated for extraction due to orthodontic reason, were selected as potential donors of pulp tissue for cell culture. A limit of 2 teeth was considered to attempt the isolation of the cells through primary culture technique. Cells were isolated from dental pulp of deciduous teeth and maintained by cell culture techniques. After several expansions, between the 2nd and the 6th passages, cells were frozen aiming to create a cell bank for future scientific studies on pulp behavior of deciduous teeth in different stimuli that this tissue can be submitted in the clinical care routine. The standardized culture and proper storage of cells allow greater flexibility and reliability in research involving cell culture, reducing costs, intercurrences, and time of preparation.

OD047 - Remineralizing action of fluoridated products after oral rinse

Nayara Gonçalves EMERENCIANO[1]; Marcelle DANELON[1]; Gabriel Pereira NUNES[1]; Sara Tiemi Felipe AKABANE[1]; Francyenne Maira Castro GONÇALVES[1]; Alberto Carlos Botazzo DELBEM[1]

[1]Department of Child and Social Dentistry, Araçatuba Dental School, Univ. Estadual Paulista.

The aim of this study was to evaluate *in situ* the clinical importance of not allowing the patient to rinse the mouth after topical application of fluoride (ATF) on remineralization of artificial carious lesions using a foam and fluoride gel with neutral pH. Blocks of bovine teeth were selected using surface hardness after carious lesion (SHi) and divided into 5 experimental regimes: gel without fluoride; fluoridated gel and foam without rinsing for 30 min; fluoridated gel and foam after ATF. Nine volunteers used palatal appliances with four enamel blocks with artificial carious lesions for 3 days after the ATF. Immediately after the ATF, two blocks were removed for analysis of calcium fluoride (CaF_2) formed. In the remaining blocks the final surface hardness (SHf) was determined to calculate the percentage of surface hardness recovery ($\%SH_R$) and the concentration of CaF_2 retained after remineralization. Fluoride systems produced greater remineralization ($\%SH_R$) compared with placebo group ($p<0.05$). There was no difference in the remineralization capacity between experimental regimes using fluoride ($p>0.05$). The concentration of CaF_2 formed and retained was similar regardless of the experimental fluoride regime ($p>0.05$). It is concluded that the mouthwash immediately after topical application of fluoride did not reduce the ability of fluoride products in the remineralization of carious lesions.

OD048 - Evaluation of GIC associated with sodium hexametaphosphate

Thayse Yumi HOSIDA[1]; Alberto Carlos Botazzo DELBEM[1]; Mariana Emi NAGATA[1]; Márjully Eduardo Rodrigues da SILVA[1]; Liliana BÁEZ-QUINTERO[1]; Denise PEDRINI[2]

[1]Department of Pediatric Dentistry and Public Health, Araçatuba Dental School, Univ. Estadual Paulista.
[2]Department of Surgery and Integrated Clinic, Araçatuba Dental School, Univ. Estadual Paulista.

The aim of this study was to evaluate the antimicrobial, physico-mechanical and fluoride (F) release properties of the glass ionomer cement (GIC) associated with sodium hexametaphosphate (HMP) microparticle and nanoparticle. Initially, solutions of HMP were obtained at concentrations of 1, 3, 6, 9 and 12%, and the antibacterial activity was evaluated against *Streptococcus mutans*, *Lactobacillus acidophilus* and *Actinomyces israelli* by agar diffusion test. The same methodology was used to determine the antimicrobial activity of GIC associated with HMP at concentrations of 6, 9 and 12% microparticle or nanoparticle. The release of F and HMP was determined in demineralization and remineralization solutions. Furthermore, the resistance to diametral tensile and compression, surface hardness and the degree of conversion of monomers were measured. Parametric and non-parametric tests were performed after checking homoscedasticity data ($p<0.05$). Solutions of 6, 9 and 12% of HMP showed better antimicrobial activity against all bacteria tested, and all these concentrations were incorporated into the CIV. All concentrations of HMP

incorporated into the GIC had antimicrobial activity for all bacteria. There was a dose-response relationship between concentration of HMP in the GIC and antimicrobial activity. Regarding the release of F and HMP, higher values occurred on the first day in all groups and the highest levels of release occurred in groups containing 9 and 12% of HMP nanoparticle. However, the incorporation of HMP in the GIC reduced values of physical and mechanical tests when compared to the GIC, showing a dose-response relationship. It was concluded that the incorporation of HMP in GIC improves antimicrobial activity and increases the release of fluoride, but reduces its physical and mechanical properties. The reduction of particle of HMP led to better antimicrobial and fluoride release results.

OD049 - Value assigned to the deciduous dentition and caries in children

Reyna Aguilar QUISPE[1]; Gisele da Silva DALBEN[1]

[1]Seção of Pediatric Dentistry and Public Health, Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.

The objective of this study was to evaluate the value assigned to the deciduous dentition and its association with the occurrence of dental caries in children with cleft lip and palate. A questionnaire was applied to parents of 300 children with cleft lip and alveolus with or without cleft palate, registered at HRAC-USP, aged 7 to 66 months. The questionnaire had questions about the importance of the deciduous dentition and was applied as an interview, by a single examiner, who also conducted clinical examination of children to investigate the presence of dental caries. The results were analyzed by descriptive statistics, and the association between collected information and the presence of dental caries was assessed by the chi-square test, at a significance level of $p<0.05$. Dental caries was present in 29.8% of children, with mean dmft of 1.4 (standard deviation 3.0, variation 0-17). Concerning the sociodemographic factors, the presence of dental caries showed significant association with the increase in age ($p<0.001$), low socio-economic level ($p=0.020$), illiteracy or parents with incomplete fundamental education ($p=0.007$), without statistically significant association with gender, ethnicity, region of origin or type of cleft (unilateral or bilateral). With regard to the questions about the value assigned to the deciduous dentition, the presence of dental caries was associated with the age considered as ideal for onset of toothbrushing (answer 2 years, $p=0.033$), importance of care of deciduous teeth (answer no, $p=0.039$), and parents who considered unfeasible the treatment of deciduous teeth with restorations ($p=0.002$). The occurrence of dental caries presented significant association with sociodemographic factors, age for onset of toothbrushing and assignment of importance of care of deciduous teeth, especially the accomplishment of restorative treatment.

OD050 - Different times of use of palatal device in *in situ* studies

Natália Mello dos SANTOS[1]; Maisa Camillo JORDÃO[1]; Franciny Querobim IONTA[1]; Priscilla Santana Pinto GONÇALVES[1]; Thais Marchini de OLIVEIRA[1]; Heitor Marques HONÓRIO[1]; Daniela RIOS[1]

[1]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.

Several preventive therapies for dental erosion have been tested using *in situ* methodologies by intraoral device usage. However, there is no pattern about how long this device must be used by volunteers. The current study analyzed time influence on palatal intraoral device over dental wear in *in situ* erosion protocols. The factor under study was time of use (continuous or intermittent) of the palatal device. The study was composed of two crossed-over phases (one for continuous and the other for intermittent), in which 15 volunteers used the device with two blocks of enamel. The bovine enamel blocks were selected and randomized among the groups under study according to surface hardness. In each phase of 5 days, 4 times a day, the volunteers submitted the blocks to erosion through immersing the devices in 0.01 M HCL (pH 2.3) for 2 min. In the continuous phase, the devices were used for 20 h removing only on feeding, cleaning and erosion times. In intermittent phase, the devices were used for 8 h, being also removed on the period out of commercial time. Enamel loss was analyzed through over-positioning the graphics generated for initial and final profilometry of the blocks. Additionally, volunteers answered a questionnaire about the comfort related to time of use of palatal device. Data were submitted to paired T test ($p<0.05$). Results showed that intermittent usage of devices resulted in similar enamel loss to continuous usage ($p<0.05$). Besides, volunteers reported more comfort in intermittent usage. Thus, it is concluded that intermittent usage of intraoral devices may be a viable alternative to facilitate *in situ* studies execution by volunteers.

P001 - Use of a bone substitute in the treatment of peri-implantitis

Daniele Menegassi PESTANA[1]; Bruna Milhomens de SOUSA[1]; Jeniffer PERUSSOLO[1]; Clóvis Lamartine de Moraes MELO NETO[1]; Rodrigo Lorenzi POLUNHA[1]; Maurício Guimarães ARAÚJO[1]

[1]Department of Dentistry, State University of Maringá.

The peri-implant diseases represent a challenge in implantology. and may cause aesthetic and functional problems, and lead to the implant loss. Several therapies have been proposed, although there is not a well-established protocol. The mechanical debridement combined with the use of bone substitute can present good results. The present study aims to report the surgical treatment of a case of peri-implantitis through mechanical debridement and filling of defect with bovine bone graft. A 66 year-old male patient, totally edentulous, attended the School of Dentistry at State University of Maringá due the bar fracture of mandibular three-implant-supported overdenture. The clinical examination revealed the implant probing depth and clinical attachment level of 11 mm associated with radiographic bone loss, circumscribed appearance and fractured screw of other implant. The bar was removed and healing abutments placed. The prosthesis was relined and used as a provisional device. After the explanation of possible treatment successes and failures, it was decided to associate the mechanical debridement to the bone defect filling. During the surgical procedure the presence of circumscribed bone defect around the implant was confirmed, which was filled with Bio-Oss (Geistlich Pharma AG, Wolhusen, Switzerland) and coated with resorbable collagen membrane (Baumer). After four months of follow-up significant reduction in probing depth, gain in clinical attachment level and filling of the bone defect were observed. We realize that the success of peri-implantitis treatment may be due to the removal of the etiological agent, the implant surface decontamination, bone defect filling and periodontal pocket elimination. The mechanical debridement associated with the use of bovine bone graft proved to be an effective therapeutic alternative in cases of peri-implantitis associated with circumscribed bone defect.

P002 - Periodontal surgery on prosthetic rehabilitation: deficient alveolar ridge

Daniel Kohl GREGHI[1]; Mariana Schutzer Raghiantti ZANGRANDO[2]; Carla Andreotti DAMANTE[2]; Adriana Campos Passanezi SANT'ANA[2]; Maria Lúcia Rubo de REZENDE[2]; Sebastião Luiz Aguiar GREGHI[2]

[1]Departmento f Dentistry, University of Sagrado Coração.
[2]Department of Prosthodontics, Discipline of Periodontics, Bauru School of Dentistry, University of São Paulo.

In prosthetic rehabilitation, either conventional or implant-supported, considering the functional/esthetic requisite, a preserved anatomic alveolar ridge is very important. For implant surgery the bone presence (height/thickness) is essential to allow its installation in adequate position. In fixed prosthodontics (FP- pontics), the main result is that the alveolar ridge should be anatomically adequate, independently of the bone condition. Frequently tissue loss can compromise the adequate alveolar ridge anatomy, mainly by the natural resorption post-extraction. This condition can be aggravated by pathologies such as periodontitis, and also by surgical techniques adopted in extraction surgery. Therefore, it is not unusual to verify situations in which the alveolar ridge resorption significantly affects mainly the esthetics of the prosthesis. In implantology it is necessary to use techniques for bone regeneration, such as bone grafts, with or without membranes, etc. Differently, in fixed partial prosthesis, the periodontal plastic surgery with autogenous gingival grafts (free or connective tissue) or even halogenous/xenogenous grafts can re-anatomize the alveolar ridge with less morbidity and with very satisfactory results. The aim of this work was to present the critical aspects that involve a prosthetic rehabilitation, in sites of alveolar ridge resorption and point out when periodontal plastic surgeries can contribute to treat such conditions. Three cases will be presented, in which the resorption of the alveolar ridge could impair the future esthetic of prosthesis, which was solved by treatment with connective tissue grafts. The techniques allowed a very favorable esthetic result. In conclusion, the periodontal plastic surgeries represent an important part of treatment plan that may determine success and avoid failure in the esthetics of a fixed prosthesis.

P003 - Treatment of aggressive periodontitis: 17-year follow-up

Debora Reis DIAS[1]; Gabriela de Souza ZIMIANI[1]; Renata Correa PASCOTTO[1]; Roberto Masayuki HAYACIBARA[1]

[1]Department of Dentistry, State University of Maringá.

Aggressive periodontitis is a disease that affects systemically healthy individuals, known to cause rapid attachment loss of periodontal tissues. Its most serious consequences are tooth loss and, therefore, its treatment is complex. This study aims to report a case of generalized aggressive periodontitis with non-surgical treatment and follow-up of 17 years. A 38-year-old female patient was diagnosed with Generalized Aggressive Periodontitis. Her treatment was the combination of basic periodontal therapy with systemic medication, then the patient was maintained in supportive periodontal therapy and follow-up for monitoring until the present moment. After 3 years in maintenance, with a stable condition, the patient was released for Restorative Dentistry, where resin veneers were made in all maxillary anterior teeth and then fixed retention by palatal surface. No tooth was lost and the patient is stable after 17 years. This is due to a proper planning, her commitment to maintain good oral hygiene and adherence to supportive periodontal therapy. Thus, it can be concluded that the basic periodontal treatment associated with antibiotic therapy may be sufficient to achieve periodontal health in cases of aggressive periodontitis and, but a good planning, patient cooperation and periodic maintenance are necessary.

P004 - Surgical and rehabilitator planning: report of a clinical case

Maria Vitória Ferro TOMASELLI[1]; Livia de Souza TOLENTINO[1]; Gustavo Nascimento de Souza PINTO[1]

[1]Department of Dentistry of the UniCesumar.

The standard of beauty has been increasingly questioned and thoroughly analyzed, thus increasing the patients' requirements. Thus, to achieve the aesthetic concerns of patients has become a major challenge for dentists. Often the use of a multidisciplinary approach is necessary to improve the results. The aim of this paper is to illustrate

a case in which the patient complained of appearance of the smile, which was a result of gingival and dental disharmony. After informed consent to perform and disseminate the results of the treatment, a root coverage surgery in teeth #21, 22 and 23 through connective tissue graft associated with a coronally repositioned flap was performed. In the same surgery an aesthetic clinical crown lengthening was performed in the tooth #12. After the healing period, the prosthetic rehabilitation was started through total crowns. This work highlighted how the integration of different areas in Dentistry were essential to achieve the aesthetic balance, thus assisting in the psychological aspects and meeting the expectations of the patient. Additionally, it was also shown how periodontal plastic surgery was important to achieve gingival harmony.

P005 - Analysis of the discipline of Periodontology (DREEM) after curriculum changes

Mariele VERTUAN[1]; Carla Andreotti DAMANTE[1]; Maria Lúcia Rubo de REZENDE[1]; Sebastião Luiz Aguiar GREGHI[1]; Adriana Campos Passanezi SANT'ANA[1]; Mariana Schutzer Ragghianti ZANGRANDO[1]

[1]Department of Prosthodotincs, Discipline of Periodontology, Bauru School of Dentistry, University of São Paulo.

One of the most known techniques of education environment evaluation is the Dundee Ready Education Environment Measure (DREEM) questionnaire. DREEM was developed and validated to access the educational environment in whole or in parts. Our group evaluated the perceptions of students at Bauru School of Dentistry regarding educational environment in the discipline of Periodontics before the curriculum change. In early 2013, we implemented the integrated curriculum in Dentistry in this institution. Thus, the aim of this study was to apply the same questionnaire to 3rd year students of the "new curriculum" and compare the results obtained with the 3rd year students of the "previous curriculum". All students should answer the questionnaire evaluating the course of Periodontology (CAAE: 48105015.9.0000.5417). The questionnaires were compared between groups before and after curricular reorganization. The questionnaire has a combination of qualitative and quantitative methods and was divided into 5 parts: (1) view of students on teaching, (2) view of students about faculty, (3) feelings of students on career and learning, (4) atmosphere in class and university, (5) the personal lives of students. A comparative analysis of the grades in the discipline of Periodontics and general mean grade was also performed. The results were statistically analyzed by Mann-Whitney test and T test considering a significance level of 5% ($p<0.05$). There were significant differences for age, vision of students about faculty, grades in Periodontics discipline and general mean grade, with higher values for the students of the "new curriculum". We conclude that despite minor changes in perception of students about school environment, we observed an improvement in performance and school grades with the integrated curriculum compared to the previous curriculum.

P006 - Successful alternative for the treatment of gingival recession

Andressa da Costa MANHOLER[1]; Juliana Garcia PATRÍCIO[1]; Lívia de Souza TOLENTINO[1]; Gustavo Nascimento de Souza PINTO[1]

[1]Dentistry Department, University Center of Maringá.

Besides compromising the aesthetics, gingival recessions can also predispose the patient to dentinal sensitivity, which makes oral hygiene difficult and leads to an increased biofilm accumulation locally. The aim of this work was to present a case report in which root coverage through the connective tissue graft technique associated with the coronally repositioned flap was performed as an alternative for the treatment of gingival recession. Patient reported pain in the tooth #24 when brushing and eating sweets and cold food. On clinical examination there was a gingival recession of approximately 6 mm probably caused by brushing trauma. We opted for the connective tissue graft technique associated with the coronally repositioned flap. With this choice the patient's complaint was resolved and periodontal conditions were successfully reestablished. It is concluded that this is a very effective and predictable technique that resulted in a significant increase of keratinized tissue in the operated area.

P007 - Relationship between periodontal disease and dentin hypersensitivity

Fernanda Dalas ANDREASSA[1]; Flávia Matarazzo MARTINS[1]; Cléverson de Oliveira e SILVA[1]

[1]Department of Dentistry, State University of Maringá.

Dentin hypersensitivity (DH) is a condition that affects a large part of the patients after the periodontal treatment, resulting in discomfort. Therefore, the objective of the present study was to determinate the level of DH in patients with generalized chronic periodontitis before and after periodontal treatment comparing three methods for HD treatment. Thirty patients diagnosed and treated for chronic periodontitis participated in the study. They were evaluated through visual analogue scale (VAS) for spontaneous DH, physical (cold air) and mechanical (exploratory probe) stimulation before periodontal treatment, one week after treatment and in the following four weeks, analyzing the efficacy of the regular toothpaste; mouthwash containing 0.2% sodium fluoride and toothpaste containing 5% sodium calcium phosphosilicate. Data were submitted to the ANOVA considering a 5% level of significance. Results demonstrated that the majority of periodontal patients present initial DH, which increased after treatment and decreased during the following weeks. Periodontal treatment effectively decreased HD, without difference between the methods analyzed. Hence, it can be concluded that periodontal diseases promotes DH, scaling and root planning decreases its level, without need of additional methods.

P008 - Evaluation of the knowledge of elderly caregivers

Fernanda Campos CANCELLI[1]; Larissa Alencar de OLIVEIRA[1]; Gustavo Barteli ESTEVES[1]; Cleverson de Oliveira e SILVA[1]

[1]Faculty Ingá- Uningá

Oral health is defined as absence of pain, defects, periodontal disease and other diseases that affect the oral cavity. Periodontal diseases, especially in elderly people who are under home care or in a hospital, are an important risk factor for the development of various diseases, especially pneumonia. Thus, the objective of this study was to know the degree of awareness among caregivers regarding oral hygiene of patients and its relationship with systemic diseases. The study was conducted in an institution that provides home care. Data collection was made with 13 caregivers with more than one year of experience via an adapted questionnaire with objective and essay questions, directly linked to the knowledge of oral health. Data were analyzed descriptively. Results showed that the vast majority of caregivers (92.3%) rate the oral health of their patients as excellent to moderate, 84.6% know the importance of proper oral hygiene. However, almost half (46.1%) of them do not know the meaning of plaque, despite knowing that an adequate plaque control can prevent caries (53.8%), caries and periodontal disease (15.4%) and endocarditis (7.7%). Besides, a few said they knew periodontal disease (7.7%) and more than half (53.8%) did not know how to prevent it. The methods used for the oral hygiene of patients are associated with fluoridated mouthwashes (46.2%) used two (30.8%) or three (46.2%) times a day. Of all participants, only 38.5% said they had received orientation about oral hygiene care. Through the data obtained, it can be concluded that caregivers know the importance of oral hygiene to the human health, but do not recognize the consequences of the lack of oral hygiene, an perform it inappropriately in their patients. Thus, there is a need for training and establishing a protocol for oral hygiene instructions to caregivers.

P009 - Periodontist's performance to transplanted patients: a literature review

Wendy Saory HISSANO[1]; Rafael FERREIRA[1]; Gabriela de Lima ARAUJO[1]; Adriana Campos Passanezi SANT'ANA[1]; Carla Andreotti DAMANTE[1]; Mariana Schutzer Ragghianti ZANGRANDO[1]

[1]Department of Prosthodontics, Discipline of Periodontics, Bauru School of Dentistry, University of São Paulo.

The aim of this study is to discuss the role of the periodontist in a multidisciplinary team at the treatment of patients who have undergone transplantation of organs and tissues (TOT). To perform this literature review, articles were searched at PubMed, Lilacs and Science Direct databases. The keywords used were: "organ transplantation", "oral health" and "periodontal disease". The TOT is considered an effective alternative to the treatment of organ failure and the obtained results are contributing to a longer survival condition of the patients. The procedure requires immunossuppression with drugs to avoid rejection of the the new tissue. This situation aggravates the patient's systemic condition, already weakened due to the disease, leading to oral complications. Because of this, the patient becomes susceptible to other pathologies, and any microorganism can cause a serious infection process, which could evolve to an organ rejection or death. The oral microorganisms can be associated to these infections development, therefore the dentist, mainly the periodontist, must be integrated to the multidisciplinary team of attention to the transplanted patient. The patient may also present other dental pathologies due to the disease itself or therapy. Among them, oral mucositis, xerostomia and the occurrence of secondary malignancies or drug gingival overgrowth by cyclosporine are some examples. Thus, the dental care is needed at the three phases of the process of TOT: preoperatively, during immunosuppression and post-transplant. To promote comfort and guarantee the success and patient's survival, the periodontist must have knowledge of the disease's changes and causes, as well as the methods involved in the treatment, aiming at improving quality of life for these patients.

P010 - Necrotizing ulcerative gingivitis caused by party physical stress

Marina Prado Monson Santana TAKAHASHI[1]; Paula de Oliveira CUNHA[1]; Mariana Schutzer Ragghianti ZANGRANDO[1]; Adriana Campos Passanezi SANT'ANA[1]; Sebastião Luiz Aguiar GREGHI[1]; Maria Lúcia Rubo de REZENDE[1]; Carla Andreotti DAMANTE[1]

[1]Department of Prosthodontics, Discipline of Periodontics, Bauru School of Dentistry, University of São Paulo.

Necrotizing ulcerative gingivitis (NUG) is an acute periodontal disease, which is rare nowadays. It is characterized by a marginal and papillary necrosis. Patients usually present gingival bleeding, pain, fever, lymphadenopathy, and presence of a gray/yellow pseudo-membrane covering the necrotic tissue. The disease commonly occurs in young adults and is related to poor oral hygiene, low immunity, subnutrition and stress. The aim of this case report was to show the therapeutic management of a patient diagnosed with NUG. A male patient, 23 years old, came to the clinic of Periodontics of our institution with pain when flossing, edema and gingival bleeding in gingiva of all anterior teeth. The clinical exam showed necrosis and inverted papillae of the anterior teeth, covered by a gray pseudomembrane. There was neither a systemic disease nor any report of psychological stress. However, in a more detailed interview a physical stress was discovered. The patient had been participating, in the last days, of student parties and had been abusing of alcohol and smoking, all associated with a few hours of sleep. The treatment consisted of 5 sessions of scaling and root planning and irrigation with hydrogen peroxide. Chlorhexidine (0.12%) and vitamin C were prescribed. After the 2nd session the patient had fever, sore throat and lymphadenopathy. Then an antibiotic (Metronidazole, 250 mg, 7days) was prescribed. A positive response was observed at the 4th session when no pseudomembranes and initial regeneration of the papillae were observed. After 6 months, all the papillae are regenerated without sequelae or recidivism. Therefore, it is possible to conclude that a thorough medical and behavioral interview is important for diagnosis and the therapy is effective with good long-term results.

P011 - Is there an association between periodontal disease and Alzheimer's disease?

Ana Laura Herrera FARHA[1]; Ísis de Fátima BALDERRAMA[1]; Rafael FERREIRA[1]; Mariana Schutzer Ragghianti ZANGRANDO[1]; Adriana Campos Passanezi SANT'ANA[1]; Sebastião Luiz Aguiar GREGHI[1]; Carla Andreotti DAMANTE[1]

[1]Department of Prosthodontics, Discipline of Periodontics, Bauru School of Dentistry, University of São Paulo.

Alzheimer's disease (AD) is a disease that affects the elderly with certain prevalence. AD is considered a degenerative disease and its pathophysiology is involved with neuronal abnormalities by inflammatory process. A brain inflammation could be initiated and/or potentiated by inflammatory cytokines from periodontal disease (PD). This review of literature aims at performing a critical and analytical review about important aspects of the possible relation between AD and PD. Therefore, a search was conducted in databases (Scielo, Lilacs, PubMed and MEDLINE) with the keywords "Alzheimer's disease and periodontal disease". One of the consequences of life in human is ageing, when chronological, psychological, social and even cultural aspects interact to each other leaving this population exposed to several diseases such as AD and PD. A person is considered elderly when reaches 60 years old. PD depends on the immune response host and presence of periodontopathogenic bacteria (PB) that are fundamental for the evolution of this disease. Studies showed that there are two pathways for the association between PD and AD. In the first, inflammation in PD can influence the progression of brain inflammation of an already existing AD. In the second, certain and specific PB present in dental plaque are released into bloodstream, reach the brain and exacerbate local inflammation leading to a magnification of the AD. Due the lack of studies, more researches are necessary for a better comprehension of PD in the etiopathogenesis of AD Therefore, there is a possible correlation between PD and AD, and the dentist must have knowledge about both diseases to promote a better treatment plan aiming at improving the oral health and quality of life for this population.

P012 - Periodontal alternative to radicular recovering - case report

Anna Carolina Cenci MATICK[1]; Livia de Souza TOLENTINO[1]; Gustavo Nascimento de Souza PINTO[1]; Samuel Kaik Alves de LIMA[1]; Camila Navarro LEME[1]; Eduardo de Souza TOLENTINO[2]

[1]Department of Dentistry, State University of Maringá.
[2]Department of Dentistry, State University of Ponta Grossa.

Periodontal plastic surgery has a major goal to solve problems associated with attached gingiva, aiming to increase its volume and height or to increase clinical crown. The importance of maintaining a band of keratinized gingiva is related to periodontal health, however, only a connective tissue graft surgery with a coronally repositioned flap is not enough to guarantee success of the case, therefore a minimum amount of keratinized gingiva is necessary. Thus, the objective of this study was to report a clinical case in which the technique of the mixed grafts was the treatment of choice. Patient, female, 21 years old, sought for private dental care treatment, and complained of pain in the region of the tooth #31, bleeding and sensitivity, especially during brushing the region. In the clinical examination the absence of keratinized tissue around the tooth #31 was observed. In this case, to perform the graft mixed technique, in which graft was removed from the donor area with connective and epithelial tissues, the results were a gain in keratinized gingiva plus root coverage in a single operation, gaining both in height and thickness of keratinized tissue in the region of the tooth #31. Thus, it can be concluded that the mixed gingival graft resulted in great success of the treatment, with reduction of costs and patient morbidity. The patient remains in follow-up, no signs of recurrence.

P013 - Omega-3 fatty acid for treating oral inflammatory diseases

Carolina de Barros Morais CARDOSO[1]; Mariane Maffei AZUMA[1]; Rogério de Castilho JACINTO[1]; Eloi DEZAN JUNIOR[1]; Gustavo de Araújo SIVIERI[1]; João Eduardo GOMES-FILHO[1]; Luciano Tavares Angelo CINTRA[1]

[1]Department of Restorative Dentistry, Araçatuba Dental School, São Paulo State University.

Omega-3 fatty acids have been studied as an adjuvant therapy during the treatment of inflammatory diseases, inhibiting the production of arachidonic acid metabolites. In this context, the aim of this study was to perform a literature review to investigate the benefits related with the use of omega-3 fatty acids as an adjuvant therapy during the treatment of oral inflammatory diseases. Thus, a literature review was performed about the use of omega-3 fatty acids in dentistry, searching at PubMed, Web of Science and Portal Periodicos CAPES databases, with a combined search strategy using a keyword search and controlled vocabulary. Two reviewers evaluated the titles, abstracts and the complete texts. The reference lists of the select publications were also evaluated. The results showed that the supplementation with omega-3 decreased the number of proinflammatory mediators in the gingival tissues of individual with gingivitis. In periodontal disease, although the results about the clinical symptomatology are controversial, it was observed a decrease in the proinflammatory mediators in periodontal tissues of individuals supplemented with omega-3. Only one study evaluated the influence of omega-3 during the experimental orthodontic movement, showing a decrease in the bone resorption in rats supplemented with omega-3. The supplementation with omega-3 also showed positive results as an adjunctive therapy for the treatment of recurrent aphthous stomatitis, considering that frequency and painful symptoms were alleviated in patients supplemented with omega-3. It may be concluded that omega-3 may be used as an adjunctive therapy in the treatment of inflammatory diseases that affect the oral cavity. However, more studies are required to elucidate the role of omega-3 to decrease the inflammatory process in oral cavity.

P014 - Periodontal evaluation of three toothbrushes with different bristles

Danyelly Alline ANGELI[1]; Debora Reis DIAS[1]; Luisa de Araújo Moreira PREIS[1]; Roberto Masayuki HAYACIBARA[1]

[1]Dentistry Department, Maringá State University.

The objective of this research was to evaluate the relative potential of manual toothbrushes CURAPROX® 5460 (CPX), COLGATE® Slim Soft (COG) and ORAL B®

Indicator 30 Plus (ORB), regarding the abrasion of the soft tissue and the efficiency on the removal of bacterial plaque. The study was controlled, randomized and blinded. In the first phase of the study (day 0), the patients were controlled, familiarized and evaluated in relation to the use of their own toothbrushes. In the second phase (days 7 and 14), each group used a predetermined toothbrush. In the third phase (day 21), there was an interval so that the volunteers, after the treatment phase, returned to use their own toothbrushes. After that, all groups switched the studied toothbrushes in a way that they had used all of them in the end of the study. The evaluations were performed weekly, after the use of each toothbrush, in a total of nine evaluations. The variables assessed were plaque index, gingival index, marginal and proximal gingival abrasion as well as attached gingiva. For better visualization on the abrasions, a dye was used. Thirty people were evaluated, fifteen males and fifteen females. The average age was 20.4±2.3 years. No statistically significant difference was found to all of the variables. All of the toothbrushes were efficient in controlling the bacterial plaque index and bleeding index. The data showed that all of the toothbrushes were efficient, independently of the design of the toothbrush and of the size, diameter and length of the bristles.

P015 - Influence of full mouth disinfection therapy in vitamin C levels

Débora de Almeida BIANCO[1]; Cléverson de Oliveira SILVA[1]

[1]Department of Health Sciences, Department of Dentistry, State University of Maringá.

It is proven that smokers have lower levels of vitamin C, which is important for healing. Studies show that invasive procedures reduce the levels of vitamin C, but there is no evidence that non-surgical periodontal treatment change these levels. The aim of this study was to investigate the effect of nonsurgical periodontal therapy, through the full mouth disinfection technique on systemic levels of vitamin C in smokers and nonsmokers. We selected 24 subjects aged 40-65 years, 12 with generalized moderate to severe chronic periodontitis and 12 periodontally healthy, which were divided into 4 groups, 2 tests: smokers with periodontal disease, non-smokers with periodontal disease and 2 controls: smokers without periodontal disease and nonsmokers without periodontal disease. All volunteers answered a nutritional model describing food eaten in a week before the procedure. Blood was collected before treatment, 1, 3, 7 and 30 days after finishing the procedure. Before the non-surgical periodontal treatment smokers with periodontal disease had systemic vitamin C level of 0.23±0.05 mg/mL, with a significant decrease (p=0.0004) after 1 day to 0.10+0 05 mg/mL. Nonsmokers with periodontal disease had a vitamin C level of 0.33±0.06 mg/mL with a significant decrease (p=0.002) after 1 day to 0.18±0.05 mg/mL. After 3, 7 and 30 days the levels were stabilized. Smokers without periodontal disease presented vitamin C level of 0.17+0.03 mg/mL, which was significantly lower (0.28+ 0.1 mg/mL; p=0.01) than non-smoking healthy subjects. We conclude that nonsurgical periodontal therapy through full mouth disinfection technique promoted a decrease in systemic levels of vitamin C in both smokers and nonsmokers. Healthy smokers have lower levels of vitamin C compared to non-smokers.

P016 - Periodontal evaluation of toothbrushes with dispersion system of forces

Giovana Romano de OLIVEIRA[1]; Roberto Masayuki HAYACIBARA[1]; Cléverson Oliveira SILVA[1]; Gabriela de Souza ZIMIANI[1]

[1]Department of Dentistry, Health Sciences Center, State University of Maringá.

The aim of this study was to compare the dispersion systems of forces of the manual toothbrushes Sensodyne Esmalte Care (SEC) and ORAL B® Pro-Saúde Clinical Protection Pro-Flex (ORB) regarding the promotion of gingival abrasions and efficiency to remove bacterial plaque in comparison to a control brush (CTL). In the first phase of the study (day 0), the patients were controlled, familiarized and evaluated in relation to the use of their own toothbrushes. In the second stage (days 7 and 14) each group used a predetermined toothbrush. In the third phase (day 21), there was an interval so that the volunteers, after the treatment phase, returned to use their own toothbrushes. After that, all groups switched the studied toothbrushes in a way that they had used all of them in the end of the study. The evaluations were performed weekly, after the use of each toothbrush. The variables assessed were plaque index, gingival index, marginal and proximal gingival abrasion as well as attached gingiva. Participants also responded to a questionnaire using a Visual Analogue Scale for comfort, traumatization and cleanliness feeling of the brushes. All brushes were effective in removing plaque and keeping gingival health, although without differences between the brushes. Ulcerations occurred in all brushes without significant differences. However, regarding comfort, it was demonstrated that the ORB toothbrush is less comfortable than SEC and CTL brushes and more traumatic than the CTL, but no difference regarding SEC, about cleanliness feeling was not found significant differences among the brushes. The brushes with dispersal systems of forces did not show differences between themselves nor in comparison to control brush in clinical analysis, but the ORB brush was less comfortable and more traumatic than other brushes according to volunteers' perception.

P017 - Endodontic-periodontal lesion, diagnosis and treatment. Case report

Heloísa Maria BASSEGIO[1]; Lívia de Souza TOLENTINO[2]; Gustavo Nascimento de Souza PINTO[3]

[1]Department of Dentistry UniCesumar.
[2]Department of Dentistry, University of São Paulo.
[3]Department of Dentistry, State University of Maringá.

Endodontic-periodontal lesions were classified as being one of the diseases routinely observed in clinical practice and are included in the classification of periodontal diseases. Thus, the aim of this study was to describe a case in which an endodontic lesion associated with periodontal disease was diagnosed and successfully treated. Patient sought treatment and reported spontaneous pain in tooth #47. Clinical examination revealed resin restoration in the occlusal surface and 9 mm periodontal pockets in the distal surface and 6 mm on the lingual surface of tooth #47. Radiographic examination revealed that periodontal lesions had already spread across the apex region. Response to pulp sensitivity test to cold was positive, which led us to suggest that the injury was caused primarily by periodontal pathogens that

progressed apically along the root surface until it reached the dental pulp. Because periodontal disease is primary with secondary endodontic involvement both endodontic therapy and periodontal treatment were performed. Ninety days after the beginning of the treatment injury repair could be observed, and the tooth that had been condemned was healthy. It can be concluded that a correct diagnosis led us to an ideal treatment and consequently to a successful result of the chosen therapy.

P018 - Effects of bone marrow aspirate and/or LLLT in periodontal defects

Natália de CAMPOS[1]; Eduarda de Lima Graciliano BELEM[1]; Eliana Aparecida CALIENTE[1]; Carolina dos Santos SANTINONI[1]; Michel Reis MESSORA[2]; Edilson ERVOLINO[3]; Maria José Hitomi NAGATA[1]

[1]Department of Surgery and Integrated Clinic, Araçatuba Dental School, São Paulo State University.
[2]Department of Oral and Maxillofacial Surgery and Traumatology and Periodontology, Ribeirão Preto School of Dentistry, University of São Paulo.
[3]Department of Basic Sciences, Araçatuba Dental School, São Paulo State University.

This study evaluated the influence of bone marrow aspirate (BMA), low-level laser therapy (LLLT) or their combination on the healing of periodontal fenestration defects (PFD) in rats. PFD were surgically created in the mandible of 80 rats. The animals were randomly divided into 4 groups: Control (C) and BMA – defects were filled with blood clot or BMA, respectively; LLLT and BMA/LLLT – defects received laser irradiation, were filled with blood clot or BMA, respectively, and then irradiated again. Animals were euthanized at either 10 or 30 days post-surgery. Histomorphometric and immunohistochemical analyses were performed. Percentage of new bone (NB), density of newly formed bone (DNB), new cementum (NC) and extension of remaining defect (ERD) were histomorphometrically evaluated. Runt-related transcription factor 2 (Runx2) and osterix (OSX) immunohistochemical staining was performed and immunolabeled cells were quantified. Data were statistically analyzed (two-way ANOVA; Tukey, $p<0.05$). At 10 days, groups LLLT and BMA/LLLT presented NB greater than groups C and BMA. At 30 days, Groups BMA, LLLT and BMA/LLLT showed partial NC formation with collagen fibers inserted obliquely or perpendicularly to the root surface. NC formation was not observed in any Group C specimen. Groups BMA, LLLT and BMA/LLLT presented higher number of Runx2-positive and OSX-positive cells than control at 10 and 30 days post-surgery. It can be concluded that BMA, LLLT or their combination all promoted partial NC formation with a functional periodontal ligament. At 30 days post-surgery, the combination BMA/LLLT did not show additional positive effects when compared to the use of either therapy alone.

P019 - Influence of smoking on surgical periodontal treatment: case report

Giovana Fuzeto VERONESI[1]; Adriana Campos Passanezi SANT'ANA[1]; Carla Andreotti DAMANTE[1]; Sebastião Luiz Aguiar GREGHI[1]; Maria Lúcia Rubo de REZENDE[1]; Mariana Schutzer Ragghianti ZANGRANDO[1]

[1]Department of Prosthodontics, Discipline of Periodontics, Bauru School of Dentistry, University of São Paulo.

Smoking is considered a risk factor for periodontal diseases, negatively influencing host response and reducing success rate and predictability of surgical and nonsurgical periodontal treatments. In order to obtain better results on periodontal therapy, reducing smoking is essential. This workr presents a clinical case of a healthy female patient, 53 years old, who presented to the Periodontics clinic from Bauru School of Dentistry (USP), complaining about lack of aesthetics on smiling due to long teeth (multiple Miller class III gingival recessions) and tooth #22 missing. During anamnesis she reported to have been smoking about 20 cigarettes a day for the past 30 years. After complete explanation of the severe bad effects smoking has on periodontium and systemic health, patient reduced her cigarette dose for maximum 10 cigarettes a day. Scaling and root planing was performed, and also a surgical planning for root coverage. The first surgery extended from tooth #13 to #21 and was executed with the technique of coronal repositioned flap associated with a subepithelial connective tissue graft. During post-operatory evaluations, an improvement in clinical condition with partial recession coverage was observed. Patient did not stop smoking, but collaborated considerably to hygiene maintenance and was extremely satisfied with the outcome. Results were satisfactory with a reasonable potential to recession coverage. Therefore, we decided to continue with the following surgeries. A second procedure was performed on teeth #24, #25 and #26 following previous technique, though it resulted on graft necrosis at 7 days post-operatively. Patient did not smoke during this post-operative period. Analyzing the opposite outcomes obtained through the same technique, it could be concluded that smoker response can be unpredictable even facing a smoking reduction protocol.

P020 - Experimental periodontitis evolution in immunosuppressed rats

Nathália Januario de ARAUJO[1]; Erivan Clementino GUALBERTO JUNIOR[1]; Vivian Cristina Noronha NOVAES[1]; David Jonathan Rodrigues GUSMAN[1]; Henrique Rinaldi MATHEUS[1]; Paula Lazilha FALEIROS[1]; Juliano Milanezi de ALMEIDA[1]

[1]Department of Surgery and Integrated Clinic, Periodontics Division, Araçatuba Dental School, São Paulo State University.

The aim of this study was to investigate the effects of dexamethasone (DEX) administration on the alveolar bone loss (ABL) rate in rats with experimentally-induced periodontitis (EP). Thirty rats were randomly assigned to two groups: saline solution treatment group (NDEX, n = 15) and DEX treatment group (n = 15). DEX group received a subcutaneous (2 mg/kg) injection one day before EP administration throughout the experimental period. In the NDEX and DEX groups, EP was induced by wrapping cotton thread around the mandibular left first molar (ligated teeth) and the contralateral area (non-ligated teeth). Non-ligated teeth served as controls. Five animals in each group were euthanized at 3, 7 and 14

days. ABL was evaluated by photomorphometric analysis. Data were statistically analyzed (ANOVA, Tukey's test; $p \leq 0.05$). For the ligated teeth, the intergroup analysis revealed a significantly higher ABL rate ($p<0.05$) in the DEX group at 3 (4.6283±0.470 mm²), 7 (6.7917±0.48 mm²) and 14 days (7.1033±0.43 mm²) compared to the NDEX group at 3 (3.1767±0.13 mm²), 7 (4.7367±0.20 mm²) and 14 days (6.6750±0.14 mm²), respectively. In groups NDEX and DEX the intragroup analysis revealed significantly ($p<0.05$) greater ABL at 7 and 14 days compared to 3 days. For the non-ligated teeth, the intergroup analysis revealed significantly greater ABL ($p<0.05$) in the DEX group compared to the NDEX group in all periods. DEX administration increased the ABL rate in rats with and without EP.

P021 - Peri-implantitis resolution with guided bone regeneration: case report

Adriana dos Santos CAETANO[1]; Vinícius Ferreira BIZELLI[2]; Michele Alves GARCIA[3]; Edgard Franco MORAES JÚNIOR[4]

[1]Discipline Periodontics, Bauru School of Dentistry, University of São Paulo.
[2]DDS, Bauru School of Dentistry, University of São Paulo.
[3]Postgraduate Program in Sciences of Rehabilitation, Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.
[4]Department of Implantology, Education Association of Brazil, FUNORTE – SOEBRAS.

The rising and somehow abusive use of dental implants in oral rehabilitation has led to increased complications, with emphasis on peri-implantitis. The objective of this study was to demonstrate a case resolution of peri-implantitis in aesthetics region of teeth #11 and #12. Patient MM, female, 29 years old, came to our institution presenting 3.3x13 mm and 3.75x15mm implants (Neodent) in the region of former teeth #11 and #12, respectively. Implants were clinically surrounded by granulomatous tissue and bone was exposed. Imaginological examinations were indispensable to achieve a correct diagnosis. After proper planning, necrotic peri-implant bone tissue was removed and the implants decontaminated with tetracycline 500 mg (Teuto). Guided bone regeneration was performed with right oblique line bone graft associated with a membrane (GenDerm Genius) stabilized with suture, and subepithelial connective tissue graft. Subsequently, the implants were exposed through gingival conditioning using the adhesive prosthesis the patient was using. When gingival conditioning was completed and protective covers were exposed, the provisional prosthesis was installed. For the continuation of the treatment, the patient was submitted to orthodontic therapy and, at the request of the orthodontist, the provisional prostheses were inclined to a palatal direction in order to perform retraction of the contralateral incisors. The case was finalized with installation of Emax crowns. According to the stability of the results, we conclude that the procedure was successful, leading to a favorable aesthetics, as well as satisfaction and improved quality of life of the patient.

P022 - Tetracycline modulation on resorption of collagen membrane

Bruna Luísa de PAULA[1]; Murilo Priori ALCALDE[2]; Ana Paula Favaro TROMBONE[1]; Gustavo Pompermaier GARLET[3]; Elcia Maria Varize SILVEIRA[1]

[1]Department of Biological and Allied Health Sciences, University of Sagrado Coração.
[2]Department of Operative Dentistry, Endodontics and Dental Materials, Bauru School of Dentistry, University of São Paulo.
[3]Department of Biological Sciences, Bauru School of Dentistry, University of São Paulo.

During the healing process neutrophils, monocytes and fibroblasts release metalloproteinases (MMPs), which contribute to the degradation of collagen membranes employed as a physical barrier in the medical and dental field. Tetracycline has inbitory actions on MMPs and has been frequently used in association with membranes. This study aimed to evaluate inflammatory parameters and resorption rate of bovine collagen membranes associated or not with local tetracycline. Bovine cortical bone membranes were implanted in subcutaneous tissue in the dorsal region of C57BL/6 mice at days 3, 6, 9, 12 and 15 days. In the next phase of the study, membranes were associated with tetracycline at different concentrations (10, 50 and 250 mg/ml) and groups were formed where the membrane remained in the solution for 1 day or was implemented immediately after soaking or further washed 3 times with PBS. In the 1st stage of the experiment (without tetracycline membrane), histological analysis showed an increase in the inflammatory infiltration and the rate of reabsorption of the membrane according to the different experimental periods. In the 2nd phase of the study, using tetracycline at concentrations of 50 mg/mL and 250 mg/mL implanted immediately after soaking, an increase in the resorption time of the membrane as compared to membranes without tetracycline was observed. Thus, the use of tetracycline reduced degradation and increased biodurability of collagen membranes at concentrations of 50 mg/mL and 250 mg/mL when implanted immediately after soaking in a tetracycline solution. This study suggests that tetracycline associated with collagen membrane offers a possible alternative treatment, since it appears to act on the bacteria, decreasing the inflammatory infiltrate. Moreover, the inhibitory properties on MMPs provide a lower biodegradation, thus increasing durability of the collagen membranes and extending physical barrier function.

P023 - Manipulation of mucogingival tissues for peri-implant esthetics

David Jonathan Rodrigues GUSMAN[1]; Nathália Januario de ARAUJO[1]; Paula Lazilha FALEIROS[1]; Fred Lucas Pinto de OLIVEIRA[1]; Vivian Cristina Noronha NOVAES[1]; Breno Edson Sendão ALVES[1]; Henrique Rinaldo MATHEUS[1]; Juliano Milanezi de ALMEIDA[1]

[1]Department of Surgery and Integrated Clinic, Araçatuba Dental School – Univ Estadual Paulista, Araçatuba – SP, Brazil.

Esthetics has been a dominating factor in implantology development aiming at achieving functional and biological excellence for the patients. This report aims to present different surgical mucogingival therapeutic options, providing the aesthetic excellence, and promoting functional and biological benefits around dental implants in different patients. Subepithelial connective tissue graft

surgeries were performed in three patients (MJA, PCB and RCA), who had in common gingival recession and/or lack of peri-implant keratinized mucosa in the regions of the implants corresponding to teeth #11, #22 and #31, respectively. In the first case, two vertical incisions extending from the marginal gingiva to the mucogingival junction were made, joined by a horizontal intrasulcular one. In the second case, the incision was similar but without the relaxing vertical incisions. In the third case, since no prosthetic rehabilitation existed, an incision on the alveolar ridge followed by vertical relaxing ones was carried out. In all cases, in the receptor region a partial thickness flap was performed and epithelial and connective tissue grafts were removed from the lateral portion of the palate. Epithelial tissue was repositioned at the donor site and the connective tissue was placed at receptor area. Compressive sutures were made in the donor area for stabilization of the epithelial tissue and blood clot, thus favoring hemostasis. Surgical sites were covered with surgical cement. Surgical procedures promoted coverage of dental implants and/or increased keratinized mucosa Based on the clinical results, it can be concluded that the surgical mucogingival therapeutic options demonstrated satisfactory results, achieving the aesthetic, functional and biological objectives.

P024 - Bone marrow aspirate/LLLT and autogenous bone graft in bone repair

Eduarda de Lima Graciano BELEM[1]; Nayara Yuri HANO[1]; Natália de CAMPOS[1]; Eliana Aparecida CALIENTE[1]; Joílson de Barros LELLIS[1]; Juliano Milanezi de ALMEIDA[1]; Michel Reis MESSORA[2]; Edilson ERVOLINO[3]; Maria José Hitomi NAGATA[1]

[1]Department of Surgery and Integrated Clinic, Dental School of Araçatuba, São Paulo State University.
[2]Department of Oral and Maxillofacial Surgery and Traumatology and Periodontology, Ribeirão Preto School of Dentistry, University of São Paulo.
[3]Department of Basic Sciences, Dental School of Araçatuba, São Paulos State University.

The purpose of this study was to histomorphometrically evaluate the influence of bone marrow aspirate (BMA) combined with autogenous bone graft (AB) and low-level laser therapy (LLLT) on the healing of surgically created critical-size defects (CSD) in rat calvaria. Thirty rats were divided into 3 groups: C (control), BMA and BMA/LLLT. A 5-mm diameter CSD was created in the calvarium of each animal. In Group C (control), the defect was filled with blood clot only. In Group BMA/LLLT, the defect received LLLT irradiation, was filled with BMA, and then was irradiated again. In BMA/AB/LLLT, the defect received LLLT irradiation, was filled with AB combined with BMA, and then was irradiated again. LLLT was performed with InGaAlP laser. Animals were euthanized 30 days post-surgery. Histologic and histometric analyses were performed. Newly Formed Bone Area (NFBA) was calculated as a percentage of the total area of the original defect. Data were statistically analyzed (ANOVA, Tukey, $p<0.05$). No defect completely regenerated with bone tissue. BMA/LLLT group presented NFBA significantly greater than groups C and BMA/AB/LLLT. No statistically significant differences were observed in NFBA between groups C and BMA/AB/LLLT. Within the limits of this study, it can be concluded that the combination BMA/AB/LLLT did not stimulate bone repair in surgically created CSD in rat calvaria. The combination BMA/LLLT yielded significantly greater bone formation when compared to the others groups, confirming that this combined therapy is a promising approach to promote bone regeneration in large defects.

P025 - The use of laser Doppler flowmetry in periodontal plastic surgery

Ísis de Fátima BALDERRAMA[1]; Rafael FERREIRA[1]; Carla Andreotti DAMANTE[1]; Adriana Campos Passanezi SANT'ANA[1]; Sebastião Luiz Aguiar GREGHI[1]; Maria Lúcia Rubo de REZENDE[1]; Mariana Schutzer Ragghianti ZANGRANDO[1]

[1]Department of Prosthodontics, Discipline of Periodontics, Bauru School of Dentistry, University of São Paulo.

One of the objectives of periodontal plastic surgery (PPS) is the root coverage of gingival recession. The study of Zuhr (2014) questioned the lack of standardization of subepithelial connective tissue graft (SCTG) for root coverage. The SCTG can be composed mostly by lamina propria or submucosa depending on the technique used or palatal area. According to the authors, depending on graft composition, a change in tissue contraction and greater or lesser revascularization could be noticed. An alternative to evaluate this factor is the use of laser Doppler flowmetry (LDF). A female patient, 29 years old, presented with complaint of dentinal sensibility. Root coverage was indicated for Miller class I gingival recessions in the posterior region of superior arch (teeth #14, #15, #16, #24, #25 and #26) bilaterally. Coronal advanced flap technique with association of SCTG was performed bilaterally. In the right side, graft was removed by the technique of 1.5 mm double bladed knife (graft composed of lamina propria and submucosa) and on the left side by technique of deepithelialized graft (predominantly lamina propria). Analysis of receptor grafted sites was made using the LDF. Blood flow variations were evaluated in two regions in preoperative moment and after 2, 7, 14 and 28 days. Descriptive analysis of the LDF registered a difference in gingival microcirculation (GM) bilaterally. The region that received graft form double blade knife presented higher vascularization flow compared with the deepithelialized graft. Clinical evaluation in root coverage demonstrated satisfactory outcomes. The evaluation with LDF seems to be an alternative for measurement of GM in areas with soft tissue graft. SCTG composed of lamina propria and submucosa appears to allow greater revascularization during the post-operative evaluations.

P026 - BGR, grafting and implants in atrophic jaw: animal study model

Matheus Völz CARDOSO[1]; Giovana Fuzeto VERONESI[1]; Mario Vinicius ZENDRON[2]; Sebastião Luiz Aguiar GREGHI[1]; Adriana Campos Passanezi SANT'ANA[1]; Mariana Schutzer Ragghianti ZANGRANDO[1]

[1]Department of Prosthodontics, Discipline of Periodontics, Bauru School of Dentistry, University of São Paulo.
[2]Department of Stomatology, Health Sciences Center, Federal University of Santa Catarina.

Mandibular atrophy presents considerable challenges in rehabilitation with implants. Bone gain can be obtained by different procedures, including the guided bone regeneration (GBR). The aim of this animal study model was to compare the vertical bone formation (VBF) using an exclusion tissue device of titanium and different bone substitutes around the dental implant. Methodology: 7 dogs were submitted to surgical procedures under general anesthesia, with extraoral access to the lower edge of the jaw. Crestal bone was manually regularized and 4 implants were installed in each animal. Three screws were exposed and perforations were made in the cortical

bone around the implant. Each implant has received one treatment: (1) AUT- autogenous bone with clot; (2) Control- only clot; (3) SYNT- synthetic graft (Biogran®); (4) XEN- xenograft (Bio-Oss ®). Massive domes of titanium for tissue exclusion were stabilized over the area with implants. Animals were euthanized after 3 months. Histological analysis was performed with software Image Pro, evaluating the following parameters: VBF (height of new bone formation), filling of extra-osseous threads and bone/implant contact in extra-osseous threads. Statistical analysis was performed by analysis of variance (ANOVA) and Bonferroni test adopting the significance level of p<1%. The results for the VBF around implants exhibited significant values for AUT for all investigated groups. SYNT (p:0.0028/p:0,0447) e XEN (p:0.070/p:0.0545) presented statistically equivalency to AUT in terms of contact and fill in the extra-osseous threads, respectively. Despite the limitations of the model, we concluded that AUT group demonstrated better outcomes in VBF in implants installed in atrophic jaws, but similar results compared to SINT and XEN in filling and bone/implant contact in extra-osseous threads.

P027 - A modified classification: altered active and passive eruption

Raphaella Coelho MICHEL[1]; Giovana Fuzeto VERONESI[1]; Matheus Volz CARDOSO[1]; Carla Andreotti DAMANTE[1]; Sebastião Luiz Aguiar GREGHI[1]; Mariana Schutzer Ragghianti ZANGRANDO[1]

[1]Department of Prosthodontics, Discipline of Periodontology, Bauru School of Dentistry, University of São Paulo.

The altered passive eruption (APE) can be considered a variation of normality, described as a genetic or development condition. APE may be frequently associated with the so called "gummy smile", presenting short clinical crowns. Active dental eruption (ADE) occurs when tooth achieves the opposite element in the occlusal plane prematurely and the osseous crest is on or very close to the cemento enamel junction (CEJ). Thereby, correct understanding of biological events related to AAE and APE should be considered in the classification of a gummy smile. This study aims to propose a modification of a previous classification and provide a guide for surgical planning of different cases involving AAE and/or APE. In addition, this study will present a clinical case diagnosed in the modified classification. A female patient, 22 years, was complained about her "child appearance" due to short clinical crowns. She was classified as APE-I-AAE. It was performed a clinical crown lengthening with an internal bevel incision with bone resection, aiming re-establish the distance of approximately 2mm from alveolar crest to the CEJ. After six months, the patient presented harmonious result with stability of the gingival tissue positioning. In conclusion, classifications are in general very important since they can guide and simplify the clinical practice. However, all biological events involved in the process should be considerate. This knowledge is essential for the correct diagnosis and surgical planning, thus achieving predictability and stable outcomes.

P028 - Effects of enamel matrix derivative on bone repair

Eliana Aparecida CALIENTE[1]; Joilson de Barros LELLIS[1]; Natália de CAMPOS[1]; Eduarda de Lima Graciliano BELEM[1]; Carolina dos Santos SANTINONI[1]; Nayara Yumi HANO[1]; Michel Reis MESSORA[2]; Edilson ERVOLINO[3]; Maria José Hitomi NAGATA[1]

[1]Department of Surgery and Integrated Clinic, Dental School of Araçatuba, UNESP - Univ Estadual Paulista.
[2]Department of Oral and Maxillofacial Surgery and Traumatology and Periodontology, Ribeirão Preto School of Dentistry, University of São Paulo.
[3]Department of Basic Sciences, Dental School of Araçatuba, Univ Estadual Paulista.

Despite widespread use of enamel matrix derivative (EMD) for periodontal applications, the effects of EMD on bone regeneration are not well understood. This study analyzed, histometrically and immunohistochemically, the influence of EMD on bone healing in surgically created critical-size defects (CSD) in rat calvaria. 60 rats were divided into 2 groups: C (control) and EMD. A 5 mm diameter CSD was created in the calvarium of each animal. In Group C, the defect received no treatment. In Group EMD, the defect was filled with EMD. Animals were euthanized 7, 15 and 30 days postoperatively. Histomorphometric and immunohistochemical analyses were performed. Newly formed bone area (NFBA) was calculated as percentage of the total area (TA) of the original defect. Proliferating cell nuclear antigen (PCNA), runt-related transcription factor 2 (Runx2), bone morphogenetic protein (BMP), osteocalcin (OCN), and bone alkaline phosphatase (BALP) immunohistochemical staining were performed. Immunolabeled cells were quantified within the confines of TA. Data were statistically analyzed (ANOVA; Tukey, p<0.05). No significant differences were observed in NFBA between groups EMD and C. Group EMD presented a significantly higher number of PCNA-positive cells than control at all time points. In addition, Group EMD presented significantly higher numbers of Runx2-positive (7 days), BMP-2-positive (7 days) and OCN-positive (15 and 30 days) cells than control. No significant differences were observed in BALP immunolabeling between groups EMD and C. It can be concluded that EMD promoted the acceleration of the mediators associated with cell proliferation and differentiation and maturation of osteoblasts. However, no significant differences were observed in bone formation between groups EMD and control. Joilson B. Lellis had a CNPq Scientific InitiationTraining (no scholarship modality).

P029 - Salivary markers: correlation psychological stress-periodontal disease

Érika Beatriz Spada de CARVALHO[1]; Ísis de Fátima BALDERRAMA[1]; Maria Lúcia Rubo de REZENDE[1]; Carla Andreotti DAMANTE[1]; Adriana Campos Passanezi SANT'ANA[1]; Mariana Schutzer Raggiantti ZANGRANDO[1]; Sebastião Luiz Aguiar GREGHI[1]

[1]Department of Prosthodontics, Discipline of Periodontics, Bauru School of Dentistry, University of São Paulo.

Psychological stress is a reaction in the body with physical and/or psychological components caused by psychophysiological changes. It presents broad relationship with Periodontology as one of the factors involved with the pathogenesis of the periodontal disease (PD) by means of its interaction with the immune system. The most studied

biological markers measuring stress levels are cortisol, α-amylase and chromogranin A (CgA). The question of this narrative literature review was: salivary markers are sufficient to correlate psychological stress and PD?. The literature search strategy used was the combination of the uniterms: "salivary psychological stress marker" with "periodontal disease" and "psychological stress markers" with "periodontal disease" using four databases (PudMed, Scielo, LILACS and MEDLINE) according with inclusion and exclusion criteria. Sixteen articles were recovered, but only 6 were included in the review. These studies collected saliva from the patients to assess the level of psychological stress. The profile varied among the patients with gingivitis, chronic periodontitis (CP), aggressive periodontitis (AP), healthy patient and localized chronic periodontitis. The level of mental stress was assessed in all studies by specific questionnaires. The article that correlated CP with AP obtained two times higher levels of CgA in patients with AP compared to CP, and the cortisol level was higher in AP. In another study, only in patients with CP the cortisol level was significantly correlated to periodontal parameters such as probing depth 5-7 mm, clinical attachment level (CAL) 5-7 mm and CAL>7mm. Another showed significant correlation of CgA, α-amylase and cortisol to tooth loss. It can be concluded that there is not sufficient evidence that salivary markers are correlated with periodontal disease due the limited number of studies with reliable methodology and to the lack of agreement to confirm this information.

P030 - The interdisciplinarity in smile esthetics: case report

Leandro Edgar PACHECO[1]; Luis Augusto ESPER[1]; Luisa Guerrini BELLUCO[2]; Ana Lucia Pompeia Fraga de ALMEIDA[2]; Gabriel Chiquito MINUTTI[3]; Michyelle Cristhiane SBRANA[1]

[1]Sector of Periodontics, Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.
[2]Department of Prosthodontics, Bauru School of Dentistry, University of São Paulo.
[3]Private Clinic.

A pleasant smile is one of the most important features in the facial expression of individuals. Thus, the balance between tooth and soft tissue aesthetics is needed for a nice smile. This work aimed to present a case in which an individual of 28 years old male, complained about smile aesthetics, short clinical crown of his teeth and gummy smile. In the planning it was found that the anatomical crowns of the upper teeth were short. It was then perform an increase of clinical crown on the upper anterior region with a previously manufactured guide with the desired teeth size and proportions. In the immediate postoperative period, the size of the clinical crowns was already in the desired situation. Postoperative follow-ups were carried out 30, 60 and 90 postoperative days. At 90 days, indirect ceramic restorations were carried out in the anterior teeth (from #13 through #23). The relationship between periodontics and restorative dentistry is essential for good clinical planning and, thus, ensure complete patient's satisfaction.

P031 - Prioritizing aesthetics in implant rehabilitation - case report

Leandro Rahal MESTRENER[1]; Fernanda Furtado PIRAS[2]; Edgard Franco MORAES JÚNIOR[3]

[1]Dental Surgeon, Araçatuba Dental School, São Paulo State University.
[2]Department of Prosthodontics, Bauru School of Dentistry, University of São Paulo.
[3]Department of Implantology, Educational Association of Brazil, FUNORTE-SOEBRAS.

It is undeniable the importance of harmony between pink and white aesthetics in the success of oral rehabilitation. This requirement implies that the surgeon frequently needs some regenerative surgery prior to implant placement, especially in maxillary anterior regions so that to subsequently allow a better aesthetic result. The aim of this work was to show a case of guided bone regeneration with titanium mesh. VZ patient, 57 years old, smoker, attended the Institute OPEM complaining about the aesthetic condition of her smile. After clinical and imaginological examination, the implant was removed from the region of tooth #23 and a connective tissue graft was performed. After three months a cone morse taper implant was installed in the region of tooth #24 together with guided bone regeneration and titanium mesh in the region of teeth #23 and #24. After 4 months and 24 days, the titanium mesh was removed and a morse taper implant was installed in the region of tooth #23. After 6 months of guided bone regeneration a provisional prosthesis was connected on the implant in the area of tooth #24 with a mesial cantilever. Given the chosen regenerative techniques and good prior planning, the implant-supported rehabilitation enabled and assured , with aesthetic and functional excellence, the patient's expectations.

P032 - The laser healing in defects filled with biomaterials

Luísa Belluco GUERRINI[1]; Guilherme Santos MOREIRA[1]; Nicole Rosa de FREITAS[1]; Luis Augusto ESPER[2]; Michyele Cristhiane SBRANA[2]; Ana Lúcia Pompéia Fraga de ALMEIDA[1,2]

[1]Department of Prosthodontics, Bauru School of Dentistry, University of São Paulo.
[2]Sector of Periodontics, Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.

The objective of this study was to evaluate the effect of low level laser in the healing of critical bone defects filled with bioactive glass and bovine bone in rat calvaria. We used 60 male rats (Rattus novergicus, Albinus, Wistar) weighing between 250 and 300 g. The animals were divided into 6 groups (n=10): group C (control blood); LB group (low-intensity laser); group VB (bioactive glass - Biogran®); VBLB group (bioactive glass + low intensity laser); BO group (bovine bone - Bio-Oss®) and BOLB (bovine bone + low intensity laser). The animals were sacrificed at 30 days postoperatively. The areas of new bone formation (AON) and areas of remnant particles of bioactive glass (APR) were calculated in relation to the total area (TA) in percentage. For statistical analysis of the data, the parametric ANOVA test followed by the Tukey test ($p>0.05$) was used. The highest average of AON was found in BOLB group (48.57±28.22%), followed by the LB group (47.67±8.66%) and VBLB (28.35±17.58%). The C group (9.96±4.49%) showed statistically significant differences with the LB group (47.67±8.66%) and

BOLB (48.57±28.22%). Also, statistically significant differences were observed for AON comparing the LB group (47.67±8.66%) with the groups VB (24.41±5.69%) and BO (11.36±7.88%) and group VB (24.41± .69%) with BOLB (48.57±28.22%). The highest average of APR was found in BO group (38.73±6.95%), followed by the VB group (25.88±5.58%). It was concluded that the low intensity laser did not lead to increased bone formation of the defects filled with bioactive glass during this period; however, it resulted in higher bone formation both in the group when it was applied alone and in association with bovine bone.

P033 - Low level laser association with guided bone regeneration

Nicole Rosa de FREITAS[1]; Luis Augusto ESPER[2]; Luisa Beluco GUERRINI[1]; Michyele Christine SBRANA[2]; Ana Lúcia Pompéia Fraga de ALMEIDA[1,2]

[1]Department of Prosthodontics, Bauru School of Dentistry, University of São Paulo.
[2]Sector of Periodontology, Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.

The purpose of this study was to evaluate the low level laser effect (LLL) in guided bone regeneration (GBR) of critical size defects in rat calvaria. Eighty male rats (Rattus norvegicus, Albinus, Wistar) were submitted to a surgical procedure to create a critical bone defect in the skull and were divided into eight experimental groups: 1) Group C (control - blood clot); 2) Group M (collagen membrane); 3) Group LLL (low level laser); 4) group AB (autogenous bone); 5) Group AB+LLL (autogenous bone + low level laser); 6) Group AB+M (autogenous bone + collagen membrane); 7) Group LLL+M (low level laser + collagen membrane; 8) Group AB+LLL+M (autogenous bone + low level laser + collagen membrane). After 30 days of the surgery the animals were submitted to euthanasia and after tissue processing, the variables NBFA (new bone formation area) and RPA (residual particle area) were evaluated, followed by histometric, histological and statistical analyses. Data were submitted to the parametric test ANOVA and Tukey test ($p<0.05$). The LLL+M group showed the highest amount of NBFA (64.09%), followed by LLL (47.67%), M (47.43%), OA+LLL (39.15%) and OA+LLL+M (35.82%) groups. Group C had fewer NBFA than the LLL ($p<0.05$), M ($p<0.05$) and LLL+M ($p<0.05$) groups. There was no statistically significant difference of NBFA between the LLL and M groups. The LLL+M group presented major NBFA amount in relation to the M group and the LLL group when used alone ($p<0.05$). The RPA presented no statistically significant differences between the OA+M (14.93%) and OA+LLL+M (14.76%) groups. When LLL was associated with GBR, it was not observed increase of bone formation in histometric analysis, however in histological analysis it was possible to observe great quantity of new bone formation within and above the membrane. The use of LLL can be effective in bone repair, when associated with guided bone regeneration techniques.

P034 - Application of Er: YAG and Er, Cr: YSGG lasers in Periodontics

Pietro BARONE[1]; Maria Lucia Rubo de REZENDE[1]; Adriana Campos Passanezi SANT'ANA[1]; Euloir PASSANEZI[1]; Mariana Schutzer Ragghianti ZANGRANDO[1]; Sebastiao Luiz Aguiar GREGHI[1]; Carla Andreotti DAMANTE[1]

[1]Department of Prosthodontics, Discipline of Periodontics, Bauru School of Dentistry, University of São Paulo.

Mechanical removal of biofilm and use of chemical and antibiotic therapy have been the conventional methods of periodontal therapy. However, complete eradication of the bacteria and an excellent wound healing may not necessarily be achieved with conventional mechanical therapy alone. The possibility of development of antibiotic resistance by target organisms has led to the development of new antimicrobial concept with few complications. When light in a specific wavelength is used, it leads to phototoxic reactions that induce the destruction of bacterial cells. Thus, the use of laser can be currently considered as an adjunctive therapy to conventional mechanical periodontal therapy, eliminating periodontal bacteria and making the root surface biocompatible. Numerous studies indicate that it seems more efficient for the treatment of superficial and localized infections. Therefore, infections in the oral cavity, such as periodontal and peri-implantitis disease, may be good candidates for this therapy. These lasers are also able to remove bacterial plaque and calculus around implants and prosthetic connectors, facilitating regeneration procedures. According to the current evidence, erbium lasers are the most promising laser system since they can be used for both hard and soft tissues, or in gingival surgery, bone defects and decontamination of surfaces. However, the influence of erbium lasers titanium needs to be further studied. This work aimed to verify through a literature review, by PubMed browser research the use of Er: YAG and Er, Cr: YSGG in Periodontics.

P035 - Evaluation of *in vitro* toxicity of commercially-available cyanoacrylate

Thais Ustulin FUZER[1]; Rodrigo Moreira Bringel da COSTA[1]; Paula Stephania Brandão Hage KARAM[1]; Rodrigo Cardoso OLIVEIRA[2]; Carla Andreotti DAMANTE[1]; Ana Lúcia Pompéia Fraga de ALMEIDA[1]; Accácio Lins do VALLE[1]; Caio Márcio FIGUEIREDO3

[1]Department of Prosthodontics, Discipline of Periodontics, Bauru School of Dentistry, University of São Paulo.
[2]Department of Biological Sciences, University of São Paulo, Bauru School of Dentistry.
[3]Sector of Periodontology, Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.

Cyanoacrylates are biocompatible acrylic adhesives that have several applications in medicine and dentistry. Using several forms of ethyl-cyanoacrylate (SuperBonder®) and a cyanoacrylate used in medicine (Dermabond®), applied in absorbable periodontal membranes, this study aimed to evaluate, *in vitro*, the toxicity of the adhesive in contact with pre-osteoblastic cells of rats by checking the behavior and viability, obtained through the analysis and the mitochondrial activity of the cells by the MTT reduction method, quantifying the conversion of MTT, which is soluble in water, an insoluble in formazan. Data normality was analyzed using the Kolmogorov-Smirnov test and the Lilliefors correction. Homogeneity of variances was analyzed by Levene test. In this study pre-osteoblasts

samples were used as starting material, obtained from a kit of rat MC3T3 – E1 (subclone 4 – CRL – 2593, ATCC – Manassas, Virginia, EUA), which were cultured in Dulbecco's Modified Eagle Medium. For the proliferation experiment, cells were plated in 10^4cells per well, in the 6th passage, in a 24-well plate, and divided into five groups: liquid cyanoacrylate, gel cyanoacrylate, easy gel cyanoacrylate, medical gel cyanoacrylate and control group. It was observed an increase of the cellular viability over time ($p<0.05$) for all groups, except the easy gel cyanoacrylate group. The results of this study led to the conclusion that the commercially-available cyanoacrylate can be used in fixation of periodontal collagen membranes in bone defects.

P036 - Resolution of aesthetic complications with guided bone regeneration

Vinícius Ferreira BIZELLI[1]; Adriana dos Santos CAETANO[2]; Michele Alves GARCIA[3]; Edgard Franco MORAES JÚNIOR[4]

[1]DDS, Bauru School of Dentistry, University of São Paulo.
[2]Discipline of Periodontics, Bauru School of Dentistry, University of São Paulo.
[3]Postgraduate Program in Sciences of Rehabilitation, Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.
[4]Department of Implantology, Education Association of Brazil, FUNORTE – SOEBRAS.

Bone reconstruction is one of the challenges for the dentist. Guided bone regeneration (GBR) using titanium mesh has been one of the techniques used for correction of bone defects mainly in aesthetic area. The aim of this work is to discuss three cases in which GBR with titanium mesh was the technique used. The first patient had a cone morse implant in the region of tooth #11 above the bone crest, without suppuration with lengthening of the clinical crown and gummy smile; in the second case, the affected area was of tooth #21, with an external hexagon implant type with peri-implantitis and presence of bleeding and suppuration on probing; the third case, was an immediate loss of implant in the region of tooth #21 with subsequent bone loss. Exposure surgeries for removal of the titanium mesh and placement of healing abutments were conducted in an average period of five months and subsequent prosthetic rehabilitation. It is concluded that GBR with titanium mesh is a viable and predictable alternative for aesthetic resolution of bone defects in height and thickness.

P037 - Different laser protocols for bone defects. Study in rats

Ytalo Freitas FERNANDES[1]; Luis Augusto ESPER[1]; Michyele Cristhiane SBRANA[1]; Ana Lucia Pompéia de ALMEIDA[1]; Nicole Rosa de FREITAS[1]

[1]Sector of Periodontology, Hospital of Rehabilitation of Craniofacial, University of São Paulo.

Low level laser (LB) has been used to accelerate wound healing, with promising results in bone regeneration. LB promotes cellular effects on osteoblasts, reducing inflammation, and increasing blood flow in the bone defect area. Various wavelengths, dosimetry and protocols of LB have been used in bone healing. This study evaluated three LB protocols in the healing of bone defects of critical size in rat calvaria. Forty rats were divided into 4 groups: Group C (control); LB1 Group GaAlAs, λ = 780nm, 100mW, ϕ 0.05 cm^2,70 J/cm^2, 20 s, 2 J/point, continuous mode); LB2 Group GaAlAs, λ = 780nm, 100mW, ϕ 0.05 cm^2, 120 J/cm^2, 40 s, 4 J/point, continuous mode); LB3 group GaAlAs, λ = 780nm, 100mW, ϕ 0.05 cm^2, 210 J/cm^2, 60 s, 6 J/point, continuous mode). The animals were euthanized after 30 days and histologic and histometric analyses were performed. Results: The average of new bone formation (%) was: Group C = 9.96±4.46, Group LB1 = 19.54±9.44, Group LB2 = 29.60±8.06, Group LB3 = 76.55±15.54. Data were submitted to ANOVA followed by Tukey test (5% significance level). All irradiated groups showed increased bone formation compared to the control after 30 days, and LB3 Group showed increased bone formation in relation to the LB1 and LB2 groups. Conclusion: LB accelerated bone healing in calvaria defects in rats, and the protocol LB3 demonstrated superiority over the others.

P038 - Maxillary rehabilitation and reconstruction using allogenic graft

Sarah Gomes Costa LOPES[1]; Rafael Gomes KOUZAK[2]; Rafael Nicolau KOUZAK[2]; Helder Henrique Machado de MENEZES[2]; Denildo de MAGALHÃES[1,2]

[1]School of Dentistry, Federal University of Uberlândia.
[2]Centro de Pós-Graduação HD Ensinos Odontológicos de Uberlândia.

The pre-implant bone reconstructions are required resources for the adjustment of the morphology of the jaws prior to the installation of dental implants. Among the existing biomaterials, autogenous bone graft is currently considered the gold standard but presents disadvantages as elimination of the approach of a second surgical site and consequently greater working time. Therefore, the use of allogenic bone from human bone bank as a substitute for autogenous bone exhibits adequate results and advantages, such as unlimited availability and reduced surgical morbidity. Based on these principles, the patient D.C.S., male, 53 years old, attended the Centro de Pós-Graduação HD Ensinos Odontológicos, reporting esthetic and functional discomfort concerning the use of upper complete denture. Clinical exam revealed superior edentulism, reduced alveolar ridge and shallow vestibule. Radiographic aspects demonstrated bilateral occurrence of pneumatization of the maxillary sinus and alveolar ridge resorption, which are contraindications for implant placement. For the reconstruction, maxillary sinus lift associated with the fixation of bone blocks was indicated. Due to the large volume of material required, the impossibility of capturing intraoral source material and the patient's restriction on the use of an extraoral bone source, the use of allogenic bone from Musculoskeletal Tissue Bank was indicated. After six months the patient underwent surgery for placement of eight implants. Subsequently, the maxilla was rehabilitated through an implant-supported prosthesis (protocol). After two years no complications were observed, thus resulting in esthetic and functional satisfaction. Therefore, the allogenic bone proves to be a viable and suitable biomaterial, especially for presenting wide availability, resulting in less surgical time and thus reducing the morbidity level.

P039 - Animals and their owners may share the same periodontopathogenic bacteria

Aymée SHIOTA[1]; Rafael FERREIRA[1]; Adriana Campos Passanezi SANT'ANA[1]; Maria Lucia Rubo de REZENDE[1]; Sebastião Luiz Aguiar GREGHI[1]; Mariana Schutzer Ragghianti ZANGRANDO[1]; Carla Andreotti DAMANTE[1]

[1]Department of Prosthodontics, Discipline of Periodontics, Bauru School of Dentistry, University of São Paulo.

Domestic animals (PETs) as dogs and cats, have demonstrated important role in personal relationships. In addition to the emotional exchanges, some authors suggest that a crossed transmission of periodontal bacteria (PB) may occur between the animals and their owners. This study aimed to review the relationship of PB in dogs and cats with their possible interaction with their owners. For this literature review, articles were searched at PubMed, Lilacs and Science Direct databases with the keywords "periodontal disease and cat", "Periodontal disease and dog" and "Periodontal disease and pets". We selected 5 articles that discuss the microbiota of PETs with their owners. Periodontal disease (PD) has its evolution determined according to the immunological response of the patient and the severity of the biofilm, while the latter could be modified and/or influenced by the relationship between PETs and owners. There has been a scarce literature that addresses the microbiology of domestic animals and their association with human microbiota. It is known that animals have a different microbiota from humans both in species and quantity. However, in case of human halitosis and their PETs with PD, some authors have found a relationship between close contact with PETs and the transmission of certain types of BP between animals and their owners. Cats and dogs have also a high incidence of DP, with high levels of *Tannerella forshytia*, a bacteria present in acute infections and aggressive PD. Some authors have found an association with the presence of this PB in their owners. Therefore, since the animals are part of everyday life of the population and their interactions are increasingly closer, more studies are needed to understand PB interaction between PETs and their owners in order to avoid possible reinfections, especially in immunocompromised patients.

P040 - Tissue Reaction of EVA blends for future use as biomaterials

Brenda Suelen FROES[1]; Leandro de Andrade HOLGADO[1]; Rebeca Delatore SIMÕES[2]; Angela Mitie Otta KINOSHITA[1]

[1]Research and Graduate Pro Rectory, University of Sagrado Coração.
[2]University of West Paulista.

Tissue regeneration for lost tissue replacement is a very important requirement for fixation of prosthetic parts and dental implants in dentistry. The use of scaffolds aims to facilitate the proliferation of osteoblasts, inducing osteogenesis. In this work, the tissue reaction of a new material with this characteristic was studied. EVA (polyethylene co-vinyl acetate) foams are produced at industrial scale and low cost with a wide range of applications. Blends of EVA and starch result in different types of porous structure (closed, partially connected and fully connected) and different sizes. In this work, EVA tissue response in 4 different compositions and processing will be studied: 1) EVA foam with 15% starch at high pressure with ultrasound, 2) EVA foam at high pressure with ultrasound, 3) EVA foam at high pressure without ultrasound, 4) EVA foam with 15% starch at high pressure without ultrasound. Eighteen Wistar rats were used. Each animal underwent five surgical incisions on the back for subcutaneous implantation of materials to be tested as well as PTFE (polytetrafluoroethylene), a commercially-available biocompatible material. Animals were euthanized at 7, 15 and 60 days after surgery and the specimens of materials with the surrounding tissue were histologically processed. The partial report shows preliminary results in microscopic analysis for the period of seven days. Inflammatory reaction around the implanted material without the presence of necrotic tissue was observed; qualitative analysis showed no difference in the inflammatory pattern when compared to the PTFE.

P041 - Nutritional status and periodontal disease: literature review

Gustavo Moreno BRAGA[1]; Rafael FERREIRA[1]; Raphaella Coelho MICHEL[1]; Adriana Campos Passanezi SANT'ANA[1]; Maria Lucia Rubo de REZENDE[1]; Sebastião Luiz Aguiar GREGHI[1]; Mariana Schutzer Ragghianti ZANGRANDO[1]; Carla Andreotti DAMANTE[1]

[1]Department of Prosthodontics, Discipline of Periodontology, Bauru School of Dentistry, University of São Paulo.

Periodontal disease (PD) has a multifactorial character, and its primary etiologic factor is the biofilm. Severity and progression have been related to changes in the patient's immune response that can be influenced by several factors such as nutritional status. The aim of this review was to report about the relationship of some nutrients in PD. A search in studies published in the last 20 years was performed through Lilacs, PubMed and MEDLINE databases, with the keywords "periodontal disease and nutrition", which presented the influence of certain nutrients and their impact on periodontal health. Literature presents a lack of evidence concerning the association of diet and PD, although currently, there is interest in studying the preventive role of antioxidant nutrients. Evidence indicates that oxygen free radicals are associated with the destruction of periodontal tissue, and many vitamins are powerful antioxidants, which could influence the progression of PD. In the literature, some specific micronutrients related to PD have been observed, such as complex, vitamins A, B, C, D, phosphorus, iron, zinc and calcium. Since the oral tissues have a higher rate of cell turnover compared to other body tissues, consequently, excesses or nutritional deficiencies can be observed initially in the mouth. Nutritional status is a critical determinant for the immune response, and nutritional deficiencies quickly change the function of immune cells and increase the risk to infection such as in PD. Therefore, studies demonstrated few concrete results, thus new protocols and studies with better control of the variables are required. Since the PD and nutritional status can be influenced by many factors, current studies should aim for a better control of these elements, making clearer the effective role of nutrition on periodontal disease.

P042 - Planning with surgical guide in gummy smile correction

Jessyka Lorena Tsunouchi FABBRI[1]; Patrícia dos Santos SOUZA[1]; Regis Jhonatan BRACHTVOGEL[2]; Aline Alves CAMPOS[1]; Maria Beatriz Bergonse Pereira PEDRIALI[1]; Fernanda Akemi Nakanishi ITO[1]; Priscila Paganini COSTA[1]

[1]Department of Oral Medicine and Child Dentistry, State University of Londrina.
[2]Department of Restorative Dentistry, State University of Londrina.

This work describes the importance of planning with surgical guide for gummy smile correction. The treatment of choice for this case report was to increase the clinical crown with aesthetic purpose between the right second premolar to the left second premolar, which presented altered passive eruption. A surgical guide was fabricated to define gum design and guide the incisions, establishing a new zenith and a new gingival design. Alginate impression was performed to fabricate the surgical guide by obtaining a cast model and waxing the vestibular faces from the incisal plane to the cervical face of the teeth involved, respecting the aesthetic principles of zenith and gingival contour. Surgical guide fabricaton was similar to that of a complete denture. The surgical guide was used as a guide for initial incisions and to remove the gingival collar of the teeth involved in the treatment, then followed the steps of osteotomy and osteoplasty. After three months, it was observed that the desired result was achieved without the need for additional surgeries. It can be concluded that planning the gingival design using a surgical guide provides high degree of accuracy and predictability to the procedure.

P043 - Comparison between two techniques to gain keratinized mucosa

Marcieli Claudia SARTORI[1]; Patrícia dos Santos SOUZA[1]; Aline Campos ALVES[1]; Ângela Rodrigues de ÂNGELI[1]; Giovanna Moura GIANGIACOMO[1]; Maria Beatriz Bergonse Pereira PEDRIALI[1]; Fernanda Akemi Nakanishi ITO[1]; Priscila Paganini COSTA[1]

[1]Department of Oral Medicine and Child Dentistry, School of Dentistry, University of Londrina.

Adequate amount of attached gingiva around the teeth is needed for protection and maintenance of gingival health. In the absence of suitable width of attached gingiva, gingival free graft (EGL) is the gold standard technique for such purpose. However, EGL needs two surgical areas, leading to greater postoperative discomfort to the patient. An alternative, when there is a minimum range of attached gingiva, is the modified apically repositioned flap (MARF) that presents only one surgical area and is an easy technique, which accelerates the intraoperative time and reduces the postoperative patient's discomfort. The objective of this study was to report a case in which one side used the free gingival graft technique in tooth #45, and the contralateral side the MARF technique in tooth #34 in order to increase the attached gingiva. After three months of follow-up, satisfactory increase of keratinized mucosa on both sides, 3 mm on tooth #45 and 2 mm on tooth #34, and acceptable aesthetic appearance were observed, which will facilitate oral hygiene and periodontal health since these areas are adjacent to a removable partial denture. It can be concluded that the MARF is a satisfactory alternative to EGL. However, this technique requires 1 mm of attached gingiva and it does not increase gingiva thickness. In the complete absence of gingiva, EGL is still the technique of choice for best results.

P044 - Periodontal surgery to enable restoration of fractured tooth

Nayra Kawana TURINI[1]; Nathália Nihay Pimenta FUKUSHIMA[1]; Patrícia dos Santos SOUZA[2]; Adrieli BUREY[1]; Regis Jhonatan BRACHTVOGEL[1]; João Felipe BESEGATO[1]; Rafaela GHELLER[1]; Márcio Grama HOEPPNER[1]

[1]Department of Restorative Dentistry, State University of Londrina.
[2]Department of Oral Medicine and Children's Dentistry, State University of Londrina.

The restoration of endodontically-treated teeth with corono-radicular fracture is a challenge, especially when there is great destruction of tooth structure and involvement of biological distances. Through this report of a case, the objective of this work is to present the integration of specialties for anatomofunctional and esthetics restoration of tooth #14, of SST patient, female and 42 years old. After clinical and initial radiographic examinations, it was found the presence of extensive restoration with composite resin, palatal cusp fracture, with subgingival extension, and satisfactory endodontic treatment. In periodontal evaluation, periodontal probing confirmed the initial suspicion of the biological space invasion in the palatal-cervical region. Due to the clinical condition, it was decided to perform a periodontal surgery to increase the clinical crown in order to restore the biological space and facilitate the restorative treatment. This surgical procedure was performed from the removal of gingival tissue collar in the region corresponding to fracture, followed by intrasulcular incision flap detachment. Osteotomy was performed with spherical diamond burr (FG 1015) mounted in high speed and abundant and constant irrigation with saline. After confirmation of re-establishment of a 3-mm distance between the gingival margin and bone crest, the flap was repositioned and sutured, in the interdental papillae. After the healing period, a molten metallic pin was cemented as an aid to retention of indirect adhesive esthetic restoration. Considering the clinical conditions observed, after all stages of treatment, it can be concluded that the integrated planning was essential for the restoration of masticatory function, smile aesthetics and periodontal health.

P045 - Effects of chemical treatment on decontamination of titanium surfaces

Giovana Fuzeto VERONESI[1]; Matheus Völz CARDOSO[1]; Rafael Mansano de Castro LARA[1]; Sebastião Luiz Aguiar GREGHI[1]; Maria Lúcia Rubo de REZENDE[1]; Mariana Schutzer Ragghianti ZANGRANDO[1]

[1]Department of Prosthodontics, Discipline of Periodontics, Bauru School of Dentistry, University of São Paulo.

Peri-implantitis is an inflammatory process around an implant including both soft tissue inflammation and loss of bone support. Decontamination of the implant surface in order to reduce bacterial load is the primary goal of the disease treatment. It has been addressed through different methods including mechanical debridement with curettes and burs, decontamination with chlorhexidine and saline, laser and chemotherapeutic substances. However, despite the many techniques available, there

is not a gold standard protocol yet. The aim of this study was to evaluate the effects of chemical treatment on 180 titanium disks with rough (90) and smooth (90) surfaces, contaminated by human oral biofilm, treated with different solutions and implanted in rat subcutaneous tissue. Disks were divided into groups considering type of treatment as follows: citric acid with tetracycline, acid tetracycline, EDTA and phosphoric acid; and two control groups: non-contaminated (NC) and contaminated (C). Specimens were removed after 7, 28 and 84 days and prepared for histomorphometric analysis. Test groups presented slight inflammatory response, control group NC presented no characteristics of inflammation, and C presented areas of abscess. At 7 days, neutrophil density was higher in group C with statistically significant difference in comparison to all the other groups ($p<0.001$); reactive tissue capsules were thinner on smooth than rough surfaces on all treated surfaces. Test groups, without surface distinction, presented the thinnest reactive capsule thickness of all groups, even when compared to NC ($p<0.001$). Titanium surface decontamination with all substances here presented seems to improve biocompatibility when compared to non-treated surfaces, providing a better environment for tissue repair and possible improvement in peri-implantitis treatment outcomes.

P046 - Correction of gummy smile by labial repositioning technique

Natália Almeida BASTOS[1]; Fabio Antônio RIZANTE[1]; Cassiana Koch SCOTTI[1]; Bruno Nicoliello MOREIRA[2]; Bella Luna Colombini ISHIKIRIAMA[3]; Sérgio Kiyoshi ISHIKIRIAMA[1]

[1]Department of Operative Dentistry, Endodontics and Dental Materials, Bauru School of Dentistry, University of São Paulo.
[2]Sector of Periodontics, Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.
[3]Department of Biological Sciences, Bauru School of Dentistry, University of São Paulo.

Gummy smile is characterized by excess of gum exposure when smiling, which can compromise smile harmony in accordance with the facial symmetry pattern, thus frequently causing an aesthetic discomfort for the patient. .Among several causes of gummy smile, hyperfunction of the elevator muscle of upper lip is one of the most relevant besides changes in the vertical growth of the maxilla. The present work aimed to describe, through two clinical cases, one of the approaches for the correction of gummy smile, which is considered a more conservative alternative and lasting longer in comparison with orthognathic surgery botulinum toxin, respectively. Patients sought the clinic of our institution complaining of excessive gingival exposure when smiling. After anamnesis and clinical examination, excessive exposure of keratinized mucosa was observed. The surgeries consisted of repositioning the inner part of the upper lips that were closer to the teeth by removing part of the mucous membrane of the buccal vestibule, which avoided contraction of the elevator muscle of upper lip and excessive rise of the lips when smiling. At the 3-month follow-up, a more harmonious smile with less gum exposure was noticed. It was concluded that technique used was effective and conservative, and promoted a decrease in gingival exposure, which resulted in more harmonious smiles.

P047 - Study of morphology and cell composition of platelet-rich fibrin

Natália de CAMPOS[1]; Natália Marcumini POLA[2]; Michel Reis MESSORA[3]; Edilson ERVOLINO[4]; Suely Mogami BOMFIM[5]; Maria José Hitomi NAGATA[1]

[1]Department of Surgery and Integrated Clinic, Araçatuba Dental School, São Paulo State University.
[2]Department of Semiology and Clinic, Pelotas Dental School, Federal University of Pelotas.
[3]Department of Oral and Maxillofacial Surgery and Traumatology and Periodontology, Ribeirão Preto School of Dentistry, University of São Paulo.
[4]Department of Basic Sciences, Dental School of Araçatuba, São Paulo State University.
[5]Department of Clinic, Surgery and Animal Reproduction, Araçatuba Veterinary School, São Paulo State University.

This study evaluated, in rats, the number of platelets and leukocytes in the whole blood samples used for preparation of Platelet-Rich Fibrin (PRF) as well as the morphology and cell composition of PRF. Ten 5- to 6-month-old Wistar male rats, weighing 350 to 450 g were used. A 3.0 mL volume of autologous blood was withdrawn from each animal, via cardiac puncture, and placed into a 5.0 mL syringe without anticoagulant. The PRF preparation was performed according to an adaptation of Dohan et al. (2006) protocol. A PRF clot was obtained in the middle of the tube between the red corpuscles and acellular plasma. Platelets and leukocytes in the whole blood samples were then counted. PRF matrices were fixed in 4% formaldehyde, washed, dehydrated, cleared and embedded in paraffin. 4-µm thick serial sections were cut in a longitudinal direction and stained with hematoxilin-eosin to evaluate the morphology of PRF. The simple frequency distribution of platelet and leukocyte counts in the whole blood samples were determined by the Shapiro-Wilk test. Average whole blood platelet and leukocyte counts were 537,300±73,200 and 6,890±950, respectively. Morphology and cell composition of PRF matrix analyses allowed the identification of three basic components: fibrin matrix, platelet and leukocyte aggregates, and erythrocytes. Within the limits of this study, it can be concluded that platelets and leukocytes showed uniform distribution in the whole blood samples. Using a small volume of blood, the protocol used in this study to prepare PRF resulted in a matrix with similar morphology to that obtained by the original protocol proposed by Dohan et al. (2010).

P048 - The effect of the COX inhibition on the primary occlusal trauma

Ana Cristina Távora de Albuquerque LOPES[1]; Mirela Anne Quartaroli TÉO[2]; Bella Luna Colombini ISHIKIRIAMA[3]; Mirella Lindoso Gomes CAMPOS[1]

[1]Department of Health Sciences, University of Sagrado Coração.
[2]Social Promotion Society of Cleft Lip and Palate.
[3]Department of Biological Sciences, Bauru School of Dentistry, University of São Paulo.

The present study aimed to verify if the prostaglandin synthesis inhibition, through the cyclooxygenase inhibition (COX), contributes to reduce the alveolar bone loss caused by the primary occlusal trauma (OT). OT was developed in Wistar rats, with the insertion of a unilateral occlusal interference in a lower first molar that was randomly chosen. A total of 55 animals received the treatments during a 14-day period, and were randomly divided into the following groups: Positive Control (PC) (n=15) – OT +

distilled water; OT+ Indomethacin (n=15); OT+ Celecoxib (n=15); Negative Control (NC) (n=10). The furcation region of the lower first molars that underwent occlusal trauma was evaluated through a histometric analysis. The degree of bone loss in the buccal surface of the first molar, in the area between the cementum-enamel junction and the mesial and distal alveolar bone crest was evaluated through a morphometric analysis. Histometrically, the inter-group analysis showed a greater bone loss in the OT+ Celecoxib, OT+Indomethacin and PC groups compared to NC ($p<0.0001$). There was a greater bone loss in the OT+Celecoxib group compared to PC ($p=1.524E-05$) and OT+Indomethacin ($p=0.001064$) groups; there was no statistically significant difference in bone loss between OT+Indomethacin x PC ($p=0.2003$). The inter-group morphometric analysis did not show a significant difference between the groups OT+Indomethacin x NC ($p=0.1613$); however, in the comparison between two groups, there was a difference between OT+Celecoxib and NC ($p=0.04813$) and between PC and NC ($p=0.01182$). It can be concluded that the inhibition of the COX enzyme and the prostaglandin synthesis do not reduce the alveolar bone loss in the primary trauma. It is also suggested that other mediators may have an important role in the alveolar bone loss mechanism that occurs from primary occlusal trauma.

P049 - Surgical treatment of maxillary labial frenum - a case report

Lauro MICHIELIN NETO[1]; Martha Beteghelli MICHIELIN[1]; Cassiana Koch SCOTTI[1]; Alfredo Llerena ICOCHEA[1]; Juliana Fraga Soares BOMBONATTI[1]; Daniela Gamba GARIB[2]

[1]Department of Operative Dentistry, Endodontics and Dental Materials, Bauru School of Dentistry, University of São Paulo.
[2]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.

The high extension of the labial frenum attachment is a condition that affects many people and has multiple consequences such as increased susceptibility to retraction of the gingival margin, difficulty in oral hygiene, creation or maintenance of diastema, lip movement limitation, which may interfere in phonetic, besides a negative aesthetic effect in a greater or lesser degree. These factors associated with a correct clinical examination usually indicate surgical excision. This study aimed to illustrate how diagnosis and surgical removal of maxillary labial frenum are performed. The patient was referred from the Department of Orthodontics for dental restorations. Physical examination detected the necessity of frenectomy prior to orthodontic treatment, once the patient was submitted to the Bowers test and there was movement and ischemia of the gingival margin and incisive papilla. Frenectomy was performed with single clamping technique and all transpapillary insertion was removed in a single incision due to the wide diastema that was present. The follow-up took place until complete healing, ensuring the success of the surgical technique. Orthodontic treatment is currently being executed and the case will be followed by the Operative Dentistry department for possible aesthetic rehabilitation of the smile since the patient also has agenesis of maxillary lateral incisors.

P050 - Impact of periodontal disease in the quality of life

Leticia Iega SANTANA[1]; Evilásio Neves COSTA[1]; Sebastião Luiz Aguiar GREGHI[1]; Mariana Schutzer Ragghianti ZANGRANDO[1]; Carla Andreotti DAMANTE[1]; Maria Lúcia Rubo de REZENDE[1]; Adriana Campos Passanezi SANT'ANA[1]

[1]Department of Prosthodontics, Discipline of Periodontics, Bauru School of Dentistry, University of São Paulo.

The aim of this study was to evaluate patients' perception of quality of life related to oral health. Thirty-six patients, both genders, at least 18 years old that presented for treatment at Periodontics clinics and whose records were complete were included for analysis. Medical and dental histories were checked in health questionnaire at patients' records. Probing depth (PD), clinical attachment level (CAL), gingival bleeding index (GBI) and plaque index (PI) of all present teeth except for 3rd molars were recorded. Periodontal disease was diagnosed as absent, mild, moderate or severe periodontitis. Patients answered OHIP-14 questionnaire before treatment. Global and domain values of OHIP-14 were analyzed in the total sample and in the different periodontitis groups. Data were statistically analyzed according to parametric and non-parametric tests, with significance level of 5%. The mean±standard-deviation number of missing teeth was 7.25±3.66. Twenty-two patients (61.11%) were diagnosed with moderate periodontitis and 14 (38.89%) with severe periodontitis, with mean PD of 2.01 mm±0.62, CAL of 2.71 mm±0.94, GBI in 16.11%±13.50% and PI in 33.74%±18.25% of sites. Global OHIP was 9.03±6.22, representing a moderate negative impact in the quality of life. Among the domains, a greater negative impact was observed at physical pain and psychological discomfort, independent of the diagnosis of moderate or severe periodontitis, however without statistically significant differences between groups ($p>0.05$; Kruskal Wallis/Dunn). These findings suggest that periodontal disease has a moderate negative impact in the quality of life, highlighting the importance of its prevention and treatment.

P051 - Alternative for treatment of gummy smile- clinical case

Lorena Juliani Aquino ORTEGA[1]; Livia de Souza TOLENTINO[1]; Renato Gonzales FORTI[1]; Samuel Kaik Alves de LIMA[1]; Gustavo Nascimento de Souza PINTO[1]

[1]*Department of Dentistry, State University of Maringá.*

Gum overexposure during smile, known as gummy smile, has been a common esthetic complaint among many patients. Hyperactivity of the upper lip lift muscle is one of the causes of gummy smile as well as altered passive eruption and vertical excess of maxilla. Various techniques are proposed to minimize the complaints of these patients. Therefore, a correct diagnosis and determination of the cause of this excess are necessary for selecting the most appropriate technique to improve the patient's appearance. The aim of this study is to describe a clinical case of a female patient, leucoderma, 31 years old, complaining of excessive gingival exposition and a disharmony between the teeth and gums while smiling. After performing an accurate clinical examination, it was possible to diagnose a patient with lip hyperactivity. The procedure used was the modified lip repositioning, together with increase in clinical crown from molar to molar with a 6-month follow-up. Therefore, the lip

repositioning technique to reduce the amount of gingival exposure, in patients with hyperfunction of the elevator muscle of upper lip, proved to be conservative and provided good esthetic results in a six-month follow-up.

P052 - Gingival recession evaluation in mice submitted to occlusal trauma

Maria Fernanda de Genova DONÁ[1]; Patrícia TOMAZI[1]; Cristina Távora de Albuquerque LOPES[2]; Mirela Anne Quartaroli TÉO[2]; Bella Luna Colombini ISHIKIRIAMA[3]; Mirella Lindoso Gomes CAMPOS[2]

[1]Department of Sciences Health.
[2]Department of Oral Biology, University of Sagrado Coração.
[3]Department of Biological Sciences, Bauru School of Dentistry, University of São Paulo.

The aim of this study was to evaluate histometrically in rats the presence of gingival recession in the mesial surface of teeth experimentally-subjected to primary occlusal trauma (OT). Therefore, the distance from cementum-enamel junction (CEJ) until free marginal gingiva (FMG) and the distance from CEJ to alveolar bone crest were measured. For experimental development of TO, an orthodontic wire segment of 0.05 mm in diameter was adhered to the occlusal surfaces of a lower 1st molar randomly chosen with light-curing resin. Ten animals were randomly assigned to 2 groups: OT (n = 5) creation of an occlusal interference by fixing an orthodontic wire segment on the occlusal surface of a lower 1st molar randomly chosen during 14 days; CO Control (n = 5) animals without introducing the variable OT were submitted to euthanasia after 14 days to obtain the initial parameters. The intergroup evaluation showed no significant difference between the OT (464.7±116. 04) x CO (527.2± 97.19) groups when evaluated CEJ-FMG distance (P=0.192) and a significant difference between CO (416.0±59.69) and OT (310±65.78) was observed when CEJ- alveolar bone crest distance was evaluated (P = 0.0142). It was concluded that the OT induction model after 14 days of experiment promoted alveolar bone resorption, observed by increase in the CEJ-alveolar bone crest distance, and did not promote gingival recession, evaluated by the CEJ-FGM distance.

SC001 - The oral health team in the care of the elderly patient

Ana Cláudia Ramin SILVA[1]; Tânia Harumi UCHIDA[1]; Raquel Sano Suga TERADA[1]; Renata Côrrea PASCOTTO[1]; Mitsue FUJIMAKI[1]

[1]Dentistry Department, State University of Maringá.

Oral health has a relevant role in the quality of life of the elderly. The population of 65 years or more has been increasing over the years. And this process of aging population comes accompanied by lifelong dental losses, bringing the need of professionals and health services to prepare for the care of these patients. Aim of this study was to get the preventive literature adopted by oral health team (OHT), of the family health strategy, in the care of the elderly patient. Nineteen scientific articles were found in PubMed, SciELO and Google Scholar. Among the preventive measures used by the OHT preventive, in elderly patients and edentulous, are the actions of health education, through prosthetics cleaning guidance, instructions for maintenance, thus preventing injuries in the buccal mucosa, oral cancer prevention and xerostomia. The OHT performs home care, being an important strategy in the care of the elderly, especially those who can't move until the Basic Health Unit, headed to the dentist when needed. Among the elderly patients who have teeth, the preventive measures were health education activities through guidance cleaning and brushing practices, strengthening its hand-eye coordination and giving them greater autonomy and reinforcing the importance of maintenance of the teeth. The OHT also serves, by inserting these patients in oral health programs aimed at the prevention of periodontal disease, tooth decay and oral cancer. In addition, many OHTs warned these patients about diet and importance of water intake. Therefore, the adoption of preventive conduct directed to the dental health of the elderly is of paramount importance, since it allows an improvement in the quality of life and general health condition of these individuals.

SC002 - Relationship between obesity, type 2 diabetes and periodontitis

Beatriz Della Terra Mouco GARRIDO[1]; Adriana Rodrigues de FREITAS-AZNAR[1]; Fábio Duarte da Costa AZNAR[1]; Íris SETTEN[1]; Arsênio SALES-PERES[1]; Silvia Helena de Carvalho SALES-PERES[1]

[1]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.

The triangular relationship between obesity, diabetes and oral health still seems poorly explored in the scientific literature. This study aimed to evaluate the relationship between obesity, type 2 diabetes mellitus (T2DM) and periodontal and oral hygiene conditions among obese patients applicants for bariatric surgery, referenced by Brazilian Public System of Health. The sample consisted of 150 subjects, divided into three groups: G1- diabetic obese (n=50), G2- nondiabetic obese (n=50) and G3- nondiabetic eutrophic (n=50).The medical history of T2DM was assessed through medical records. Anthropometric evaluation used the Body Mass Index-BMI (kg/m²). Periodontal and oral hygiene conditions were evaluated by the presence of bleeding (B), probing depth (PD), clinical attachment level (CAL) and visible plaque index (PI) (kappa>0.86).It was also applied the American Academy of Periodontology/CDC classification for periodontitis. Tests employed were ANOVA with a post-test criteria Tukey, Kruskal-Wallis test, odds ratio and Chi-square test ($p<0.05$).The BMI was 49.13±8.04, 51.82±8.21 and 23.17±1.98 kg/m² (G1, G2 and G3 respectively). There were B in 55.63%, 36.29% and 37.10% of the sites, PS were 1.93±0.58, 1.97±0.53 and 1.45±0.33 mm and NCI 2.21±0.84, 2.10±0.68 and 1.89±0.76 mm (G1, G2 and G3). The plaque index was 0.71±0.16, 0.70±0.18 and 0.36±0.24 (G1, G2 and G3).There was a significant difference in B ($p=0.005$), PS ($p=0.000$) and PI ($p=0.000$). The prevalence of periodontitis was 66.00% (G1), 62.00% (G2) and 38.00% (G3), with a significant difference between obese (G1/G2) and eutrophic (G3) ($p=0.007$). The presence of moderate/severe periodontitis was related to the presence of T2DM (OR=3.67; $p=0.000$). Obesity was related to a deeper probing, to poor oral hygiene and the presence of periodontitis, while obesity associated with T2DM favored the presence of bleeding and moderate/severe periodontitis.

SC003 - Geriatric dentistry in pedagogic projects of dentistry in South Region of Brazil

Bruno Bevenuto LUCAS[1]; Pablo Guilherme CALDARELLI[1]; Diogo OGAWA[1]

[1]Health Sciences Center, Medicine Department of Oral and Child Dentistry, University Dental Clinic, State University of Londrina.

The aging of the population is something real and has generated the need for knowledge/understanding of the various aspects related to it. In this context, the National Curriculum Guidelines (NCGs) of Dentistry stand out as facilitators for the insertion of curriculum content related to geriatric dentistry in dentistry graduation courses, providing to future dentists the development of skills and competencies necessaries for the management of this population. The aim of the study was to present a situational overview of the geriatric dentistry's inclusion in the Political Pedagogic Projects (PPPs) of Dentistry graduation courses of Graduation Institutions from southern Brazil. The methodology was based on a quantitative/exploratory/descriptive study. The course's websites were analyzed looking for the information concerning the offer of the Geriatric Dentistry's discipline in PPPs. Were analyzed: the nature of institutions (public or private), the time of course in which the discipline is offered, nature of education (theoretical, practical or theoretical-practical), total academic load and menu's availability, course's objectives/content. 36 undergraduate programs participated in the study, 14 of them offer the discipline of Geriatric Dentistry in their curriculum, which 6 (43%) are public institutions and 8 (57%) are private ones. Regarding the nature of the discipline, in 4 courses it is theoretical, in 4 courses it is theoretical-practical and in 6 courses was not reported. Ten Graduation Institutions presented menu and content taught, 6 of them are public institutions and 4 are private ones. It was not found information regarding the PPPs of 3 institutions, 2 public ones and 1 private. The study made it possible to describe the present insertion of Geriatric Dentistry in Graduation Institutions of southern Brazil and observed that not all dentistry courses provide information about its menu online, and when available, not all characteristics are presented.

SC004 - Social representation of the dental surgeon from movies

Caio SAMPAIO[1]; Juliana Penariol RAMOS[1]; Ivana Maria Esteves MACIEL[2]

[1]Municipal Foundation of Education and Culture of Santa Fé do Sul.
[2]Department of Preventive and Social Dentistry, Municipal Foundation for Education and Culture of Santa Fé do Sul.

The dental field has been approached constantly by the media, either directly or indirectly, and this is normal, considering that dentistry is part of the social context. The point is how and what information media outlets have issued and also how the society has been absorbing this information. This study aimed to identify the opinion of the research subjects about the dentist profiles shown by the movies, checking ergonomic aspects, biosecurity and ethics of dentist's characters. The research methodology was the presentation of three movies whose characters are dental surgeons: The Man of the Year (2003), Charlie and the Chocolate Factory (2005), and The Hangover I (2009), chosen by references. The exhibition and the questionnaire submissions, composed by seven alternatives and essay questions, took place in the classroom at different times for students of courses in dentistry, nursing and physiotherapy, as it is believed that they have similar patterns of perception. The study population consists of 844 students, representing the students from the three courses involved, but the sample is based on 500, corresponding to the total number of students who joined the survey, representing 60.3% of the population. The results were obtained through quantitative and qualitative analysis, treated by simple percentages in quantitative analysis, and common key words reading, of same understanding to establish qualitative results. The study found a general dissatisfaction with regard to the image that the media in general, including the movies, has been sending about the dental profession. However, only the dental students believe that this reflects in professional factors (61%). It was concluded that 56.2% of the individuals are dissatisfied with the image that the media has transmitted about the dentist, and the movie "The Hangover I", which produces more damage to the class.

SC005 - Fear and anxiety for dental students from different social classes

Carlos Eduardo Castello da Motta LAMEIRA[1]; Ronald Jefferson MARTINS[1]; Naiana de Melo BELILA[1]; Cléa Adas Saliba GARBIN[1]; Artenio Jose Isper GARBIN[1]

[1]Department of Pediatric and Social Dentistry, Araçatuba School of Dentistry, Univ. Estadual Paulista.

The expectation of pain during dental treatment has perpetuated for centuries, generating fear and anxiety. The aim of the study was to verify the association of dental fear and anxiety and socioeconomic class of fundamental schooling teenagers. Teenagers regularly enrolled in fundamental schooling at public schools of two towns in the northwestern region of the State of São Paulo, Brazil, took part in the study. The questionnaire "Socioeconomic Assessment Tool" was used to classify the families with regards to their socioeconomic class and the "Dental Fear Survey (DFS)" was used to verify fear and anxiety towards dental treatment. As the scores were not distributed normally, the variables were analyzed with Kruskal-Wallis non parametric test, in order to assess the difference of mean scores among the groups of different socioeconomic classes, with significance level of $p<0.05$. The sample universe comprised 412 parents and their children, which produced a sample of 179 respondents (43.4%), most belonged to the Upper Lower class (61%). the answers "frequently" and "almost always" were given only by students of the Low Lower and Upper Lower classes, with a frequency of 6.2%. For questions 8 to 20 (fear intensity), the answers "moderate" e "great fear" were more present in the Low Lower and Upper Lower classes, at a 17.3% rate. There was a significant relationship between DFS scale subgroups and socioeconomic classes. There is a significant relationship between the participants' level of fear and anxiety towards dental treatment and the different socioeconomic classes.

SC006 - Bone loss and risk of heart diseases after gastric bypass

Gerson Aparecido FORATORI JUNIOR[1]; Joselene Martinelli YAMASHITA[1]; Adriana Rodrigues de FREITAS-AZNAR[1]; Matheus de Carvalho SALES-PERES[2]; Eliel Soares ORENHA[1]; Sílvia Helena de Carvalho SALES-PERES[1]

[1]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.
[2]Department of Surgery, Botucatu School of Medicine, University of the State of São Paulo.

Obesity has grown in epidemic proportions and is the fastest health problem in the world. It has been associated with increased comorbidities, such as heart diseases, diabetes, and destructive periodontal disease (periodontitis), which is a multifactorial inflammatory disease and it is characterized by the progressive destruction of the tooth-supporting tissues. Bariatric surgery is the most effective treatment of obesity and permits weight loss with decreases in overall mortality. Considering that gastric bypass surgery reduces the inflammatory response in the body, it was hypothesized that there would be improvements in periodontal tissues over time. However, the periodontal disease seems to increase in severity after gastric bypass, which may increase the risk of cardiovascular disease. Studies show that the modification of periodontopathogenic bacteria's sites after surgery conduct to worsening periodontitis condition and it is the main factor for the risk of developing heart diseases. The aim of this case report is to compare the periodontal status of an obese patient, female, 54 years old, hypertensive, before and after bariatric surgery. By filling the periodontal index, data were collected and related to the patient's periodontal condition in the beginning of her follow-up by the FOB-USP team and after 18 months of the surgical intervention. After the surgery, the probe depth increased due to bone loss seen in the radiograph. It is possible to conclude that periodontal status can be worsen after gastric bypass, contributing to the progression of deep periodontal pockets, which are sites of periodontopathogenic bacteria that increase the risk of heart disease to the patient.

SC007 - Obesity and impact of deficiency of vitamin D and Calcium in bones

Jefry Alberto Vargas CABRAL[1]; Gabriela Pereira de SOUZA[2]; Luis Fernando SIMONETI[2]; Juliana de Almeida NASCIMENTO[2]; Carolina MARCHESE[1]; Silvia Helena de Carvalho SALES-PERES[1]

[1]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.
[2]Department of Biological Sciences, Bauru School of Dentistry, University of São Paulo.

Bariatric surgery is considered the most effective tool in the control and treatment of severe obesity, but patients undergoing this procedure are at increased risk of developing nutritional deficiencies by limiting the intake and absorption of many nutrients. This research focuses primarily on assessing the impact of vitamin D deficiency and calcium in bone in patients after bariatric surgery gastric bypass Roux-Y (RYGB), pointing directly at the type of administration, doses and effects after surgery. We conducted a systematic review with articles related to the topic of the last 10 years and they were searched in PubMed (US National Library of Medicine National Institutes of Health), MEDLINE, LILACS, SciELO and Cochrane using the search terms "bariatric surgery", "bone", "obesity", "vitamin D'', "Calcium'' and "absorption". They were restricted to research on animals, smokers, pregnant women and patient treated with bisphosphonates. 5 articles were included in this review. Bariatric surgery can lead to nutritional deficiencies and poor absorption of fats and fat-soluble vitamins and other micronutrients such as calcium. Patients undergoing bariatric surgery should make use of multivitamins and minerals primarily vitamin D and calcium to prevent fractures to the bone level. The bone changes may be influenced indirectly by socioeconomic, genetic and psychological factors. The effect of vitamin D and calcium still depends on factors such as parathyroid hormone. Monitoring, treatment and control of risk factors in patients eligible for bariatric surgery are essential to prevent complications after surgery.

SC008 - Source of public water supply

Larissa ISHIZU[1]; Tânia Harumi UCHIDA[1]; Cinthia Pereira Machado TABCHOURY[2]; Lívia Maria Andaló TENUTA[2]; Jaime Aparecido CURY[2]; Mitsue FUJIMAKI[1]

[1]Dentistry Department, State University of Maringá.
[2]Physiological Science Department, Piracicaba Dental School, State University of Campinas.

The human consumption of water with right quality is important for healthy maintenance. Thus, it is necessary to identify water source for public supply, to planning strategies aiming to improve the quality of water provided for population. The objective of this study was to identify different water catchment source for human consumption, through a literature revision. Guidelines, books and scientific articles were searched in Academic Google and SciELO using key words: "water", "quality", "water source", others. Twelve articles were found, and it was used seven that had information of water sources for human consumption. The water catchment sources more found was superficial water (rivers, lakes, lagoons and streams), that rarely is free of contamination, then, is necessary treatment. Beyond those, we can find underground water from wells and mines, and it is recommended when proven the polyhydric potential from layer aquifer and it has capacity to supply all community. For planning a project of water supply, is essential a previous study of water, to define the best technology for treatment, and so reduce the costs of implantation and system operation. In implantation of treatment station of water, positive and negative impacts must be verified. Positive impacts: best quality of water and reduction of disease. Negative impacts: change the hydrologic regime of source, disposal of iodine and sub products from treatment, and high investments. The underground water often is filtered and purified, through water displacement in ground, has greater number of water reservation and better cost benefit. The choice of supply source must be based in extensive studies, not only economics aspects. Therefore, is important identify and understand the choices of water catchment sources, aiming optimize the monitoring, quality control, and investments for a quality water with sustainability.

SC009 - Preventive strategies for tooth decay in childhood

Ana Cláudia Ramin SILVA[1]; Tânia Harumi UCHIDA[1]; Raquel Sano Suga TERADA[1]; Renata Côrrea PASCOTTO[1]; Mitsue FUJIMAKI[1]

[1]Dentistry Department, State University of Maringá.

Dental caries is a prevalent disease and of high negative impact on people's quality of life. Although the mechanism of development of caries and its prevention are known, adopting healthy habits for the control of this disease seems difficult. The objective of this work was search in the literature educational strategies aimed at the prevention of caries disease in childhood. Twelve scientific articles were found in Google Scholar and SciELO. It was found that childhood is the phase which the preventive methods have a higher effectiveness. The following strategies were found: motivation, education, use of fluorides and preventive actions. The motivation of the patient is accomplished through playful-educative activities for instruction about the mechanism of development of caries and its prevention. Education aims to raise awareness about the importance of health and intends create healthy habits of diet and hygiene. Another important means are collective preventive action, carried out mainly within schools. In addition, the use of fluorides, aims to reduce the progression rate of caries. Therefore, it is concluded that the strategies for the prevention of caries in childhood have the potential to reduce the disease levels, encouraging self-care by children and families.

SC010 - Art as an instrument of humanization/formation in the health care

Bruno Bevenuto LUCAS[1]; Angela Rodrigues DE ANGELI[1]; Bianca Maria Cervo ROSSATO[1]; Erika Caroline STEINLE[1]; Marciele Cláudia SARTORI[1]; Raíssa Araújo PRADO[1]; Mariana Elias QUEIROZ[1]; Jussara Lança LOPES[1]; Greissy Lopes dos SANTOS[1]; Gustavo Chagas OLIVEIRA[2]; Maira Bonafe SEI[2]; Grabriela Drews MAYHS[2]; Raíssa Gouveia RAMOS[2]; Thais Figueiredo ALVES[2]; Bruno Henrique de Sousa GUERRA[2]

[1]Health Sciences Center, Medicine Department of Oral and Child Dentistry, University Dental Clinic, State University of Londrina. [2]Centre for Biological Sciences, Department of Psychology and Psychoanalysis, State University of Londrina.

Given the perception of the absence of disciplines in the curriculum of formation in health courses, linked to health care humanization, this study aims to open spaces for discussions about the theme and practical achievement activities together with hospitalized patients and their companions, provide the health student proximity to each other, whether the patient, the healthcare team or the work members themselves (physiotherapy students, nursing, pharmacy, psychology, dentistry and medicine), looking for the realization of a multi-professional work. Insert the dentistry student in hospitals (HU-UEL) and assist in the formation process of a more human health professional, using art as an awareness tool and as a language option. This study aims to expand the students' vision about the health and disease process, and enhance the quality of the relationship between health professional and patient. Regarding methodology, the students were divided into four groups that used different artistic and expressive languages: crafts, storytelling, music and clown therapy. The realizations were held weekly in the Hospital Universitário Regional do Norte do Paraná in the female ward unit, male and pediatric. In addition to the practical activities in the hospital, the acting in the work included employees' training activities, conferences and extra lectures with experts, activities planning meetings and meetings for the discussion of activities. The results can be seen in greater interaction between health courses, in the dentistry insertion in the hospital, besides improving the stay of hospitalized patients to be more pleasant. Therefore, this project helps in humanizing the students and the people involved, aware that every person deserves a treatment according to his/her needs.

SC011 - Continuing education program in oral health in school

Camila GOMEDI[1]; Wagner José Silva URSI[2]; Lirian Adriana Maria Pereira da SILVA[3]; Maura Sassahara HIGASI[4]

[1]Department of Dentistry, State University of Londrina. [2]Department of Restorative Dentistry, State University of Londrina. [3]Dental clinic, State University of Londrina. [4]Department of Oral Medicine and Children's Dentistry, State University of Londrina.

It is noted in recent years in dental practice, an impulse towards preventive methods; there have been great advances in awareness, both dentists as patients, the better to maintain oral health is prevention, and this should be introduced from birth. Since this importance, this work has the purpose to present the Continuing Education Program in Oral Health in School, developed by the technical staff and academics of the University Dental Clinic (COU), State University of Londrina (UEL). The program serves children of diverse ages (except for students with disabilities that age extends to adulthood); covering schools: the public, private, special, early childhood education centers, charities, children's ministries. The service is done monthly, with distribution of an oral hygiene kit. The goals are to prioritize care with primary health care, reducing the rate of oral diseases, and train multipliers. They are held educational/preventive lectures, plaque disclosure, hygiene instruction, guidance on the use of dental floss, power, and self-examination. The results will be of short and long term, through questionnaires, feedback and improvement of academics in extracurricular activities. Visits are carried out by academic and technical oral health, coordinated by area teachers. It is concluded that this program is based on prevention and encouraging the practice of oral health, the stimulus in changing habits improves self-esteem and quality of life. Financial support is carried out by the COU/UEL and the Health System.

SC012 - Dental caries and enamel defects: a cross section study

Danielle de Souza PINTO[1]; Sofia Rafaela Maito VELASCO[1]; Letícia Marques de SÁ[1]; Débora FOGER[1]; Roosevelt da Silva BASTOS[1]

[1]Department of Orthodontics, Pediatric Dentistry and Community Health, Bauru School of Dentistry, University of São Paulo.

Dental caries is considered an important disease that still affects children and young people and remain a major public health problem. The decrease in values of DMFT index of caries can be explained through the fluoridation of public water supplies, fluoridated toothpastes and the development of oral health care programs. The aim of this study was to observe the association of enamel defects with dental caries. Children were examined 13 state and municipal schools of Bauru totaling 350 children. Enamel defects were observed in the upper and lower incisors and molars using the Developmental Defects of Enamel (DDE) index. Regarding the DMFT, all teeth were examined. The data were subjected to analysis of normality through Kolgomorov-Smirnov test, descriptive analysis and chi-square test, adopting a significance level of 5% ($p<0.05$). The prevalence of DDE was 22.29% (n=78), and the most common type of DDE was defined opacity (20.57%) followed by diffuse opacity (0.57%) and enamel hypoplasia (2%). DMFT of 0.92 (±1.32), Care Index or school of care index was 30%, SiC of 2.46 and 57% of the children were caries-free. Cavities with DDE was significantly associated ($p<0.04$), defined opacity ($p<0.02$) and opacity ($p<0.01$). It was concluded that there was an association of enamel defects in the development of caries. We suggest interventions in public schools and the awareness of parents regarding the oral health of families and food. The health policy planning should target this population as a whole and not just those individuals at risk.

SC013 - Aroeira's extract bactericidal activity in bacteria strains

Isabela Toledo Teixeira da SILVEIRA[1]; Carla Andreotti DAMANTE[1]; Marcelo Milanda Ribeiro LOPES[2]; Alessandra Cury MACHADO[1,3], Luis Guillermo Cuadrado DURANGO[3]; Moacir Rossi FORIM[3]; Silvia Helena de Carvalho SALES-PERES[1]

[1]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.
[2]Integrated Research Center, Bauru School of Dentistry, University of São Paulo.
[3]Department of Chemistry, Federal University of São Carlos.

Phytotherapy is an old practice used in medicinal plants in disease cure. Aroeira, (*Myracrodruon urundeuva)* is a tree which leaves present antimicrobial and antinflamatory activity, being its properties used by science with therapeutic purpose. The objective was to evaluate the aroeira's extract (*Murundeuva*) in relation to bactericidal activity in strains such as *Streptococcus aureus* and *Escherichia coli.* The concentrations used 1 (crude extract), the aroeira's dilutions in 1:10, 1:100, 1:1,000 and 1:10,000 mg/mL. Then, it was done the standardization of bacterial suspensions from a culture by 24 h. Thus, spectrophotometric reading was performed at 620 nm in bacterial suspensions. The plating (quintuplicate) was performed with BHI, dilutions of aroeira's extract and bacteria, positive and negative control and blank. After 24 h in a greenhouse at 96 well-plate was read in spectrophotometer at 540 nm. Then with the same plate from the oven, the dilutions were placed on two plates, one with *S. aureus*. and the other *E. coli.* Thereafter each dilution was distributed in 3 petri plates (triplicate) with a bacteria/plate. Homogeneity's variances analysis was obtained by normality test, being used ANOVA repeated measure followed by Tukey test (normal distribution) or Kruskal-Wallis followed by Tukey test (not normal), 5% significance. Control and crude extract showed no bacterial death. *E. coli* strains 1:10 dilution (48.36% death), followed by 1:10000 dilution (33.60% death). The 1:100 and 1:1000 dilutions showed high bacterial growth 117% and 148% respectively compared to control. *S. aureus's* strains showed no growth in contact with the crude extract (100% death), followed by dilution of 1:1000 (86.78% death) 1:10 (78.77% death) and 1:10000 (55.03% death). The 1:100 dilution showed lower bactericidal activity. Therefore, the higher the dilution the better the extract's bactericidal effect.

SC014 - Fluoridation's trajectory of public water supply in Brazil

Larissa ISHIZU[1]; Tânia Harumi UCHIDA[1]; Cinthia Pereira Machado TABCHOURY[2]; Jaime Aparecido CURY[2]; Josely Emiko UMEDA[1]; Mitsue FUJIMAKI[1]

[1]Dentistry Department, State University of Maringá.
[2]Physiological Science Department, Piracicaba Dental School, State University of Campinas.

The use of fluoride in public water supply is a measure of public health to control caries. The objective of the study was to develop a documentary study about fluoridation, to demonstrate fluoridation's trajectory of water supply in Brazil. Then, an analysis was made in both sources Academic Google and SciELO that had key words fluoridation, fluoride, oral health, and others. It was used four articles for this study. Since 1974, water fluoridation is required in Brazil, where there is treatment station, through Federal Law nº 6.050. In 2004, it was instituted an Ordinance MS 518, that establishes water quality parameters of human consumption and potability standards, updated in Ordinance MS nº 2.914/2011. In 2011, ministry of healthy collaborating center for surveillance of oral health suggested a proposal to rank the fluoride content, correlating preventive benefit of caries and fluorosis risk. Since 2013, a project is being considered, that repeals obligation of supply companies to add fluoride in water, when there is treatment station. However, that was not found evidences yet to show this effective methods should be interrupted. Therefore, the fluoridation is an important achievement of the Brazilian population to control caries and the dentists must defend the maintenance with arguments based on scientific evidence.

SC015 - Toothpastes: correlation between the indication and different compositions

Leandro Henrique Galeti LIMA[1]; Victor Hugo Fazoli GUIDINI[1]; Giulia de Oliveira COLLET[1]; Talissa Meyer GARRIDO[1]; Raquel Sano Suga TERADA[1]

[1]Department of Dentistry, State University of Maringá.

The main role of the dentist is to promote oral health and improve the quality of life. The toothpastes are allied professionals and patients, by their cosmetic and therapeutic action in the removal of biofilm. Therefore, many substances for different purposes have been incorporated into toothpastes and it is up to the professional indicate the most suitable product. The aim of this study was to review the literature on the composition and indication of toothpastes. a search was conducted in PubMed and Google Scholar database, in the 2003-2013 period. It has been the incorporation of the following: pyrophosphate (IPP) has been added to prevent calculus formation; fluoride favors the replacement of minerals lost by the teeth during the cariogenic challenges; triclosan as an antibacterial agent serves and controls the formation of biofilm and volatile compounds sulfated, potassium nitrate, inhibit sensitivity. Among the basic components, calcium carbonate or silica, are used as the abrasive, depending on fluoride, sodium fluoride or MFP. The covarinic blue has been added to ensure the desired optical properties. Like most products combine several of these components, it is for the dentist to know the signs of toothpastes according to the needs of patients, promoting health and preventing discomfort.

SC016 - Dental fluorosis and quality of life of children in public schools

Maiara Gabriela GONÇALES[1]; Gabriela Lima ARAÚJO[1]; Sofia Rafaela Maito VELASCO[1]; Paulo Sérgio Silva SANTOS[2]; José Roberto de Magalhães BASTOS[1]; Roosevelt Silva BASTOS[1]

[1]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.
[2]Department of Stomatology, Bauru School of Dentistry, University of São Paulo.

Dental fluorosis is an enamel formation disorder induced by excessive ingestion of fluoride for prolonged periods of time. While the popularization of the use of fluoride

in Brazil meant significant decrease in rates of tooth decay, it began to cause concern the significant number of children affected by dental fluorosis from the 90's. The objective was to analyze the aesthetic impact of the maxillary incisors in the quality of life in 10 year-old schoolchildren. A cross-sectional study was conducted with epidemiological investigations to fluorosis with the help of dental mirror number 5 in an environment with natural light, using the Dean Index and Child Perception Questionnaire8-10 instrument. There were 87 participants and fluorosis was prevalent in 6.34% of lateral incisiors and 6.90% in the central incisors. There was impact of oral health conditions related quality of life, however most of the dimensions observed in CPQ8-10 instrument showed no correlation with dental fluorosis in maxillary incisors of children of 10 years, except for "pain to feed" (0.24, $p<0.05$) and "difficulty to bite" (0.24, $p<0.05$) inversely proportional. Therefore, there was no negative impact of fluorosis in the maxillary incisors on the oral health related quality of life.

SC017 - The psychotherapeutic effect of telling stories

Yara Matsu Torres ARIKAWA[1]; Rebecca Feitosa da FONTE[1]; Flávia Cristina SANTIAGO[2]; Dreyf Assis GONÇALVES[3]; Maria Cristina Rosifini Alves REZENDE[1]; Adriana Cristina ZAVANELLI[1]; Renato Salviato FAJARDO[1]

[1]Department of Dental Materials and Prosthodontics, Aracatuba Dental School, Univ. Estadual Paulista.
[2]Paulista University.
[3]São Judas Tadeu University.

The "Contar Histórias" project is an Extension Project accomplished by the Center of Life Quality Promotion of FOA/UNESP which has as purpose, to associate the psychotherapeutic effect of storytelling to the treatment of patients with cancer and their caregivers. The Extension Project was implanted in 2011 at COT (Center of Oncological Treatment) at the hospital of Araçatuba-SP, which happens weekly within a variation of an hour and half to two hours *per* day. The story tellers act at the waiting room telling stories, and making room for conversation among the patients and caregivers. The observation of the intervention proposed shows that the stories can make the listeners transpose strength and motivations from that imaginary world to their real world, making them strike against negative and destructive thoughts that worsen their state. The project believes that storytelling is a feasible intervention proposal that provides well-being for patients and their caregivers, and contributes to the formation of pleasant and humane treatment environment in this high emotional tension local.

SC018 - Validation of the Brazilian Version of the Newest Vital Sign (NVS)

Agnes Fátima Pereira CRUVINEL[1]; Daniela Alejandra Cusicanqui MENDEZ[2]; Giuliana Campos CHAVES[2]; Maria Aparecida Andrade Moreira MACHADO[2]; Thaís Marchini OLIVEIRA[2]; Thiago CRUVINEL[2]

[1]Federal University of Fronteira Sul.
[2]Department of Orthodontics, Pediatric Dentistry and Community Health, Bauru School of Dentistry, University of São Paulo.

Low Oral health literacy (OHL) levels hamper the dental knowledge, the number of dental visits, oral health conditions, and self-perception of dental treatment needs. Objectives: This study aimed to perform the translation, cross-cultural adaptation, and validation of The NVS to Brazilian Portuguese. A consensus version of the NVS was produced by its translation and adaptation for three independent investigators. This version was previously applied to ten subjects who reported their first impression, besides ambiguities and inconsistencies of text. To validate the instrument, 250 adults responded the revised Brazilian version of the NVS, the Brazilian version of the Rapid Estimate of Adult Literacy in Dentistry (BREALD-30), ten questions of the Functional Illiteracy Indicator (FII), and queries about demographic and oral health-related aspects. Statistical analysis determined the reliability, stability, and convergent/discriminant/predictive validities of the NVS. $P<0.05$ was considered significant. The NVS displayed a good internal consistency (Cronbach's alpha=0.79) and stability (ICC=0.76), with mean score of 2.70 (range 0-6). The convergent validity of the NVS was demonstrated by its significant correlation with the BREALD-30 (Rs=0.601) and FII (Rs=0.544). Health professionals, white and more educated people presented higher NVS, which confirmed the discriminant validity of the instrument. Moreover, health literacy significantly predicted the self-reported oral health and reason for dental utilization. The NVS demonstrates adequate properties to be applied in Brazilian surveys and clinics.

SC019 - Aroeira's FNC1 and FNC2 nanoparticles and bactericidal activity

Alessandra Cury MACHADO[1,3]; Marcelo Milanda LOPES[2]; Luis Guilermo Quadrado DURANGO[3]; Moacir Rossi FORIM[3]; Silvia Helena de Carvalho SALES-PERES[1]

[1]Department of Pediatric Dentistry, Orthodontics and Communty Health, Bauru School of Dentistry, University of São Paulo.
[2]Integrated Research Center, Bauru School of Dentistry, University of São Paulo.
[3]Department of Chemistry, Federal University of São Carlos.

Phytotherapy acts in the cure of diseases. Aroeira (*Myracrodruon urundeuva*) stands out since its leaves exhibit antimicrobial and anti-inflammatory activity, with therapeutic properties. Nanoparticules are loading new systems for vaccine and drugs release, being 100 to 200 times smaller the human cell so that they can easily penetrate the cells and organelles. Nanoparticules prepared with plant's extract in their system are more effective. The objective of this work was to evaluate the two nanocapsules of aroeira's extract (*Myracrodruon urundeuva*) in relation to bactericidal activity in *Streptococcus aureus* and *Escherichia coli* strains. The concentrations of FNC1 and FNC2 were 1, 1:10, 1:100, 1:1,000 and 1:10,000 mg/mL. The standardization

of bacterial suspensions was done from a culture of 24 h followed by spectrophotometric reading of the suspensions at 620 nml. The plating (quintuplicate) was performed with BHI, FNC1 and FNC2 nanoparticules dilutions, bacteria and negative controls as well as a blank. After 24h at 37°C, the 96 well-plate was read in a spectrophotometer at 540 nm. Then the bactericidal test was performed with the same plates with the dilutions of the extract added to the plates with *S. aureus* and *E. coli.* Subsequently each dilution was distributed into 3 Petri dishes (triplicate), with one bacterium *per* plate. The analysis of homogeneity of variances was obtained by the normality test. Statistical analyses comprised repeated measures ANOVA followed by Tukey test (normal distribution) or Kruskal-Wallis followed by Tukey test (not normal distribution), adopting a significance level 5%. The FNC1 1:1,000 concentration had the most pronounced bactericidal effect on *S. aureus* (73.78%) and *E. coli* (60.27%) in comparison with the control and the other concentrations. The FNC2 1:1,000 concentration also had the greatest bactericidal effect on *S. aureus* (77.40%) and *E. coli* (45.87%). It is concluded that nanoparticules showed a more pronounced bactericidal activity at the 1:1,000 concentration, thus suggesting the nanoparticle and extract efficacy in higher concentrations.

SC020 - Natural fluoride assessment of an Amazonian municipality

Aline Oliveira da SILVA[1]; Isabela GONSALES[1]; Larissa Sanches PAINO[1]; Roosevelt Silva BASTOS[1]; José Roberto Magalhães BASTOS[1]

[1]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.

Fluoride has an important preventive role in caries prevention and its monitoring in the public water supply is an important oral health surveillance measure. The aim is to evaluate the natural fluoride content in the public water supply of a small city at the state of Rondônia, Brazil. The study was conducted by analyzing water samples carried out at strategic points in the city of Monte Negro in January and July 2015. The samples were transported in plastic containers and analyzed using a specific electrode for fluoride ion. It was considered sample with recommended content when presented between 0.54 and 0.84 mg/L of fluoride. 100 samples were collected, approximately 39.21% in January. The average fluoride concentration observed in two moments of collection ranged between 0.01 and 1.37 mg/L where none of the collected samples showed fluoride levels in the water as recommended for dental caries prevention. We can see that 98.039% of the samples (n=102) showed lower fluoride content of 0.55, minimum concentration considered acceptable for the benefit of this method. It was also found that two samples from the same address had higher fluorine content in water than 0.84, the maximum concentration indicated. The natural fluoride content is present below the desirable range and the fluoridation of public water supplies is a recommended measure for this and other locations of that Brazilian state.

SC021 - Depression and oral condition of patients with metabolic syndrome

Ana Carolina da Silva PINTO[1]; Sílvia Helena de Carvalho SALES-PERES[1]; Adriana Maria Fuzer Grael TINÓS[1]

[1]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.

Depression and obesity are among the most prevalent diseases in the world. Oral changes have been related to some components of the metabolic syndrome (MS), such as diabetes and obesity. This study aimed to investigate the association between oral diseases (tooth decay and periodontal disease) and depression in patients with morbid obesity, with diagnosis of MS were used secondary data from medical and dental records, which are kept in the Hospital Amaral Carvalho (HAC-Jaú) and at the Bauru School of Dentistry (FOB-USP), respectively. Initially were selected at random, 129 records of obese patients with indication for Bariatric Surgery. Of these, 57 were the criteria for Metabolic Syndrome, which were divided into two groups: with and without depression. In the sequel, we collected information on dental caries (ICDAS and DMF) and periodontal disease (mouth). For statistical analysis we used absolute and relative frequencies. Most of the patients examined presented MS (n=56), of these 11 used medicines and 10 showed depression. Among patients diagnosed with MS most had purses 4-5 mm. According to the DMF indexes and ICDAS 51.8 and 87.5 patients assessed presented caries, respectively. It can be concluded that patients are candidates for Bariatric Surgery with MS and depression are more exposed to develop oral problems such as tooth decay and periodontal disease.

SC022 - Cranberry (*Vaccinium macrocarpon*) juice reduces dentin erosion

Ana Gabriela Silva ISCUISSATI[1]; Melissa Thiemi KATO[1]; Bruno Lara ZARELLA[1,2]; Karina Xavier de SOUZA[1]; Marília Afonso Rabelo BUZALAF[2]

[1]Department of Health Sciences, University of Sagrado Coração.
[2]Department of Biological Sciences, Bauru School of Dentistry, University of São Paulo.

In dentin, erosive demineralization results in the exposure of an outer layer of demineralized organic matrix (DOM), which, if preserved, can serve as a barrier against subsequent erosive challenges. *Vaccinium macrocarpon* (cranberry) is a natural product rich in polyphenols, especially proanthocyanidins, which have inhibitory effect on matrix metalloproteinases (MMPs) present in dentin and saliva. Inhibition of MMPs, thus allowing the preservation of the DOM, has been reported as a potential preventive tool against dentin erosion. The aim of this study was to analyze the effect of cranberry juice in reducing dentin erosion in vitro. Specimens of bovine dentin (4x4x2 mm) were randomized and divided into 4 groups of treatment (n=15-17/group): distilled water (C-control, pH 7.2); green tea extract solution containing 400 µm epigallocatechin-gallate (EGCg, positive control, pH 4.5); 10% cranberry extract (CrE, pH 3.9) and cranberry juice (CrJ, Cranberry JuxxTM, pH 2.8). Specimens were submitted to an erosive pH cycling protocol during 5 days. Each day, four demineralizations were carried out with 0.1% citric acid (90 s). After the acid challenges, specimens were rinsed and kept in the

treatment solutions for 1 min, then abundantly rinsed and stored in artificial saliva for 1 h at 37°C (or overnight at the end of each day). After the experimental period of 5 days, dentin loss was evaluated by contact profilometry. Data were analyzed by ANOVA and Tukey's test ($p<0.05$). Dentin loss (µm SD) was significantly lower for all the treatments (EGCg=9.93±2.90; CrE=12.10±5.44; CrJ=11.04±5.70) when compared to C (21.23±11.96), but did not significantly differ from each other. These results indicate that commercial cranberry juice, despite its low pH, is able to reduce dentin erosion, which might be due to the ability of cranberry to inhibit MMPs.

SC023 - Health conditions of institutionalized elderly: preliminary results

Andrea Mendes FIGUEIREDO[1]; Patricia Ribeiro Damiance MATTAR[1]; Elen Caroline FRANCO[1]; Cristina ESPIRITO SANTO[1]; Thaisa Rino de Freitas COELHO[1]; Roosevelt BASTOS[1]; Julia Bertolaccini BASTOS[1]; Magali de Lourdes CALDANA[1]; Vanessa Cliveralo Bertassi PANES[1]; Jose Roberto de Magalhães BASTOS[1]

[1]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.

This is a multidisciplinary project approved by FAPESP, and the aim of this study is to assess the health status and functional capacity of institutionalized elderly in the city of Bauru, SP, from the perspective of the National Health of the Elderly and Care Policy in conditions chronic health. Search field, descriptive and exploratory, with many objects of research and methodologies. Target population: elderly of four private institutions and two philanthropic long-stay elderly in the city of Bauru-SP. Regarding the measurement instruments are used cardiac markers for chronic diseases, such as complete blood count (anemia); glucose (diabetes); lipid profile (cardiovascular diseases) and the SF-36 instrument for assessing the functional capacity of the institutionalized elderly. The final statistical analysis will be performed descriptively through absolute and relative frequencies. The Spearman correlation test is used to check the relationship between the health conditions and oral health, nutritional status, functional, biochemical parameters, speech therapy and medication consumption. Partial results of the application of research instruments in the first private institution visited reveal biochemical changes in only 10% of the blood tests of 14 investigated elderly and high scores in the mental health domain (67.71) and emotional aspect (59.52); and down to the functional capacity domain (16.07). The assessment of the health conditions of the elderly, especially those institutionalized, with multidimensional measurement instruments by evaluators from different areas of knowledge, has the potential to reveal health conditions in senility, identifying vulnerabilities and specificities in the care of chronic health conditions.

SC024 - Periodontal conditions and blood lead levels in workers

Andrés Darío Guzmán TAVÁREZ[1]; Fábio Duarte da Costa AZNAR[1]; Adriana Rodrigues de FREITAS-AZNAR[1]; Priscila Matter BORGES[1]; Fabiano Duarte da Costa AZNAR[1]; Silvia Helena de Carvalho SALES-PERES[1]; Arsenio SALES-PERES[1]

[1]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.

Occupational Dentistry professionals should be prepared to analyze the causes and effects of oral manifestations resulting from contamination in the work environment, as well as establish curative and preventive actions. This study aimed to analyze the relationship between periodontal conditions and blood lead levels in workers at an automotive battery factory of in Bauru-SP. The sample consisted of 70 workers, both sexes, 22-57 years, allocated in the sectors of production and administrative. Blood levels of lead (BLL) were obtained from medical records of workers from the company, and made up questions about the use of tobacco, alcohol, number of daily brushing and flossing. Periodontal status was evaluated by the modified Community Periodontal Index (CPI) and plaque of Turesky (PI). It was applied Student-t test, Mann-Whitney, odds ratio and Chi-square ($p<0.05$). Male was the most prevalent sex (88.57%), mean age 33.21±9.43 years, and the workers were in Production (70.00%) and Administrative (30.00%) sectors. The BLL of the workers was 44.01±6.15 mg/dl, less than the allowed maximum biological index (60.00 mg/dL). The BLL was associated with the function performed in the company ($p=0.000$). It was observed that 12.85% had hypertension, 10.00% smokers and 12.86% consumed alcohol. Workers said brushing teeth 3 or + times/day (88.57%) and 97.14% used dental floss. There was a high prevalence of periodontal changes (67.14%), bleeding in 25.71%, 67.14% calculus, shallow pockets in 20.00% and deep pockets in 10.00% of the individuals. The PI was 2.78±0.54. The BLL were associated with bleeding (OR=4.91, $p=0.006$). The workers had poor oral hygiene and high prevalence of periodontal changes and bleeding related to BLL, demonstrating the importance of maintaining health surveillance, especially those who work in the in production.

SC025 - Impact of comorbidities on oral health -related quality of life

Caetano de Mori AIELLO[1]; Lais Furnaleto MAREGA[1]; Nathalia Miraglia de Freitas WILLIAMS[2]; Leticia Marques de SÁ[1]; Sofia Rafaela Maito VELASCO[1]; Debora FOGER[1]; José Roberto Magalhães BASTOS[1]; Roosevelt da Silva BASTOS[1]

[1]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.
[2]University of Sagrado Coração.

Nowadays longevity is present, and the risk of developing chronic diseases such as hypertension and diabetes increase with age. The biggest bad perception of prevalence of oral health-related quality of life was found among those with serious problems of general health. Thus, the objective of this research was to evaluate the impact of oral health related quality of life and comorbidities. They were included in the survey aged 65 years or older, living in the coverage area of the Health Strategy Bauru municipality family. The variables oral

health-related quality of life (OHIP -14) and comorbidities self-reported by participants were investigated. All variables were subjected to the normal Kolmogorov-Smirnov, and then the Pearson test was held to verify possible correlations between two variables. All analyzes were performed at a significance level of 5%. The study enrolled 238 elderly people, average age was 74.5 years, among the comorbidities reported by the participants, hypertension and diabetes obtained highlight being found in 75.6% and 31.5%, respectively. Pearson's test showed that elderly diabetics were more difficult to relax due to dental problems (0.13; 0.05), and the need to interrupt your meals for the same reason (0.13; 0.05). Older people with heart disease had a higher prevalence of pain in the mouth (0.15; 0.05) and difficult to chew (0.22; 0.05) and those with hypercholesterolemia (0.13; 0.05) and depression (0.18; 0.5) had tensed due to dental problems. It was concluded that elderly diabetics with heart disease with hypercholesterolemia and depression have greater negative impact on oral health-related quality of life.

SC026 - Functional capacity and oral health-related quality of life

Debora FOGER[1]; Leticia Marques de SÁ[1]; Sofia Rafaela Maito VELASCO[1]; José Roberto Magalhães BASTOS[1]; Roosevelt da Silva BASTOS[1]

[1]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.

It is extremely important to investigate the functional capacity and oral health-related quality of life of the elderly. Participated in the survey people aged 65 and over residing in the coverage area of the Family Health Strategy of Bauru. We investigated the variables functional capacity (Katz Index), oral health-related quality of life (OHIP-14), socioeconomic conditions and comorbidities. All the variables were submitted to the Kolmogorov-Smirnov normality test, there were the chi-squared tests to assess the association between socioeconomic variables, comorbidities and oral health-related quality of life in relation to functional capacity and Mann-Whitney test to verify the difference between the averages of Katz instrument in relation to other variables. It was performed a linear multivariable analysis having as dependent variable the functional capacity. All analyzes were performed at a significance level of 5%. The study enrolled 238 elderly, the average age was 74.5 years, and there was a predominance of females (55.5%) and white (65.1%). In the functional capacity, 8.8% had intermediate or severe disability, 61.3% had a monthly income of up to two minimum wages, 88.2% were retired, and 57.1% remained in a stable relationship, circulatory diseases were most frequently reported (82.4%). As for oral health-related quality of life, 20.6% feel discomfort when chewing. The multivariate analysis showed a statistically significant relationship between functional capacity and the variables age (0.13; 0.01), sex (0.13; 0.05) and dimensions of "difficulty chewing" (0.13; 0.01) and "need to stop meals" (0.13; 0.01). The functional disability increased with age and tended to have a higher negative impact on oral health-related quality of life hindering the realization of meals.

SC027 - Alcohol abuse and oral manifestations: a systematic review

Eduarda de Souza CAMARGO[1]; Veridiana Lopes RIZZATO[1]; Ana Virgínia Santana Sampaio CASTILHO[1]; Eliel Soares ORENHA[1]; Angélica Cristiane Búlio SOARES[2]; Silvia Helena de Carvalho SALES-PERES[1]

[1]Department of Orthodontics, Pediatric Dentistry and Community Health, Bauru School of Dentistry, University of São Paulo.
[2]Department Social Dentistry, Faculty of Dentistry of Piracicaba, State University of Campinas.

The objective of this systematic review was to identify the association between alcoholism and oral manifestations. Search was made in following Databases: PubMed, SciELO, BIREME and LILACS, which began in 2014 and ended in March 2016, using the following keywords: "alcoholism" and "oral candidiasis" or "oral manifestations" or "xerostomia". From 129 articles found, 8 of them were in accordance with the inclusion criteria and may remain in the study. Related outcomes were candidiasis, hypo salivation, dental erosion, leukoplasia, erythroplasia, oral lichen planus, denture stomatitis, tongue lesions among others. There is little information in the literature describing the effects of alcohol abuse on the oral cavity tissues. More research is needed to understand the true impact of alcohol abuse on the oral health conditions. However, the multifactorial nature of oral diseases, the alcohol abuse combined with smoking and the use of multiple substances, makes this a difficult and challenging task.

SC028 - Heterocontrol of the water fluoride of Mineiros do Tietê-SP

Eloá Aparecida ZUIM[1]; Melissa Thiemi KATO[1]

[1]Department of Health Sciences, University of Sagrado Coração.

Fluoride has been used to prevent tooth decay, resulting in a significant improvement in the oral health of the population. Considering its effectiveness, cost and frequency of consumption, fluoridation of drinking water has been identified as the best topical method of fluoride exposure; however, high levels above the recommended can cause harm, triggering the development of dental fluorosis in children whose teeth are in formation during the period when the content is high. Considering all the factors involving the public water supply fluoridation process, as important as keeping or adding fluoride to water is to control the whole process, by means of external control. Thus, the objective of this project was to determine the concentration of fluoride through the public water supply of external control of the Mineiros do Tietê - SP, aiming to maintain adequate levels of fluoride this water. For analysis of external control, water samples belonging to the three existing reservoirs in the municipality were distributed in different parts belonging to each reservoir, which are reviewed on a monthly basis regarding the fluoride concentration (mg F/L). Obtaining the fluoride concentration was obtained from the report carried out by the Environmental Centerlab from July 2014 to June 2015. We considered all 24 points used for water analysis. The fluoride concentration of the points offered was tabulated, taking into account the address and the system which each belonged. The analysis of average was considered acceptable (0.6-0.8 mg F/L) or unacceptable (<0.55 or >0.85 mg F/L). All results were considered acceptable (~0.70 mg F/L). Based on

the results of the studies and the very uniqueness of the public supply system of the Mineiros do Tietê-SP, it was concluded that the fluoride levels were considered appropriate in this period.

SC029 - Ethical and legal analysis of cards used by dentists

Gabriela Magosteiro Viveiros Tabith COSTA[1]; Tânia Adas Saliba ROVIDA[1]; Cléa Adas Saliba GARBIN[1]; Artênio José Isper GARBIN[1]

[1]Pediatric Dentistry and Social Department, Araçatuba Dental School, Paulista State University.

The aim of this work was to analyze the business cards used by Dentists and verify compliance with current legislation. This is a cross-sectional study, document analysis, in which were collected 472 cards in dental offices and clinics of a medium-sized municipality, located in the State of São Paulo. It was evaluated the presence of the registration number in the Regional Council of Dentistry, professional qualification, the Clinical expression General, advertising specialties, Prices and terms of payment according to Dental Ethics Code and Law No. 5081 of 24.08.1966 which regulates the practice of dentistry in Brazil. The data were processed using Epi Info 5.1 program and held the descriptive statistics. Of the total private professionals municipality registered in CRO, 75% agreed to participate in the study. Largely contained 59.63% of the number CRO, 32.22% have the incorrect use of the term "general practitioner"; in 57.41% it did not contain the specification of the profession Dentist. In 37.22% were more than two specialties and 19.26% had payment arrangements. A large number of analyzed cards are not in accordance with current legislation. This study suggests a greater awareness of the professionals of the communication standards in dentistry.

SC030 - The notification of violence in public schools teaching

Gabriela Peres TERUEL[1]; Clea Adas Saliba GARBIN[1]; Artenio Jose Isper GARBIN[1]; Tania Adas Saliba ROVIDA[1]; Renato Moreira ARCIERI[1]

[1]Department of Pediatric and Social Dentistry, Faculty of Dentistry of Araçatuba, Univ. Estadual Paulista.

The objective was to verify the perception and attitude of students of a public state university front of family violence and their compulsory notification. This is a descriptive study of transversal, which employed a collection instrument containing objective questions on the subject. Obtained approval by the ethics committee on research and analysis used descriptive statistics using Microsoft Excel. The results showed that the total of 78 students, 73% reported that the majority of attacks against were affected women. All said that family violence is a social problem, but 27% had not received any information on domestic violence. With respect to referral, 45% of students do not forward payment if the victim detects violence. According to knowledge, 59% of students claimed to know what is notifiable, however 82% of students have no knowledge about the plug to perform the same. Of the total, 82% of students considered themselves responsible for notification even knowing their record. In conclusion, most of the academics think making the notification, but are unaware of the reporting sheet, not realizing it.

SC031 - Mouthguard: preventive alternative to trauma and orofacial injuries

Henry BARRINOVO[1]; Letícia Maria Ramos ZANCHETA[2]; Vinicius Cestari do AMARAL[3]; Carlos Ribeiro PIZANTE[4]

[1]Dental School of Sorocaba, Paulista University.
[2]Department of Pediatric Dentistry, Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo
[3]Department of Anatomy, Faculty of Dentistry of São Paulo, Paulista University.
[4]Department of Preventive Dentistry, Faculty of Dentistry of Sorocaba, Paulista University.

Injuries are common calls in the dental practice, and are often linked to sports, and they can be avoided or minimized through the use of mouthguards, which consist of an intra-oral device that redistributes forces on the mouthparts and away soft tissue teeth. The occurrence of trauma in Brazil suggests misinformation about the use of the mouthguard in both the professional practice of sports as amateur, exposing the practitioner to muscle pain and/or head, simple injuries such as soft tissue trauma to the maxilla, mandible and the irreparable damage to tooth loss, disorders in the temporomandibular joint (TMD) and also more serious cases such as brain concussions. In addition, there are physical problems where the traumas involving the anterior teeth can influence the patient's self-esteem and may lead them to put away from social life. This literature review was based on research in national and international journals available on SciELO and PubMed, respectively, being selection criterion scientific articles published in the last five years and related with sports practice, trauma, mouthguards and preventive dentistry. This review aims to define the indications for the use of mouthguards, classifies them as to the composition, form, advantages and disadvantages and the importance of the use, in order to adapt them to the need to use on sports and age range of the practitioner. In this context, it is concluded that the equipment has great efficacy in the prevention of orofacial trauma, requiring the guidance of its use, but there is still unfamiliarity on the part of dentists about the techniques and materials available for making the accessory.

SC032 - Comorbidities, oral habits and periodontitis in obese and eutrophic

Iris SETTEN[1]; Adriana Rodrigues de FREITAS-AZNAR[1]; Fábio Duarte da Costa AZNAR[1]; Beatriz Della Terra Mouco GARRIDO[1]; Silvia Helena de Carvalho SALES-PERES[1]; Arsenio SALES-PERES[1]

[1]Department of Pediatric Dentistry, Ortodontics and Community Health, Bauru School of Dentistry, University of São Paulo.

The increase in the prevalence of obesity worldwide highlights the need for comprehensive health care of these individuals. This study aimed to evaluate the influence of obesity, comorbidities and oral habits in periodontal conditions of individuals referenced to Public System of Health in Bauru, SP. The sample consisted of 60 subjects, divided into two groups G1-obese (n=30) and G2-eutrophic (n=30). It was evaluated waist circumference (WC), body mass index (BMI) (weight/height) and percentage of body fat -%BF [(WC/heigh1.5)

-18]. A questionnaire measured the presence of metabolic syndrome (MS) and its components, habits and oral hygiene of the participants. Periodontal evaluation (kappa>0.89) identified the presence of bleeding (B) and calculus (C), probing depth (PD), clinical attachment level (CAL), recession (R) and number of missing teeth. Tests employed were t-Student, Mann-Whitney, Pearson correlation, Odds ratio and Chi-square test ($p<0.05$). The BMI was 47.74 and 23.26 kg/m² and %BF 48.09 and 28.98 (G1 and G2). MS was found at 63.33% and 20.00%, hypertension 63.33% and 13.33%, flossing at 53.33% and 60.00% and smoking in 43.33% and 36,66% (G1 and G2). There was B at 56.00% and 42.37%, C in 36.06% and 22.29%, PD of 1.82±0.59 and 1.52±0.39 mm, CAL 2.02±0.82 and 2.04±0.88 mm, R of 0.20±0.31 and 0.52±0.69 mm, and missing teeth 4.37±4.38 and 2.73±2.98 (G1 and G2) differing in C, PD and R ($p<0.05$). BMI was correlated with C ($r=0.35$; $p=0.007$), PD ($r=0.28$; $p=0.026$) and R ($r=-0.38$; $p=0.003$) and %BF with R ($r=-0.42$; $p=0.001$). Periodontal disease was associated with smoking (OR=3.72, $p=0.034$) and hypertension (OR=4.11, $p=0.023$). Obesity was associated with greater probing depth and poor oral hygiene, while periodontal disease as related to the presence of hypertension and smoking.

SD033 - Institutional documentation preparation and defensive dentistry

Isabela Belincanta ANTUNES[1] Aline Tiemi Watanabe DEMÉTRIO[1]; Isabela Silva ROCHA[1]; Najara Barbosa da ROCHA[1]; Luiz Fernando LOLLI[1]

[1]Department of Dentistry, State University of Maringá.

The aim of this study was to determine the filling of dental records of the Dental Clinic of a higher education institution in southern Brazil face the ethical and legal aspects of defensive dentistry. We conducted a cross-sectional study, exploratory documentary, quantitative and descriptive with a sample of 1,039 records. The variables considered were: "patient ID", " anamnesis and examinations", "procedures", "issued documents" "diagnostic documentation". The information was processed in Microsoft Excel and EPI INFO 7.0 software. The results showed that 30% of the records did not show ID or other identification document, the treatment plan was not provided in 56% of cases, 25% of the records lacked patient signing of the procedures carried out, and more than half of certificates and issued receipts were incorrect. Absence of 2nd copy of documents issued in favor of the patient was more frequent, both qualitatively and quantitatively. In addition, the study showed that 45% of periapical radiographic films showed to be viable, but 35 % of the records did not have such films. It follows that in many records the document did not fulfill the principles of defensive dentistry, since important signatures and documents which could constitute documentary evidence and instruct the defense to any ethical or legal claims were not present.

SC034 - Dental caries surveillance in elderly people from Bauru in 2015

Isabela Rodrigues GONSALES[1]; Aline Oliveira da SILVA[1]; Sofia Rafaela Maito VELASCO[1]; Nathalia Miraglia WILLIAMS[1]; José Roberto de Magalhães BASTOS[1]; Roosevelt da Silva BASTOS[1]

[1]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.

Dental caries is an important chronic disease in the oral health status of the elderly, showing the result of a lifetime of exposure to risk and a mutilating practice. The aim of this study was to show dental and root caries of elderly residents in the area covered by primary health care from Bauru, Brazil. It was an observational cross-sectional study with elderly people from 65 years-old related to tooth decay and root caries. This study was registered in Brazil Platform (CAAE 37046714.1.0000.5417) and was approved. The DMFT (WHO criteria) was used for both crown and in the root and the data were presented by descriptive statistics. The care index was calculated to crown and root. Statistical analysis was performed using the Correlation of Spearman at the 0.05 significance level. A total of 335 elderly aged 65-101 years were examined in their houses from 15 areas of the city.This sample followed the pattern of SBBrasil Project 2010. The DMFT index for tooth crown was 28.79 (5.53) with larger representation of the missing component (26.66; 8.22) with 92.60%. The Care Index for crown was 0.06%. There was a correlation between age and the DMFT (0.26; 0.05) and the care index (-0.21; 0.05). DMFT for dental root index was 27.38 (7.37), averaging 3.89 (6.35) for otherwise sound exposed roots, representing 14.21% of caries index. There was a correlation between age and the DMFT-root ratio (0.24; 0.05) and with the care index - root (-0.19; 0.05). The elderly have great burden related to dental extractions and the remaining teeth with a strong need of treatment with aging process, requiring better attention to oral health in this age group for the prevention of dental caries through health promotion activities aimed at the elderly population of Bauru.

SC035 - Epidemiological evaluation of nipple candidiasis in nursing mothers

Jessica Antonia Pinesso MONTOVANI[1]; Felipe Augusto JULIANI[1]; Maura Sassahara HIGASI[2]; Ricardo Sergio Couto de ALMEIDA[1]

[1]Department of Microbiology, State University of Londrina.
[2]Department of Oral Medicine and Children's Dentistry, State University of Londrina.

Nipple trauma, translated by pain, is one of the main reasons for premature weaning and, therefore, its prevention and treatment are very important for the maintenance of public programs of breastfeeding. Nipple candidiasis is a breast infection caused by fungi of the genus *Candida*, compromising the skin of the nipple and areola. Although this disease is one of the causes of nipple pain, the complete understanding of the process involved in the colonization of *Candida* spp. and subsequent infection of infants still requires much research. Thus, the objectives of this research were the recruiting and epidemiological survey of women with nipple pain in Londrina; collection of microorganisms from both breasts, mother's mouth and the child's mouth to assess the presence of *Candida* spp. and establishing the diagnosis

of nipple candidiasis. Thus, swab samples of the breast were collected in the reference maternity in the city of Londrina, in women aged between 18 and 45 years, who were followed for 3 months to assess the occurrence of nipple pain. Nursing mothers with characteristic signs and symptoms underwent a second collection of material for evaluation of the presence of *Candida* spp. and confirm the diagnosis of candidiasis nipple. Isolation of fungi was carried out amid CHROMagar *Candida*®, enabling the presumptive identification of the species of the genus *Candida*, as well as providing recognition of mixed cultures (more than one species). Of the 330 participants, 187 mothers reported pain (56.7%), and among these, 12 (6.4%) had nipple candidiasis (clinical symptoms, presence of fungus and remission after treatment with nystatin). It was also found that the nipple candidiasis was reported as a cause of nipple pain and consequent early weaning. Reports in the literature indicate *C. albicans* was the most prevalent agent, however, this was not the result found in our work.

SC036 - Oral health, life quality and socio demographic conditions on elderly

Laís Furlaneto MAREGA[1]; Caetano de Mori AIELLO[1]; Leticia Marques de SÁ[1]; Sofia Rafaela Maito VELASCO[1]; Nathalia Miraglia de Freitas WILLIAMS[1]; Debora FOGER[1]; José Roberto Magalhães BASTOS[1]; Roosevelt da Silva BASTOS[1]

[1]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.

Oral health is an essential component to the life quality of elderly, and may also affect overall health. Elderly people resident in areas of social exclusion and also exposed to risk factors have worse health indicators. Thus, the aim of this study was to evaluate the association between oral health related to life quality and socioeconomic conditions of the elderly. The study included individuals aged 65 or more living in the coverage area of the Health Strategy of the Family from Bauru. The variables oral health related to life quality were investigated (OHIP-14) and socio demographic conditions. All variables were subjected to the normality quality Kolmogorov-Smirnov, and then the Pearson test was held to verify possible correlations between the two variables. All analyzes were performed at a significance level of 5%. The study enrolled 238 elderly and the average age was 74.5 years old. There was a predominance of females (55.5%) and white (65.1%). 61.3% had a monthly income of up to two minimum wages, 88.2% were retired, and 57.1% remained in a stable union. As for oral health related to life quality, 20.6% feel discomfort when chewing. Pearson's test showed that there was an inverse correlation between age and the concern (-0.17; 0.05) and stress (-0.16; 0.05), difficulty on relaxing (-0.19, 0, 05) and feeling ashamed (-0.16; 0.05) because of dental problems; the younger the elderly, there are more occurrences of these issues. Considering sex, older women had greater difficulty during mastication (0.14; 0.05). Married individuals (0.22; 0.05) and retired (0.16; 0.05) also had greater difficulty in chewing. It was concluded through this study that younger, married and retired elderly had greater negative impact on oral health related to life quality.

SC037 - Caries prevalence in preschool children with and without dental care

Larissa Faria de ANDRADE E SILVA[1]; Cristiane Berriel Joaquim BERGAMINI[1]; Solange de Oliveira Braga FRANZOLIN[1]; Melissa Thiemi KATO[1]

[1]Department of Health Sciences, University of Sagrado Coração.

Caries is a widely known disease, but it needs constant research for a better understanding of its distribution in the populations so that it is possible to plan and perform preventive and curative actions. Thus, the aim was to evaluate and compare the caries prevalence in children with an average age of five years, preschool from municipal public in Bauru-SP, with and without dental care, and to describe the profile of the families of the students surveyed. The study was carried out with a population of 511 children enrolled in 14 Municipal Early Childhood Education Schools (EMEIs) after the approval of the Research Ethics Committee and the authorization by the child's parents or guardians who signed the Informed Consent. To evaluate the decays, we used the DMFT index. The students' parents participated in the research answering a questionnaire about the access to dental services, level of information on caries and socioeconomic status. The results showed a low caries prevalence, with an average DMFT index of 1.64 and 57.3% of children free of caries, with no significant difference between schools with and without dental care (Mann-Whitney test and the Chi-Square test, respectively, $p>0.05$). We found a smaller percentage of decayed teeth and a higher percentage of teeth restored for the children of the EMEIs with a dentist, showing that there was a statistical difference for the components of the DMFT index between the two types of schools studied (Chi-Square Test, $p<0.05$). The group of preschools with a dentist showed to have more access to dental services, although most of the responsible adults reported some difficulty in taking their children to dental treatment at Health Centers. We verified low levels of parental information about caries and most of the families had a monthly income of up to 3 minimum wages. Therefore, the dental care in the EMEIs did not influence the caries prevalence in children; however, it significantly reduced dental treatment needs.

SC038 - Access to public dental care of the elderly

Larissa Sanches PAINO[1]; Sofia Rafaela Maito VELASCO[1]; Nathalia Miraglia WILLIAMS[1]; Debora Foger TEIXEIRA[1]; Letícia Marques de SÁ[1]; José Roberto de Magalhães BASTOS[1]; Roosevelt da Silva BASTOS[1]

[1]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.

There is a consensus in the literature that the elderly have a low access to dental services and has increased the number of elderly people who have never been to the dentist. The objective of this research was to evaluate the prevalence and the elderly access features to public dental services. Elderly aged 65 and over residing in the coverage area of the Family Health Strategy (FHS) in Bauru participated in the survey. The information related to access was collected through a structured instrument. They interviewed 238 elderly, there was a prevalence of elderly people aged 65-74 years (55.46%). On the need to make dental treatment currently, 57.14% answered that they do not require treatment and 84.87% reported

not having presented toothache in the last six months. Almost all elderly (98.31%) have ever been to the dentist. Regarding the time of completion of the last dental appointment, 55.88% said to three years or more that do not refer to the dentist. Regarding the place where the last consultation was held, 57.56% look for private visits and 38.64% public services, and of these 23.10% were treated at FHS closest to your residence. About the reason for performing the last dental appointment, 14.29% were for revision or prevention, only 1.26% reported to be due to pain, 13.87% by extraction, 14.70% by treatments, by 52.94% other reasons, and the most was the exchange of dental prosthesis. Finally, 81.09% evaluated the last call as "Very Good" or "Good". Although the FHS has oral health teams, there is a significant number of elderly people searching for care in private service. We must rescue the need for oral health actions focused on the elderly, in order to awaken in elderly the knowledge and interest in caring for the health of the mouth, especially the younger elderly in order to prevent further injuries such as the tooth loss.

SC039 - Comparative study of tooth wear on different genders in obese patients

Laura Cavalcanti de OLIVEIRA[1]; Joselene Martinelli YAMASHITA[1]; Francisco Juliherme Pires de ANDRADE[1]; André de Carvalho SALES-PERES[1]; Sílvia Helena de Carvalho SALES-PERES[1]

[1]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.

Obesity is seen as the disease of this century, exacerbating both the systemic and oral condition, with dental wear among these conditions. The aim of this study was to determine just how prevalent dental wear and the volume of salivary flow is among obese men and women. The sample consisted of two groups: obese men (G1) with 26 individuals and 26 obese women (G2). Anthropometric assessment was performed using the Body Mass Index (BMI). The Dental Wear Index (IDD) was used to assess dental wear, while saliva was assessed by way of the volume of stimulated salivary flow. For the purpose of statistical analysis, we first applied the data normality test. After this test, the t -test and correlation and analysis of variance tests (ANOVA 1 criterion) were carried out, adopting a 5% significance level 5% and 95% confidence interval. Regarding the t test, there was a statistically significant weight difference between G1 and G2 (G1=154.42±18.88; G2=134.77±21.95; p=0.001). There was no statistically significant difference of wear in vestibular (G1=0.08±0.11; G2=0.10±0.152, p=0.595), occlusal/incisal (G1=0.83±0.22; G2=0.83±0.22; p=0.935) and palatal/lingual surfaces (G1=0.12±0.15; G2=0.07±0.10; p=0.238) of groups G1 and G2. The mean salivary flow was 0.97±0.88 in the G1 group and 0.90±0.55 in G2. It found no correlation between the variables studied. The conclusion reached was that the anthropometric condition (BMI) did not appear to influence the dental wear of the individuals evaluated, but it seemed to interfere with salivary flow, which was below the rate considered normal. Further studies must be conducted on obese individuals to elucidate this issue.

SC040 - Perception of nursing on oral hygiene in isolated patients

Luiz Fernando FREGATTO[1]; Jeferson SANTIAGO[2]; Ana Lúcia Pompéia Fraga de ALMEIDA[2]; Karin Hermana NEPPELENBROEK[2]; Leonardo MARQUES[1,2]; Simone SOARES[2]

[1]University of Marília Hospital.
[2]Department of Prosthodontics and Periodontology, Bauru School of Dentistry, University of São Paulo.

This work is a descriptive study of the perception of nurses working in care team Beneficent Hospital Unimar about the importance of oral hygiene and prevention of nosocomial pneumonia in individual patients for respiratory care. We evaluated the perceptions of 150 employees through a questionnaire multiple-choice with questions involving specific knowledge, oral hygiene methods, institutional protocol, humanization of care and personal appreciation about dental measures employed in the care of patients in isolation for respiratory care. Nurses demonstrate accurate knowledge about the importance of hygiene and oral therapy in patients infected while nursing technicians and nursing assistants had uncertainties regarding the attention to oral health isolated patients for respiratory care. There was a statistically significant difference (p>0.05) when compared to perception of different members of the nursing staff. It is concluded that most members of the care team recognize the validity of oral hygiene measures to prevent nosocomial pneumonia and see continuing education and periodic training as an alternative to remedy the lack of knowledge on the subject and believe that the work overload interferes in nursing care for the oral hygiene measures for patients.

SC041 - Prevention and transmission of hepatitis B in the view of scholars

Mariana Martins ORTEGA[1], Cléa Adas Saliba GARBIN[1], Artênio José Ísper GARBIN[1], Suzely Adas Saliba MOIMAZ[1], Bruno WAKAYMA[1]

[1]Department of Pediatric and Social Dentistry, Araçatuba School of Dentistry, Univ. Estadual Paulista.

The objective was to evaluate the knowledge of dental students about the ways of prevention and transmission of hepatitis B. This was a descriptive transversal study with the participation of 153 undergraduate students, who were in clinical disciplines in a public educational institution. The instrument used was a questionnaire about the subject. It was approved by the Ethics in Research Committee (Case No. 632067) and the analysis used descriptive statistics. Of the total, 77% were already in clinical activity between 1 to 3 years. Only 17% of the students reported having seen patients with hepatitis B, and claimed to have received this information through anamnesis. About the causative agent of the disease, 68% answered that it is viral, but 19% did not know or did not answer this question, and 13% said the form of transmission and not the cause; even though 95% claimed to have already received guidance on the subject. In the case of vaccination most (92%) confirmed to have taken the shots and of these only 27% reported the completion of anti-HBS examination in which the result, according to the reports of respondents - was negative in 47% of cases, therefore they should repeat the vaccination coverage. Of those who took the vaccines, 73% did not perform the blood test and may not be immunized and, thus, susceptible to the disease in case

of accidents. Most (59%) reported having no knowledge of the anti-hepatitis B exam, and also not knowing the meaning of it. It is concluded that there is a lack of knowledge of these undergraduate students on ways of prevention and transmission of hepatitis B and therefore a complementation of this issue is necessary.

SC042 - The importance of accessibility to education in oral health promotion

Mariane Furquim FACHETTI[1]; Rafaella de Souza LEÃO[2]; Bruno Gustavo da Silva CASADO[2]; Kattyenne Kabbaz ASFORA[3]; Sandra Conceição Maria VIEIRA[4]; Gabriela Queiroz de Melo MONTEIRO[3]; Sandra Lúcia Dantas de MORAES[2]; Joel Ferreira SANTIAGO JUNIOR[1]

[1]Department of Health Sciences, University of Sagrado Coração.
[2]Department of Prosthodontics, University of Pernambuco.
[3]Department of Restorative Dentistry, University of Pernambuco.
[4]Department of Pediatric Dentistry, University of Pernambuco.

The aim of this study was to perform the survey the oral health status of a population sample from Arcoverde-PE city. Thereby, by means of the extension project of the University of Pernambuco, a team of dentists and students conducted the monitoring of low-income families (n=418 people). The instrument developed for oral health status of the Brazilian population (SB 2010) was used. The data were tabulated and analyzed considering $p<0.05$. The initial sample showed the number of people being 115 males (27.5%) and 303 females (72.5%) with a mean age of 36.3 years. The average number of years of schooling was 5.04 years and 65 individuals (15.5%) have never been to school. The average monthly income was US 164.4. In this sample, 25.11% reported that they presented in the last three months a level of pain between medium and high. An analysis of the teeth was performed (average/*per* person): carious teeth: 9.5; restored teeth: 8; lost; 16; indicated for extraction; 11.5. In an analysis of the number of decayed teeth and the education level, it was found that patients with 0 to 4 years of study presented a significantly higher caries prevalence when compared to patients who presented up from 7 to 9 years of study, thereby a negative correlation data were identified ($p=-0.71$), there was a significant difference in the comparison of these groups ($p<0.001$). In a comparative analysis of genders, there was a significant difference in the number of teeth restored to the women when compared to men ($p=0.009$). It was concluded that the analyzed region showed an unfavorable level of oral health quality as well as low socioeconomic status, furthermore, the education level influenced significantly the reduction in the number of decayed teeth, and therefore policies for oral health promotion and education should be encouraged in the region.

SC043 - New guidelines point to dental ergonomics inadequacy

Mateus Zamora GALLI[1]; Victor Hugo Pereira MASS[1]; Silvia Helena SALES-PERES[1]; Arsênio SALES-PERES[1]; Ana Virgínia Santana SAMPAIO[1]; Angélica Cristiane Búlio SOARES[2]; Eliel Soares ORENHA[1]

[1]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.
[2]Department of Public Health, Faculty of Dentistry of Piracicaba, State University of Campinas.

Awkward postures can cause musculoskeletal disorders (MSD) that are the major health problems of dentists, and can be enhanced due to the ergonomic deficiency of dental equipment. This cross-sectional observational study aimed to analyze dental equipment according to two methods of diagnosis of ergonomic compliance level. It was evaluated dental equipment used in 39 Primary Health Units of a large city of the State of São Paulo, Brazil. Method 1 (M1), drawn from the requirements in ISO Standards dental equipment and Method 2 (M2) based on ergonomic guidelines proposed by the European Society of Dental Ergonomics - ESDE. The analysis with M1 resulted an average of 87.4% of ergonomic compliance and M2 an average of 57% ($p<0.001$). In the analysis with M2 compared to M1, all dental equipment was more likely to be classified as non-conforming: Dental Stools presented 4 times (OR=4.2191, 95% CI: 2.9047 to 6.1282); Patient Dental Chair 2 times (OR=2.2418, 95% CI: 1.7041 to 2.9492); Dental Unit 2 times (OR=2.2418, 95% CI: 1.7041 to 2.9492); Dental Operator Light 11 times (OR=11.3821, 95% CI: 7.4356 to 17.4232); and Auxiliary Unit 4 times more likely (OR=4.1127, 95% CI: 2.9611 to 5.7122). It was concluded that the guidelines proposed by ESDE showed that the ergonomic compliance level of dental equipment is too low and this increases the risk of MSDs and decreases the quality of life of dentists.

SC044 - Quality of information about toothache in Brazilian websites

Matheus Lotto Almeida SOUZA[1]; Agnes Fátima Pereira CRUVINEL[2]; Thaís Marchini OLIVEIRA[1]; Daniela RIOS[1]; Maria Aparecida Andrade Moreira MACHADO[1]; Thiago CRUVINEL[1]

[1]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.
[2]Discipline of Public Health, School of Medicine, Chapecó Campus, Federal University of Fronteira Sul.

The present study aimed to evaluate the quality of information about toothache available in Brazilian Internet websites. The terms "toothache", "tooth pain" and "tooth hurts" were used to perform the searches of websites in four major Internet tools (Google, Bing, Yahoo and Baidu). Seventy-four websites were selected, sorted into seven categories: academics, dental, health, commercial areas, media press, groups/social networks and nonspecific. An independent examiner assessed the quality of the information by the use of the instruments DISCERN (scores between 18-80) and JAMA Benchmark (scores between 0 and 4), being higher scores indicators of greater quality of information. Kruskal-Wallis, pairwise comparison and Spearman tests were used for statistical analysis. Values of $P<0.05$ are considered for significant

differences. The commercial websites and social networks presented respectively the higher (42.75±7.18) and lower (28.57±4.32) mean DISCERN score, while the websites in the areas of health and social networks presented respectively the higher (1.83±0.98) and lower (0.29±0.49) mean JAMA Benchmark score. Significant differences were observed between the quality of information of commercial websites and social networks (DISCERN) and between nonspecific, dental websites and social networks (JAMA Benchmark). A significant correlation was not observed between the scores of DISCERN e JAMA Benchmark (ρ=0.180, P=0.124). The quality of information available on the websites was considered of low quality, which may interfere negatively in the decision-making process in the search for appropriate treatment and the interaction between health professionals and patients.

SC045 - Oral health: maternal's and dental surgeon's view

Matheus Pacheco CANDIDO[1]; Eduarda Gimenes CORRÊA[1]

[1]School of Dentistry, Southwest College of São Paulo.

Dentistry is developing new concepts of early attention and maintenance of health, based on the principle of completeness, able to transform the daily life of these practices and health care. One can start as soon as possible with health promotion practices empowering mothers and/or caregivers to the responsibility to take care not only of their oral health but also the child seem a way to be considered for the improvement of oral health. This study is justified to the extent that the knowledge and habits of mothers can influence in preventing oral problems in deciduous dentition and may lead to an adult population with oral diseases reduced. Goals: to raise the oral health conditions of children in the vision of mother and/or family caregiver in infancy and compare with the DMF index. The study was held in a USF in the municipality of São Manuel-SP, with a total of 120 people, 60 mothers and 60 children of both sexes (from 0 to 36 months). Oral health conditions of the children (in the view of mothers) are mostly regarded as satisfactory (57), followed by little satisfactory (30), unsatisfactory (10) and very unsatisfactory (3). However, the clinical examination and considering the DMFT index of children, there is a high rate of tooth decay (60), and restorations (70), and only a small percentage of children not submit any trouble oral (15). Even though mothers report a proper oral health in relation to their children, this is not verified in the dental examination, which indicates a high rate of tooth decay.

SC046 - Evaluation of the mouth opening and PTP in obese subjects

Melissa Chacon FINZETO[1]; Francisco Juliherme Pires de ANDRADE[1]; Arsenio SALES-PERES[1]; Silvia Helena de Carvalho SALES-PERES[1]

[1]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.

The present study aimed to evaluate the mouth opening and self-perception of orofacial pain of morbid obese patients indicated to bariatric surgery. The sample is consisted of 45 subjects (30 edentulous or partial that were rehabilitated and 15 fully dentulous), that were evaluated for their mouth opening, by measuring the mandibular range of motion with the assistance of a needle point, and application of Visual Analysis Scale (VAS) to evaluate painful sensation presented by the analyzed individuals. Both tests were performed before and after installation of the dental prosthesis for edentulous and only one for the dentulous. The statistic used was the T Student test for paired data and independent T test for unpaired variables. The mouth opening showed a statistically significant difference after the installation of prosthesis for edentulous ($p<0.05$) and equal levels of mandibular amplitude compared to dentate subjects. After the installation of the prosthesis the self-perceived pain of edentulous patients was significantly reduced and showed differences from fully dentulous ($p<0.05$). The mouth opening for both groups remained within the normal range and the feeling of orofacial pain achieved a significant improvement after the installation of the prosthesis.

SC047 - Enamel defects, socioeconomic conditions and caries: life course

Sofia Rafaela Maito VELASCO[1]; Letícia Marques de SÁ[1]; Débora FOGER[1]; Roosevelt da Silva BASTOS[1]

[1]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.

Studies have shown the decline of caries along with your polarization in disadvantaged groups. It is expected then that we may observe the prevalence of disease in low-income populations. And assuming that oral diseases such as tooth decay, share the same risk factors for other chronic diseases, it is plausible that the explanatory theories for chronic disease can be applied to oral health. Thus, in order to contextualize the caries and socioeconomic status in the children life, we will use the approach of the life course events. The aim of this study was to determine a relationship of enamel defects in permanent incisors and socioeconomic conditions in the oral health of children within the context of the life course perspective. A total of 350 children aged 9-11 years were examined from 13 public schools in the city of Bauru. Tests were performed to the DMFT and DDE to observe the presence of caries and enamel defects, respectively. Moreover, it was sent to the parents a questionnaire about income and education. It was used the Spearman correlation coefficient, adopting the significance level of 5%. It was also used Chi-square test to determine association between DDE and dental caries. Observed the association between caries and DDE ($p<0.04$), defined opacity ($p<0.02$) and opacity ($p<0.01$). It was also observed inverse correlation to child decayed tooth with the mother's education and family income. Regarding the types of enamel defects development (DDE), we observed the correlation of the defined opacity, opacity and DDE with DMFT. The results of the study indicated the association of enamel defects with caries in school, besides that we also observed a correlation between income and education of parents with caries.

SC048 - Oral and functional disorders in institutionalized individuals

Tamiris Enrico ARMENINE[1]; Daniela Coelho de LIMA[1]; Leandro Araújo FERNANDES[1]; Geovane Evangelista MOREIRA[1]; Alessandro Aparecido PEREIRA[1]

[1]Department of Clinical and Surgery, School of Dentistry, Federal University of Alfenas.

This study analyzed the oral disorders and the dependence degree of institutionalized individuals in a medium size city of Minas Gerais. A survey of observational, cross-sectional and epidemiological character performed was carried out using a semi-structured questionnaire and using a form containing the indices adopted by the oral health survey (SB 2010) for the oral clinical exam and the criteria recommended by the World Health Organization Health (WHO) to assess the level of dependence.78 subjects were assessed, 82% aged over 65 and 50% female. The independent level was the highest (51.3%), however, all residents were controlling their condition by means of one or more medications. Regarding oral health, DMFT in this institutionalized population was 30.5 wherein 75.6% edentulism was total and approximately 94.90% required prosthetic rehabilitation. It was found that a large proportion of that population had its own oral hygiene (69.2%), which was statistically different between patients ($p<0.01$), having or not the toothbrush ($p<0.01$) and in relation to the level of dependence ($p<0.001$). The results indicate that oral health of institutionalized can reach poor levels and physical and mental disabilities can further compromise the conditions of the oral health of these individuals, requiring a greater performance of dentists professionals within the long-stay institutions.

ES001 - Atypical oral complication after radiotherapy in the head and neck

Raniel Ramon Norte NEVES[1]; Marcos Martins CURI[2]; Anthony Benites CONDEZO[2]; Rafael Zetehaku ARAUJO[2]; Heitor Albergoni da SILVEIRA[2]; Mariane PEXE[1]

[1]School of Dentistry, University of Sagrado Coração.
[2]Department of Surgery, University of Sagrado Coração.

Radiotherapy in the head and neck may result irreversible consequences in the oral cavity. The objective of this study is to report an unusual clinical case of late complication related to radiotherapy. A 56-year-old male presented a complaint of dysphagia, swollen and discolored tongue. The patient had a medical history of treatment for squamous cell carcinoma of the right retromolar trigone area with a combination of surgery and postoperative fractionated radiotherapy 8 years ago. A total of 68 Gy was applied to the oral cavity and 56 Gy to the entire chain of cervical nodes. Intraoral physical examination, the anterior third of the tongue presented with brown coloring and lack of mobility. Furthermore, the patient had osteoradionecrosis in the mandible, bilaterally. Given the diagnosis of necrosis of the tongue as a result of prior radiotherapy, an incisional biopsy of the area was carried out, confirming the necrosis of soft tissue without any signs of malignancy. Subsequently, the patient underwent hyperbaric oxygenation, partial glossectomy and resection of necrotic bone. The evaluated specimens confirmed the initial hypothesis. One month after surgery, the patient responded satisfactorily, with significant improvement of speech, food intake and decreased discomfort. The remaining language and the affected bones found completely repaired. Necrosis of the tongue is a very rare entity due to its excellent blood supply. It may result from a variety of diseases such as malignant tumors, infections, giant cell arteritis, trauma, embolism after injection of drugs and radiotherapy. A review of the English-language literature until 2015, using the MEDLINE database, revealed only one case of tongue necrosis followed head and neck radiotherapy, thus justifying the presentation of this case.

ES002 - Stevens-Johnson Syndrome: a case report

Ana Carolina Cunha RODRIGUES[1]; Rogério Jardim CALDAS[1]; Gustavo MALUF[1]; Paulo Sérgio da Silva SANTOS[1]

[1]Department of Stomatology, Bauru School of Dentistry, University of São Paulo.

Stevens - Johnson syndrome (SJS) is a severe reaction with the potential for high morbidity and mortality affecting the skin and mucous membrane. Intensive medical care is needed. The objective of this work is to report the case of a 25-year-old man who developed SJS associated with the use of dipyrone. The patient sought medical care complaining of fever and sore throat. His medical history revealed the use of dipyrone for 3 days for headache control. Over a week without treatment, the patient developed cephalalgia, odynophagia, and many bullous lesions on skin, penis and tongue with drainage discharge and pain. Upper endoscopy showed even multiple erosions in the mouth, stomach, and duodenum. At that time, the patient was hospitalized with leukocytosis (13,500 cells/mm^3) and neutrophilia (10,260 cells/mm^3) in his blood count. A dentist examined his mouth, and detected, intraorally, areas of erosion and bullae, particularly on the tongue. As a biopsy of skin lesion had already been performed, the histopathology specimens were reviewed by an oral pathologist who agreed with the general pathologist on the conclusion of a moderate inflammatory reaction in epithelial/connective and perivascular interface with epidermal necrosis, clinically compatible with pharmacodermia/erythema multiforme. Candida and HSV screening were negative. During hospitalization, the treatment consisted of 100 mg hydrocortisone daily for five days, as well as antibiotics (cephalexin), intravenous hydration and liquid-paste food. After 7 days, the patient was discharged with almost completely healed lesions and in a good general health condition. He was also instructed to use only paracetamol for analgesia; other medicines for this purpose could not be used. After a week of discharge, the lesions were no longer present. During a 7-month clinical follow-up, there was no recurrence of the condition.

ES003 - Lip rhabdomyosarcoma: a case report

Ana Carolina Da Costa CAPP[1]; Maria Paula Laterza BRAZIL[1]; Eliane Dos Anjos QUEIROZ[1]

[1]Clinical Integrated Oral Diagnosis Module, Methodist University of São Paulo.

The proposal of the authors was to report a case of mouth rhabdomyosarcoma diagnosed by dentists. An 8-year-old, female, leucoderma, was brought by her responsible for evaluation of an ulcerated lesion in labial mucosa, asymptomatic, with 3 weeks of evolution, progressive growth and without remission, with high hard edges, central region covered by grayish pseudomembrane. It was fixed to the deep planes during palpation with approximately 1 cm in its largest diameter. Incisional biopsy and histopathological examination were performed. The final diagnosis was embryonal rhabdomyosarcoma. The patient was referred to an oncologist and underwent radiotherapy and chemotherapy. The embryonal rhabdomyosarcomas are more common in the first 10 years of life, often between 10 and 25 years of age and represent 20 to 30% of all tumors. Although not common in the mouth, it has important repercussion, both locally and systemically. We can conclude that in these cases, the dentist has an important role in the identification and diagnosis of such injuries when affecting the mouth. Therefore, this assignment also affects the prognosis and survival of patients with rhabdomyosarcoma and other malignant lesions.

ES004 - Oral Cancer and squamous cell carcinoma in young adults

Caroline de Paula OLIVEIRA[1]; Lázara Joyce Oliveira MARTINS[1]; Paulo Sérgio da Silva SANTOS[1]; Eduardo SANT'ANA[1]; Cássia Maria Fischer RUBIRA[1]

[1]Department of Stomatology, Bauru School of Dentistry, University of São Paulo.

Oral cancer is a disease that affects the vast majority adult population over 40 years due to harmful habits of smoking and alcohol. In the past 20 years, epidemiological studies show an increased incidence in individuals under 40 years, especially oropharyngeal and oral cancer. The etiology is unknown, however is considered a genetic predisposition in oral cancer and human papilloma virus appears to be related mainly in the oropharynx cancer. Studies report

that oral cancer behavior is more aggressive in young patients. A 20-year-old female, presented for examination complaining of an increased volume in left dorsum of the tongue, painless about two months. Final diagnosis was squamous cell carcinoma moderately differentiated. Treatment was glossectomy partial, lymph node dissection, chemotherapy and radiotherapy on the tongue and neck. Three months after treatment, a Computed Tomography did not indicate considerable anatomical changes. After six months of follow-up patient is asymptomatic. Oral cancer in patients under 40 years is uncommon but has be considered as hypothesis of diagnosis when they have persistent ulcers, leukoplakia, erythroplakia and swellings on unusual areas of mouth, considering family history of cancer and tobacco use.

ES005 - Keratocystic odontogenic tumor: a case report

Erika Caroline STEINLE[1]; Bruna Barcelos FERREIRA[1]; Caroline BALLARDIN[1]; Fábio Augusto ITO[1]; Lígia Pozzobon MARTINS[1]

[1]Department of Oral Medicine and Children's Dentistry, State University of Londrina.

Keratocystic odontogenic tumor is characterized as being of epithelial development of the jaws, derived from the enamel organ or the dental lamina, corresponding to approximately 11% of all jaw cysts. It is a benign intraosseous lesion of invasive-destructive behavior, with great tendency to relapse. Prevalent in the 2nd and 3rd decades of life, with a prediction for males and the posterior mandible. Usually this is an asymptomatic lesion, discovered in routine radiographic examination, and, occasionally, is observed in cases of greater extension, swelling, drainage or pain associated with a tendency to extend by medullary spaces. Radiographically it was observed a circular or ovoid lesion, well delimited by halo radiopaque, well set margins, sometimes showing radiolucent multilocular aspect. In some cases, the image may appear as a unilocular radiolucent lesion, associated with the crown of a teeth, which may raise doubts to the differential diagnosis, which should include dentigerous cyst, ameloblastoma, calcifying odontogenic cyst, tumor odontogenic adenomatoid and ameloblastic fibroma. Therefore, it is of fundamental importance the execution of the histopathologic evaluation to establish an accurate diagnostic. The treatment choice may be conservative by enucleation and marsupialization or the radical surgery where surgical resection is made. The aim of this case report is to present a clinical case of a white female patient, 52 years old, with a small lesion in the anterior region of the jaw, which became infected, diagnosed as keratocystic odontogenic tumor after histopathological evaluation. It also aimed to discuss the main clinical, radiographic as well the histologic findings of this injury and the treatment modalities.

ES006 - A huge nasopalatine duct cyst: case report

Isabella Cardoso Coimbra de ALMEIDA[1]; Elizandra FRISSO[1]; Ligia Buloto SCHMITD[1]; Tania Regina Grão VELLOSO[2]; Liliana Aparecida Pimenta de BARROS[2]; Fabiana de Freitas Bombarda NUNES[1]

[1]Department of Stomatology, Dentistry Course, Integrated Colleges São Pedro.
[2]Oral Pathology Discipline, Dentistry Course, Federal University of Espírito Santo.

The nasopalatine duct cyst (NPDC) is a non-odontogenic cyst originated from remnants of nasopalatine duct, inside the incisive canal. It is a development cyst with slow and asymptomatic evolution, usually discovered on routine radiographic examination. Radiographic images usually show a radiolucent unilocular area, near or in the upper jaw middle line. Differential diagnosis includes radicular cyst, residual cyst and odontogenic keratocystic tumor, with microscopic differentiation. We present an unusual NPDC case report, because of the huge size of the patient's lesion. A 56 years old male attended the FAESA Dental Clinic for oral prosthetic rehabilitation. Oral examination showed edentulous superior ridge and a swelling of normal color and floating consistency in the anterior and left side of the palate and alveolar ridge. The perceived evolution of the swelling was 3 years. Radiographic image and CT scan showed rounded radiolucent area with delicate and sometimes nonexistent borders, occupying the entire left superior jaw, displacing the maxillary sinus floor and the lateral nasal wall, and crossing midline to the right canine pillar. With main hypothesis of residual cyst, a decompression was performed, and the cystic capsule was sent to the UFES Service of Pathology. Microscopic analysis confirmed the diagnosis of NPDC. The sequence of treatment will be discussed in order to discuss the importance of diagnosis in the patient's quality of life. The presented lesion made prosthetic rehabilitation impossible for many years, greatly interfering with the quality of life of this patient.

ES007 - Uncommon evolution of an ameloblastoma: case report

Isabella Cardoso Coimbra de ALMEIDA[1]; Elizandra FRISSO[1]; Fabiana de Freitas Bombarda NUNES[1]; Tania Regina Grão VELLOSO[2]; Liliana Aparecida Pimenta de BARROS[2]; Ligia Buloto SCHMITD[1]

[1]Department of Stomatology, Dentistry Course, Integrated Colleges São Pedro.
[2]Oral Pathology Discipline, Dentistry Course, Federal University of Espírito Santo.

A 49 years old male patient attended the FAESA dental clinic complaining of painless lesion in the anterior mandible, present for over 10 years. Clinically, it was noticed a gingival swelling of about 1.5 cm between the teeth 31 and 32, and teeth were vital. Radiographic examination revealed a well delimited and multilocular radiolucent area. Based on the main hypothesis of odontogenic keratocystic tumor and lateral periodontal cyst, a biopsy was performed. Microscopic analysis revealed extensive proliferation of epithelial cells in palisade, with inverted nuclear polarization, forming follicles, confirming the diagnosis of solid ameloblastoma. Ameloblastoma is a benign epithelial odontogenic tumor, often asymptomatic, and that can produce large size lesions. It has aggressive behavior and tendency to relapse. The lesions are usually

detected when there is evident bone expansion. Clinically and radiographically, it can resemble cystic lesions, and only microscopic assessment can ensure an accurate diagnosis. This case is unusual because of the great time of evolution perceived by the patient, without significant growth of the lesion. The patient is being followed every 6 months for the diagnosis and treatment of any relapses.

ES008 - Photodynamic therapy in the approach of potentially malignant disorders

Jéssica Araújo FIGUEIRA[1]; Fábio Roberto de Souza BATISTA[2]; Vanessa Cristina VELTRINI[3]

[1]Oral Oncology Center and Department of Pathology and Clinical Propedeutics, Araçatuba Dental School, Univ. Estadual Paulista.
[2]Department of Surgery and Integrated Clinic, Araçatuba Dental School, Univ. Estadual Paulista.
[3] Department of Dentistry, State University of Maringá.

Oral cancer is a seriously public health issue, not just for having high indices of prevalence, incidence and mortality, but also because late diagnosis leads to the need of complex and expensive treatments. The most common type in mouth is the squamous cell carcinoma. Potentially malignant disorders can precede it. These disorders are usually treated by surgical excision, however, in many cases, patients are elderly and/or the extent requires multiple interventions. Photodynamic therapy is a simple type of treatment, minimally invasive, easy to perform, and it has been successfully applied to potentially malignant oral disorders. Since there is no standardization regarding the photosensitizer, the type of irradiation and method of application, our goal was to study the photodynamic therapy and comparatively analyze existing protocols in an attempt to find one that shows greater efficiency, reliability and viability of use. The topical 5-ALA-20%, associated to a LED light, with applications of 15 minutes, 7 days interval and a variable number of sessions according to the response of the disorders, appears to be an interesting protocol worthy of clinical investigations.

ES009 - Severe traumatic injury in hospitalized patient in ICU

Luiz KAWAI JÚNIOR[1]; Letícia Fogaça MENDES[1]; Marcos Martins CURI[2]; Camila Lopes CARDOSO[2]; Carlos Cesar DEANTONI[2]; Cristina ZARDETTO[3]; Daniel Henrique KOGA[3]

[1]School of Dentistry, University of Sagrado Coração.
[2]Department of Oral Surgery, University of Sagrado Coração.
[3]Santa Catarina Hospital, São Paulo, Brazil.

The objective of this study is to report a case that illustrates the role of the dentist in Intensive Care Units (ICU). A 55-year-old female, diagnosed with breast cancer and metastases in the central nervous system, hospitalized in ICU, it developed a sharp bruxism, causing ulcerated lesion on lip. Due to this neurological condition and poor systemic condition of the patient, we chose to adapt a prefabricated mouthguard, acquired in sports store, because the molding to manufacture an occlusal guard was contraindicated. Trismus was very sharp and the dental team performed the removal of this protection, as well as the daily oral hygiene. After a month, the patient begins to move the prefabricated mouthguard, and the nursing staff in an attempt to avoid traumatic injury introduced a provisional Guedel probe, however, this was installed improperly, causing extensive damage to the lower lip patient, with significant loss of tissue. The dental team has been deployed for the treatment of the complication. Treatment was through laser therapy, avoiding surgery and respecting the overall condition of the patient. The lesion was completely repaired one week later. In conclusion, the presence of a dentist in the ICU is not yet the reality of Brazil, and the role of the dentist is very important. In addition, many clinical situations require an interdisciplinary planning for successful treatment.

ES010 - Surgical treatment of sialolith in Wharton's duct

Nathália Nihay Pimenta FUKUSHIMA[1]; Nayra Kawana TURINI[1]; Aline FROSSARD[2]; Daiane Cristina Mendonça dos SANTOS[2]; Antonio CARRILHO NETO[1]

[1]Department of Oral Medicine and Children's Dentistry, State University of Londrina.
[2]Department of Restorative Dentistry, State University of Londrina.

Sialolithiasis is the formation of mineral deposits inside the duct or salivary glands. It mainly affects the submandibular, followed by the parotid and rarely sublingual glands and minor salivary. Low incidence in children and predilection for males. The diagnosis is made by clinical and radiographic examinations. Slow and gradual development, asymptomatic, which may progress to swelling, pain and infection. Treatment may be conservative, using glandular stimulation to facilitate displacement and elimination or, in cases of major salivary stones located in the anterior two-thirds of the duct is surgical removal and intraglandular cases, the excision of the gland. This paper aims to present a case report of giant sialolith located in Wharton's duct. Patient E. J. L., leucoderma, male, 45 years old, was referred to the Dental Emergency Service of State University of Londrina. He complained of pain in the left side of the mouth floor region, halitosis and bad taste. On physical examination, nodular mass, hard consistency, swelling, redness, fever, pain palpation and purulent exudate were detected. Occlusal radiographs were taken, which showed radiopaque image, size 2.5 cm by 1.5 wide, confirming the hypothesis sialolithiasis. It was prescribed Azithromycin, 500mg / day for 5 days, and the patient was instructed to ingest water and apply moist warm compresses. After 11 days, he underwent surgical removal, drain fitting and prescription of Spidufen (Ibuprofen) 600 mg every 12 hours for 3 days. The patient reported feeling well after seven postoperative days, with removal of the drain and was discharged after 14 days. The domain of clinical and radiographic features of sialolith and full anatomical knowledge allows diagnosis and treatment, minimizing patient discomfort, thus preserving vital structures and functions.

ES011 - Temporomandibular joint: 3D analysis in orthognathic patients

Tamara Fernandes de CASTRO[1]; Luiza Roberta BIN[2]; Amanda Lury YAMASHITA[3]; Liogi IWAKI FILHO[4]; Adilson Luiz RAMOS[5]; Mariliani CHICARELLI[6]; Lilian Cristina Vessoni IWAKI[6]

[1]Area of Oral Radiology and Imaging, Department of Dentistry, State University of Maringá.
[2]Department of Dentistry, State University of Maringá.
[3]Area of Dentistry Integrated, Department of Dentistry, State University of Maringá.
[4]Area of Surgery and Traumatology, Department of Dentistry, State University of Maringá.
[5]Area of Orthodontics, Department of Dentistry, State University of Maringá.
[6]Area of Oral Radiology and Stomatology, Department of Dentistry, State University of Maringá.

The aim of this study was to analyze the integrity of cortical bone, position, area and volume of the condyle, and area of the joint space of the temporomandibular joints in orthognathic surgery patients using cone-beam computed tomography (CBCT). Twenty-four patients were divided into: group 1- patients underwent maxillary advancement and mandibular setback and group 2 - patients underwent maxillomandibular advancement. CBCTs were performed in the preoperative period, early and late postoperative. The images were analyzed using Dolphin Imaging & Management Solutions® 11.8 Premium 3D version software. The integrity of the cortical bone was evaluated by visual method. Regardless of surgeries, there were no significant alterations in cortical integrity, volume and condylar torque. However, there was alteration in the condylar area of group 1, in which the right side was higher than the left side (p=0.0475). The prevailing position was the concentric and the rotation was greater in group 1. Thus, with no significant alteration in both condyle and articular space, orthognathic surgery has been shown to be effective and stable in class II and III patients with eight months of follow-up

ES012 - Study of mandibular lingual foramina in CTCB

Victor de Moraes CRUZ[1]; Carla Renata Sanomiya IKUTA[1]; Izabel Regina Fischer RUBIRA-BULLEN[1]

[1]Department of Stomatology, Bauru School of Dentistry, University of São Paulo.

The anterior region of the mandible is a commonly related field to surgical procedures, especially for the installation of dental implants. However, it is an area of occurrence of anatomical variations and their anastomoses, among them is the lingual mandibular foramina, which may cause trans and postsurgical risks as bruising, bleeding and paresthesia, when structures that pierce through it are damaged. The Cone-Beam Computed Tomography permits evaluation and observation of these variables in the surgical planning stage, and thus avoids possible complications related to the presence of the foramina in the anterior mandible. However, it is necessary that the lingual mandibular foramina is identified and studied to avoid complications arising from its presence. Therefore, we selected 50 Cone Beam computed tomography belonging to the image bank of the Department of Stomatology, Bauru School of Dentistry, which were obtained through i-Cat Classic® device. We evaluated the number of lingual foramina, foramina diameter, diameter of the associated lingual foramen, pathway of the lingual foramen and possible anastomoses through i-Cat Vision® program by means of multiplanar reconstructions. In the 50 exams, 74 foramina were found with an average of 1.19 mm diameter. In 24 patients two foramina were found whereas one foramen was found in 26 patients. A total of 50 foramina were found between genial spines and 24 and below them, and for occurrence of these secondary foramina, there is always the presence of a main foramen located between genial spines.

ES013 - Simple bone cyst in the mandibular body

Vinícius Tadeu Batistussi FRANÇA[1]; Newton Cesar KAMEI[1]; Mariliani Chicarelli da SILVA[1]; Letícia Ângelo WALEWSKI[1]; Fernanda LOBO[1]

[1]Department of Dentistry, State University of Maringá.

The relevance of this work is to point the combined diagnosis with surgical treatment in a case of simple bone cyst (SBC) in the jaw. SBC is a pseudocyst, being a routine radiographic finding by having characteristic usually asymptomatic and teeth in the vital region. Most of SBC is located in the body of the mandible, has predominance in males, and occurs in the second decade of life. Radiographs showed integrity of lamina dura, as the expansion of cortical and tooth movements are rare. The proposed treatment is conservative access, curettage of the bone cavity, irrigation and site suturing. In the Dental Clinic of the State University of Maringá, the male patient 18 years old, leucoderma, sought orthodontic documentation. Radiographic examination showed a unilocular radiolucent lesion located in the body of the corresponding extension to the jaw from tooth 35 to tooth 44 and delimited by a radiopaque halo. In intraoral physical examination teeth with vitality without pain symptoms were observed, no bulging of the cortical and no dental mobility. The evolution time was unknown to the patient. The hypothesis of diagnosis was simple bone cyst, keratocystic odontogenic tumor and Stafne defect. Microscopic examination of the collected material showed a thin layer of connective tissue, little inflammatory infiltrate, and absence of tissue or fluid inside the cyst cavity. These findings support the hypothesis of clinical and radiographic SBC. The pathology is difficult to diagnose, since there are numerous lesions with similar clinical and radiographic characteristics of SBC. A definitive histologic diagnosis often is not achieved, due to scarce or inexistent material. The definitive diagnosis of SBC is invariably achieved by the hypothesis and confirmed during surgery.

ES014 - Pigmented lesion in oral mucosa

Wendy Saory HISSANO[1]; Carolina Yoshi Campos SUGIO[1]; José Burgos PONCE[1]; Vanessa Soares LARA[1]; Cássia Maria Fischer RUBIRA[1]; José Humberto DAMANTE[1]

[1]Department of Stomatology, Bauru School of Dentistry, University of São Paulo.

Solitary pigmented lesions are frequently observed in skin; however they are uncommon in the oral mucosa. We report a case of an intramucosal melanocytic nevi, with the aim of describe the clinical and histopathological features of the lesion. A 19-year-old woman attended the stomatology unit reporting the presence of a pigmented spot in the oral mucosa. Clinically was observed a single, brownish lesion, 2 mm in diameter, well-defined limits, asymptomatic, of unknown duration. Excisional biopsy was

performed and the presumptive diagnosis was melanotic macula. Histopathological sections revealed, in the fibrous connective tissue, collections of nevus cells, some of them showing deposits of melanin and melanophages and even some multinucleated nevus cells. Overlying it was covered with lining epithelium. Therefore, a diagnosis of intramucosal melanocytic nevi was established. The most commonly affected site of these pigmented lesions are the hard palate, followed by the vermilion border of the lip and buccal mucosa. Clinical evaluation should include observation of changes in texture, vascularization, pain assessment, and even trauma or amalgam associated with the lesion. Histologically, the intramucosal nevi, is the most common subtype between nevus observed in the oral cavity. The nevus cells, derived from the neural crest, are usually larger and epithelioid when the superficial nevus cells are observed, already deeper nevus cells are elongated and fusiform, even assuming on a neural or fibroblastic appearance. Finally, all intraoral pigmented lesion of unexplained origin should be histopathologically examined, given the clinical similarity between intraoral nevi and early melanoma.

ES015 - Metastatic osteosarcoma of the mandible: case report

Adnaiane Kelly Moraes SOARES[1]; Michelle AGOSTINI[1]; Mario José ROMANÂCH[1]; Bruno Augusto BENEVENUTO[1]

[1]Assistant Professor, Department of Pathology and Oral Diagnosis, School of Dentistry, Federal University of Rio de Janeiro.

A 22 year-old female patient was referred complaining of paresthesia in the mandible. The intraoral physical examination showed a swelling in the lower gingiva involving the vestibular and lingual region of the tooth #18, associated with mobility. During the anamnesis, the patient reported paresthesia in the left mandible and osteosarcoma history in the right lower limb, with lung and abdominal metastases. Radiographically it was observed enlargement of the periodontal ligament in the tooth #18 region. Three weeks later it was observed a gradual growth of the lesion. Incisional biopsy was performed and microscopically it was observed malignant mesenchymal cells producing osteoid material. The final diagnosis was metastatic osteosarcoma. The patient was referred for treatment but died two weeks after the diagnosis. Osteosarcoma of the jaws is a rare malignancy, and it is important for the clinical to know the early clinical and radiographical characteristics such as enlargement of the periodontal ligament to perform early diagnosis and improve patient prognosis.

ES016 - Juvenile non-suppurative osteomyelitis in the mandible: case report

Maria Paula Laterza BRAZIL[1]; Ana Carolina da Costa CAPP[1]; Eliane dos Anjos QUEIROZ[2]

[1]School of Dentistry, Methodist University of São Paulo.
[2]Clinical Integrated Oral Diagnosis Module, University of São Paulo.

The dentist aims to find out the best treatment in cases of an uncommon disease, since there is no consensus in the literature regarding the appropriate treatment of such cases. This case reports a male patient, xanthoderma, 18 years old, with pericoronitis in the left lower third molar. After repeated episodes of remission and exacerbation as well as non-surgical medical treatment, the patient appeared after a year with trismus and submandibular volume enlargement on the left side with signs of inflammation. Imaging exams suggested the presence of bone sequestration and necrotic bone, which suggested juvenile non-suppurative osteomyelitis. He underwent surgery under general anesthesia (sequestrectomy, surgical cleaning and tooth extraction) and long-term antimicrobial treatment. After 6 months of follow-up, the patient presented signs of bone formation. After two years, he is asymptomatic and with no signs of recurrence. Juvenile osteomyelitis is rare, of odontogenic cause and with the possibility of more than one treatment option, but there is no consensus among authors. Some authors advocate the drug therapy associated with the surgery whereas others advocate only the use of drug therapy. In this case we chose the surgical-antimicrobial treatment, thus achieving a good outcome.

ES017 - Radiographic changes in chronic renal patient with hyperparathyroidism

Ana Carolina Guimarães ALVES[1]; Danielly de Fátima Castro LEITE[1]; Daniele Ruggero da COSTA[1]; Fernanda LOBO[1]; Mariliani Chicarelli da SILVA[1]; Lilian Cristina Vessoni IWAKI[1]; Nelí PIERALISI[1]

[1]Department of Dentistry, State University of Maringá.

Chronic kidney disease (CKD) is the structural and functional impairment of the kidney, affecting 8-16% of the world population and reflecting on a major public health problem. This disease presents several complications such as the bone mineral disease associated with CKD (CKD-MBD). The CKD-MBD includes renal osteodystrophy (RO) derived from secondary hyperparathyroidism (HPS) and is responsible for detectable bone changes in radiological studies. Thus, this literature review aims to describe the maxillofacial radiographic changes of CKD patients on hemodialysis with HPS, described in the database PubMed in the last five years. The HPS is characterized by increasing levels of parathyroid hormone in response to low serum concentrations of calcium, promoting RO. The RO comprises skeletal abnormalities such as trabecular variations, bone resorption, osteoporosis, vascular calcifications and brown tumors. For this reason, the radiopaque and radiolucent images may appear in X-ray examinations of the maxillofacial complex in patients with CKD. These radiographic findings in CKD-MBD contained in this review concluded that the radiographic control of this pathology is necessary for an early diagnosis and prevention of major adversities of this clinical condition in chronic renal patients.

ES018 - Use of audiovisual technology in chemotherapy and radiotherapy patients

Beatriz Della Terra Mouco GARRIDO[1]; Bruna Trofino GARCIA[1]; Gabriel Mulinari dos SANTOS[1]; Lázara Joyce O. MARTINS[1]; José Roberto Pereira LAURIS[1]; Paulo Sérgio da Silva SANTOS[1]; Cássia Maria Fisher RUBIRA[1]

[1]Department of Stomatology, Bauru School of Dentistry, University of São Paulo.

Cancer is one of the most occurring disease and the second leading cause of death nowadays. The areas of health play

a key role in the diagnosis, orientation and treatment of this disease, however, the support and cooperation of the patient is of fundamental importance in the success of treatment. This study aims to show the effectiveness of educational alternatives, such as audiovisual mechanism in health awareness and promotion of patients diagnosed with any type of tumor. The video was executed having with target audience the own patients themselves in an attempt to solve possible doubts about the side effects of radio and chemotherapy treatments. The study was done in Multidisciplinary Clinic at FOB-USP. Two groups were evaluated, in one there was the presentation of the video as a complementary method of the instruction provided during dental care and the other not. Both standard information and as the video information are about possible side events in mouth resulting from radiation and chemotherapy. Two questionnaires were applied before and after initial consult. The McNemar test was used for statistics calculations. The results comparing test and control groups did not show a statistically significant difference, thus both methods achieved the goal for the understanding of the side effects caused in the mouth during chemotherapy and radiotherapy treatments. The well conducted dialogue, in the patient language is sufficient for understanding, success and adaptation of patients. However, the use of a more modern tool as an audiovisual video proved to be a simple, effective and alternative method for incorporating education and understanding and consolidation of information to patients.

ES019 - Implant-supported rehabilitation of a tumor resection

Jefry Alberto Vargas CABRAL[1]; Eduardo SANT'ANA[2]; Alberto CONSOLARO[2]; Adriana Campos Passanezi SANT'ANA[3]; Leticia CHIRRARA[2]

[1]Department of Pediatric Dentistry, Orthodontics and Community Health, Bauru School of Dentistry, University of São Paulo.
[2]Department of Stomatology, Bauru School of Dentistry, University of São Paulo.
[3]Department of Prosthodontics, Discipline of Periodontology, Bauru School of Dentistry, University of São Paulo.

The odontogenic myxoma or dental fibromyxoma is a benign tumor that originates in the mesenchymal portion of the tooth germ, either in the dental papilla, in the dentinal follicle or in the periodontal ligament and is composed of cells with an extensive mucoid stoma. Dental myxoma is often associated with agenesis or unerupted teeth. The prosthetic rehabilitation can play an important role in the treatment, especially when the dentition is affected by a tumor as odontogenic myxoma. This case report describes the design and manufacture of a prosthesis in a 17-year-old patient with the presence of myxoma odontogenic tumor in mandible, measuring approximately six centimeters in the anterior region. After incisional biopsy was performed made marginal mandibular resection of six teeth and the tumor, keeping the mandible base with 2.4 millimeters reconstruction plate. After two years five implants were installed at the base of the jaw and rehabilitated with porcelain prosthesis. The surgical and rehabilitative steps should be considered during treatment in order to provide function, esthetics and the inclusion of these patients in society.

ES020 - Oral lichenoid reaction in child: challenge in the diagnostic process

Jéssica Araújo FIGUEIRA[1]; Daniela Brito BASTOS[1]; Renata Callestini FELIPINI[2]; Kellen Cristine TJIOE[1]; Eder Ricardo BIASOLI[1]; Glauco Issamu MIYAHARA[1]; Daniel Galera BERNABÉ[1]

[1]Oral Oncology Center and Department of Pathology and Clinical Propedeutics, Araçatuba Dental School, Univ. Estadual Paulista.
[2]Department of Pathology, Clinical Propedeutics, Araçatuba Dental School, Univ. Estadual Paulista.

Oral lichenoid reaction (OLR) is an immunological mucocutaneous disorder induced by a variety of exogenous substances or drugs. Due the clinical and microscopic similarity between OLR and oral lichen planus (OLP), the OLR diagnosis can be a challenge. Here, we present a case of OLR diagnosed in a child based on the clinical history. A 15-year-old-female was referred to the Stomatology Clinic of Araçatuba Dental School (UNESP) for assessment of a tongue lesion. The intraoral physical examination revealed keratotic white plates located in tongue dorsum, buccal mucosa and lower lip mucosa, with sudden appearance and painless. Initially, the anamnesis was negative for diseases and drugs use and habits history was non-contributory. The diagnostic hypotheses were OLP and hyperplastic candidiasis. Biopsy was performed in tongue dorsum and the histopathological diagnosis was OLP. The oral lesions were initially treated with topical betamethasone (10 mg for 14 days). However, there was no regression of the lesions after this period. In a subsequent investigation of patient's behavioral history she noticed that she had made frequent use of a lollipop when was at school. It was requested the immediate suspension of Lollipop use and 7 days after we observed total regression of the oral lesions. The RLB diagnosis was defined and the topical medication suspended. This case report shows that getting back the anamnesis process in different moments of the patient attendance is crucial for clinical distinction between OLP and OLR.

ES021 - Enucleation associated with cryotherapy in keratocystic odontogenic

João Pedro Paulino MAZZON[1]; Lígia Lavezo FERREIRA[1]; Marcelo Macedo CRIVELINI[2]; Kellen Cristine TIJOE[1]; Daniel Galera BERNABÉ[1]; Janaína Zavitoski SILVA[1]; Glauco Issamu MIYAHARA[1]

[1]Oral Oncology Center, Araçatuba Dental School, Paulista State University.
[2]Department of Pathology and Clinical Propedeutics, Araçatuba Dental School, Paulista State University.

The keratocystic odontogenic tumor (OCD) is an intraosseous tumor, benign, odontogenic and currently ranked by the World Health Organization (WHO) as a benign cystic neoplasm. The jaw is more affected than the maxilla (ratio 3: 1), the lesions tend to grow in the anteroposterior direction, within the medullary cavity with a slight prevalence in males, and is mainly diagnosed in young people and young adults. The objective of this work was to show the use of cryotherapy in a TOC case in an elderly patient. A male patient, 78 years old, Asian descent, tobacco user, who attended the dental clinic of the Faculty of Araçatuba Dental (FOA) complaining of "grown bone" in the jaw region, with eight months and drainage in the damaged area . In the intraoral examination, there was swelling in the vestibular fornix background right jaw. Panoramic and occlusal radiographs

were taken and revealed a radiolucent lesion in the right jaw with well-defined contours. The excisional biopsy of the lesion was performed associated with curettage and cryotherapy and the fragment sent for histopathological examination, which was consistent with OCD. In the postoperative control, radiographs showed up changing the contents of the lesion area, suggesting bone formation. Due to the clinical and pathological features of OCD, only enucleation and curettage do not promote healing in all cases, thus requiring the use of other techniques such as cryotherapy and Carnoy's solution. Strict clinical and radiographic monitoring is necessary for a long time due to high recurrence rates. Currently, the patient is under monitoring. It is concluded that the use of cryotherapy, as literature suggests, has proven to be an effective adjuvant treatment for the enucleation of this type of tumor.

ES022 - Temporomandibular dysfunction evaluated by nuclear magnetic resonance

Tamara Fernandes de CASTRO[1]; Renata Hernandes TONIN[2]; Rafael de Oliveira LAZARIN[3]; Rafael dos Santos SILVA[4]; Liogi IWAKI FILHO[5]; Eduardo GROSSMANN[6]; Lilian Cristina Vessoni IWAKI[7]

[1]Area of Radiology and Imaging, Department of Dentistry, State University of Maringá.
[2]Area of Integrated Dentistry, Department of Dentistry, State University of Maringá.
[3]Area of Periodontics, Department of Dentistry, State University of Maringá.
[4]Area of Prosthodontics, Department of Dentistry, State University of Maringá.
[5]Area of Surgery and Traumatology, Department of Dentistry, State University of Maringá.
[6]Area of General Anatomy and Applied Facial Pain School of Dentistry, School of Dentistry, Federal University of Rio Grande do Sul.
[7]Area of Oral Radiology and Stomatology, Department of Dentistry, State University of Maringá.

The objective of this cross-sectional study was to evaluate whether there is any correlation among age, gender and the amount of temporomandibular disorder diagnoses identified via images of magnetic resonance (MR). Thus, 199 patient records were used and submitted to MR exams from the 2005 to 2012. Among the attendees, it was evaluated the total number of diagnoses found within the MR images, considering whether there was any morphological alterations, disk displacement with reduction or without it, bone edema, effusion, avascular necrosis. The statistical analyses were conducted by means of multivariate logistic and adopting a level of 5% of significance. Regarding the 199 patients, 79% were female and 21% were male, with an average age of 44.47 years old. Regarding the number of what was found, 39.19% of the attendees presented only one diagnosis, 32.66% two diagnoses and 28.14% presented three or more. Conducting the statistical analysis, only the gender had an actual significance ($p<0.05$) to the group of those with three or more imaging findings. Considering the results obtained and the limitations of the study, it can be concluded that the female gender presented a wider number of diagnoses which were gradually increasing by age.

ES023 - Calcification analysis on imaging exams in the carotid artery

Vinícius Tadeu Batistussi FRANÇA[1]; Mariliani Chicarelli da SILVA[1]; Letícia Ângelo WALEWSKI[1]; Fernanda LOBO[1]; Elen de Souza TOLENTINO[1]; Danielly de Fátima Castro LEITE[1]; Nelí PIERALISI[1]; Lilian Cristina Vessoni IWAKI[1]

[1]Department of Dentistry, State University of Maringá.

In the last few years, many studies have been shown the importance of the accurate identification of the pathologic calcifications in soft tissues in dental image exams. The most cited exam is the panoramic radiography because it is frequently used in Dentistry and provides the visualization of a large cervical area. Also, nowadays, the cone beam computed tomographic (CBCT) is being a great option. The aim of this work was to present a review of literature regarding the identification of atherosclerotic carotid in the artery bifurcation region through panoramic radiography and CBCT, and differentiates it from other calcifications. We performed a search in the databases PubMed, Bireme, SciELO and Scholar Google of the following terms in Portuguese and English: atherosclerotic carotid; panoramic radiography; cone beam computed tomography in the period from 1981 to 2015, resulting in 71 manuscripts related to the subject. We found that radiopacities in the neck and head are relatively common findings in dental radiographs, and mostly asymptomatic. The consensus is that the Doppler ultrasonography is the gold-standard exam to identify the stenosis. Anyway, dental practitioners must pay attention in the early detection of images that suggest atherosclerotic carotid, and refer patients for specialized treatment contributing to prevent more serious diseases that could lead to different conditions of invalidity or even the death.

ES024 - Applications development for radiographic techniques teaching

Alcir José de OLIVEIRA JÚNIOR[1]; Felipe Tarosso RÉA[1];

[1]Department of Stomatology, Collective Health and Forensic Dentistry of the Faculty of Dentistry of Ribeirão Preto, University of São Paulo.

Aiming to avoid technical errors and reduce the radiation dose used in the intraoral radiographic examinations, positioners to favor the correct using of the angle positioning of the x-ray head or sensor positioning must be used. Notwithstanding, there are some situations in which the usage of positioners is not viable. Nowadays, the availability of tablets and mobiles with access to the internet has allowed professionals and students to use application resources from those devices in order to have access to information digitally. The aim of this study is to present applications (Android) developed by the students of the Faculty of Dentistry of Ribeirão Preto and use-oriented to practical teaching of the radiographic technique execution by the bisection method without using positioners and occlusal radiographic techniques. Images (photographs taken in a clinical ambiance treated with graphic effects to demonstrate the characteristics of the techniques) and explanatory texts that fed the developed applications through MIT APP Inventor 2 free platform were used. The applications are available for download from Google Play Store under the following denomination [1]RADIO FORP and [2]OCLUSAL FORP. In these versions, it is possible to obtain orientations in order to execute the intraoral radiographic techniques and particularly the bisection angle technique, without

using positioners, to be used in circumstances in which their using are not possible and occlusal technique. The developed applications are relevant tools in practice, easily disseminated, being used by odontology students and dentists which seek to improve the quality of the radiographies and radiographs interpretations, reaching gratuitously and rapidly way the target public.

ES025 - Multiple tooth extractions in cancer patients: indications and risk

Andressa Bolognesi BACHESK[1]; Gustavo Jacobucci FARAH[1]; Marcello PIACENTINI[1]; Clóvis Lamartine de Moraes MELO NETO[1]; Léuri DANTAS[1]; Debora Reis DIAS[1]; Angelo José PAVAN[1]; Neli PIERALISI[1]

[1]Department of Dentistry, University of Maringá.

The surgery combined with radiotherapy has been a major therapeutic methods for the treatment of head and neck cancer, such as primary therapy, or in conjunction with chemotherapy. Although this association provides cure rates and higher survival, the patient is more susceptible to side effects. Among the changes caused by radiotherapy, osteoradionecrosis is considered the most serious, and tooth extraction, through their traumatic stimulation, identified as an important predisposing factor. Apparently, there is an negligence of the professionals involved regarding the rehabilitation of radiotherapy patients, performing dental surgeries without defined protocols and necessary care. Therefore, the objective of this study was to report a case of multiple tooth extractions on a cancer patient whose preventive measures were taken, not occurring developing complications. Also, it aimed to explain the appropriate requirements of this procedure, the risk of developing osteoradionecrosis, and the possibilities of prevention for this sequel. A male patient sought the dental clinic of the State University of Maringá with pain complaints of dental origin. He reported cancer treatment by chemotherapy combined with radiotherapy and surgery. Adequacy of the oral environment procedures were performed, however, the patient developed radiation caries, condemning generally your teeth. Recurrence and cancer metastasis occurred, so that chemotherapy was necessary again. Multiple tooth extractions were then performed, with the exception of the elements 33 and 45, following some of the protocols described in the literature. The oral rehabilitation proceeded with conventional denture and overdenture on teeth. Patient is under observation with postoperative satisfactory results without developing serious sequelae such as osteoradionecrosis.

ES026 - Oral situation of patients with celiac disease: literature revision

Anelise Garcia de MAGALHÃES[1]

[1]National Institute of Superior Teaching and Postgraduation Becomes a Priest Gervásio.

Celiac Disease (CD) is a sensitive intolerance to gluten, a protein found in some cereals like wheat, rye, barley and oats. CD manifests mainly in the first two years of life, but it may occur in adulthood too. It mainly affects the small intestine, and manifested clinically by diarrhea, vomiting and weight loss. The diagnosis is difficult and requires a high degree of suspicion, because there is no just a single test, due to the large number of atypical cases of the disease. Other numerous and diverse symptoms can be found, such as short stature, anemia, osteoporosis , enamel hypoplasia, and also symptoms of the clinical picture of other autoimmune diseases that may be associated with celiac disease, such as diabetes mellitus, dermatitis herpetiformis , thyroid diseases , allergy, recurrent aphthous stomatitis, and others. Given these aspects, we aimed through this study, to analyze the main oral manifestations associated with Celiac Disease demonstrating how such manifestations, when properly observed, may contribute to the diagnosis of CD.

ES027 - Neonatal teeth in premature twins: clinical case report

Anna Beatriz de Faria e SOUZA[1]; Danilo Amâncio COSTA[1]; Pedro de Souza DIAS[2]; Márcio Américo DIAS[1]; Tatiany Gabrielle Freire ARAUJO[1]

[1]Institute of Graduation and Postgraduation Padre Gervásio.
[2]Dental School, Federal University of Alfenas.

Usually the first teeth appear in mouth at around six months of age of a child. However, we can observe anomalies of eruption, when one or more teeth erupt at intrauterine period or between birth and the first month of age. These are called newborn and neonatal teeth, respectively. Other terms such as congenital teeth, fetal, pre-primary and early have also been described. The aim of this study was to report neonatal teeth in twins and their treatment. The databases searched were: www.scielo.com.br, www.bivime.com.br, www.pubmed.com.br and www.dominiopublico.com.gov. Tiny and premature patients of 26 weeks, twins, pheoderma, weighing 1,000 g and 1,100 g, were admitted to the Children's ICU at the Hospital Samuel Libânio. The patients were evaluated and during clinical exam teeth with mobility showing an insertion only in mucous membrane were observed. The diagnosis of neonatal teeth was achieved. Thus, the extraction of the teeth was indicated since of the reasons to avoid the aspiration. Ophthalmic anesthetic was used and extraction and homeostasis were performed. The interaction between the dentist and pediatricians is important, thus allowing a better monitoring and child development, thus providing an early diagnosis and a comprehensive approach aiming health promotion.

ES028 - Cryotherapy: alternative to cases of juvenile spongiotic hyperplasia

Audrey Foster Lefort ROCHA[1]; Livia Assumpção PEDRO[1]; Vinícius Krieger Costa NOGUEIRA[2]; Túlio Morandin FERRISSE[1]; Elaine Maria Sgavioli MASSUCATO[1]; Cláudia Maria NAVARRO[1]; Luciana Yamamoto de ALMEIDA[3]; Jorge Esquiche LEÓN[3]; Andreia BUFALINO[1]

[1]Department of Diagnosis and Surgery, School of Dentistry of Araraquara, Univ. Estadual Paulista.
[2]Department of Pediatric Clinic, Faculty of Dentistry of Araraquara, Univ. Estadual Paulista.
[3]Department of Stomatology, Public health and Forensic Dentistry, Faculty of Dentistry of Ribeirão Preto, University of São Paulo.

The objective of this report is to present two cases of juvenile spongiotic gingival hyperplasia (JSGH), a subtype of inflammatory gingival hyperplasia, commonly seen in children, especially female. JSGH shows an inadequate response to traditional periodontal treatment, and interestingly, after surgical excision, 6-16% recurrence

rate is related. Thus, it was proposed the use of cryotherapy as a therapeutic alternative for cases of JSGH. We report two girls with 9 and 11 years old who had multifocal red spots over the vestibular gum jaw maxillary and mandibular. All lesions had a granular surface with no signs of bleeding. Both cases showed no regression of the lesions after prophylactic interventions. Surgical excision of the focal injury was performed in each case. The final diagnosis was JSGH and in both cases the lesions experienced recurrence after surgical excision. Therefore, cryotherapy sessions were performed in all the lesions during 4 weeks. After 3 months of follow-up, there was a significant regression of lesions and restoration of gingival texture. Cryotherapy appears to be a suitable alternative therapy for cases of JSGH with good acceptance by the pediatric patients, reduce recurrence and satisfactory cosmetic result.

ES029 - Mast cells produce nitric oxide along with phagocytosis of *C. albicans*

Beatriz Gomes MACEDO[1]; Karen Henriette PINKE[1]; Heliton Gustavo de LIMA[1]; Fernando Queiroz CUNHA[2]; Vanessa Soares LARA[1]

[1]Department of Stomatology, Bauru School of Dentistry, University of São Paulo.
[2]Department of Pharmacology, Ribeirão Preto Medical School, University of São Paulo.

The first line of host defense against infections is developed by innate immune system via different cells. Mast cells (MCs) store several mediators in cytoplasmic granules, acting on microorganisms as bacteria, virus, parasites and fungi. Since MCs are strategically located at the host-environment interface, they can act in early stages of *Candida albicans* infection. Candidiasis are among the diseases affecting immunosuppressed individuals and elderly, making relevant the study of immune mechanisms against this fungus. The present study evaluated the interaction between MCs and *Candida albicans* via nitric oxide (NO) production along with phagocytosis, as well as the involvement of TOLL-like 2 receptor (TLR2) and Dectin-1. MCs were differentiated from bone marrow cells derived from wild-type (Wt) or TLR2 KO mice and cultivated in the presence of Interleukin-3 and Stem Cell Factor. Part of the MCs was pre-treated with specific antibodies to blockade their Dectin-1 receptors. To phagocytosis evaluations, MCs had their nucleus stained by DAPi, the fungi were labeled with fluorescein and the green fluorescence from non-internalized fungi was quenched by incubation with Trypan blue. The intracellular production of NO was measured by DAF-FM diacetate Reagent kit. The data were analyzed by Factorial Anova ($p< 0.05$), followed by Tukey test. After challenges, we verified an increased production of intracellular NO along with peak of the phagocytosis, at 60 minutes ($p<0.0001$). The blockade of Dectin-1 resulted in significant reduction of this production ($p=0,003$). Our results showed that the stimulation of MCs with *Candida albicans* triggers the NO production, known to be toxic to internalized fungi. These phenomena were associated with the recognition via Dectin-1. Our data strengthens the importance of MCs in the immune defense against candidiasis.

ES030 - Compound odontoma and imaging examination as semiotics: case report

Caio SAMPAIO[1]; Rudinei Rodrigues RIGUETO[1]

[1]Odontologic Clinic Saúde e Equilíbrio.

Odontoma is the term used to refer to a type of benign dental tumor or hamartoma. They are made based on a mixture of hard and soft tissue, consisting of elements characteristic from histological stages of embryological tooth resulting in enamel and dentin formation, however deposited in abnormal archetypes. Radiographically and histologically it is classified as compound or complex. Compounds odontomas consist of small structures similar to dental tissue or malformed teeth, called denticles, while the complex odontoma consisting of tumor masses of hard and soft tissue of undefined morphology. Hereditary factors, trauma and genetic mutations are seen as key conditions that explain the pathogenesis of the disease. Because they are asymptomatic and have wispy clinical signs, diagnosis is obtained through routine x-ray examinations, orthodontic documentation, or x-ray to set the reason of eruption failure of a permanent tooth. Literature reports profusely the importance of radiographic diagnostic method of injury, in addition to associate the increase of odontomas records with the number of radiographic documentation increase, mainly panoramic radiographs. This study aims to report a case of compound odontoma and excel the imaging examination as primordial semiotic resource for detection of pathology. Melanoderma patient, 17 years old, attended on dental clinic looking for orthodontic treatment. As follows the protocol, the orthodontic documentation was requested. Athwart the panoramic radiograph was found a structure similar to a denticle, confirmed through a second radiographic examination with report which pointed odontoma facing the lingual surface of the teeth 32 and 33. The treatment was performed through a conservative surgical excision, since this type of pathology has a low potential for growth, not bringing evidence of recurrence. The patient is under follow-up without recurrence history.

ES031 - Vegetation on the lower lip impairing the speech

Clara Possarle CUNHA[1]; Aneliza de Fátima Moraes da SILVA[1]; Marcelo Macedo CRIVELINI[1]; Daniel Galera BERNABÉ[1]; Glauco Issamu MIYAHARA[1]; Eder Ricardo BIASOLI[1]; Kellen Cristine TJIOE[1]

[1]Department of Pathology and Clinical Propedeutics, Araçatuba School of Dentistry, Univ Estadual Paulista.

We describe the case of a 45-year-old man complaining about a "growing skin on the lower lip". The time course of the lesion was approximately 45 days. Moreover, the patient reported no pain, bleeding of the lesion when it was mechanically traumatized, and discomfort during speech and swallowing. At intra-oral examination, it was detected a 3cm vegetation located on the lower lip mucosa, physically contacting and displacing the mandibular central incisors. Severe horizontal bone loss of the related teeth was observed. The lesion was pedunculated, reddish with rose-colored focal areas, and was partially covered by a yellowish membrane. The proposed treatment was its surgical excision for anatomopathological analysis, which occurred uneventfully. Microscopic examination of the lesion revealed stratified squamous epithelium containing ulcerated and atrophic areas covering a

granulation tissue with vascular proliferation and diffuse chronic inflammatory infiltrate. The final diagnosis was pyogenic granuloma. The pyogenic granuloma is defined by an exuberant proliferation of blood vessels supported by connective tissue, asymptomatic and developed in response to a local and chronic irritant. Due to its fast growth, the pyogenic granuloma may lead to misinterpretations and be confused with malignant processes. The patient of the reported case report was advised about the role of mechanic trauma in the pathogenesis of lesion and remains under follow-up.

ES032 - Compound odontoma with palatal access: case report

Claudio Freire SESSENTA JUNIOR[1]; Elen de Souza TOLENTINO[1]; Caroline Resquetti LUPPI[1]

[1]Department of Dentistry, State University Maringá.

Odontomas are the most common types of odontogenic tumors, defined as developmental abnormalities and corresponding to about 22% of them. They have no predilection for gender, being diagnosed predominantly in the first two decades of life, occurring mainly in the maxilla and asymptomatic nature. According to the World Health Organization (WHO) these are benign mixed odontogenic tumors because they originate from epithelial and mesenchymal cells, with dental structures (enamel, dentin, cementum and pulp). They are subdivided into two types: compound (formed by multiple denticles surrounded by a fibrous capsule) and complex (tumoriform well-defined mass). This study aimed to report a case of compound odontoma in the anterior maxilla and portray its features. The patient, male, 14, was referred by the orthodontist to Clinic Stomatology (FOB-USP), due to the presence of exostosis punctate in the vestibular region. The panoramic radiograph, the presence of multiple radiopaque areas (like denticles) circumscribed halo radiolucent in tooth region 22 made him come to the presumptive diagnosis of Odontoma. The procedure employed was the total removal of the lesion and sending the material for histopathology, thus confirming the presumptive diagnosis. The patient was followed-up for six months with no signs of recurrence.

ES033 - Paraneoplastic pemphigus in a patient with abdominal lymphoma

Daniela Brito BASTOS[1]; Vitor Bonetti VALENTE[1]; Jéssica Araújo FIGUEIRA[1]; Karina Andrade CARVALHO[1]; Ana Maria Pires SOUBHIA[2]; Eder Ricardo BIASOLI[1]; Glauco Issamu MIYAHARA[1]; Daniel Galera BERNABÉ[1]

[1]Oral Oncology Center, Department of Pathology and Clinical Propedeutics, Araçatuba Dental School, Univ. Estadual Paulista. [2]Department of Pathology and Clinical Propedeutics, Araçatuba Dental School, Univ. Estadual Paulista.

Paraneoplastic Pemphigus (PNP) is a rare autoimmune condition characterized by skin and mucosa lesions. The disease is associated to cancer and has a poor prognosis. We report a case of a patient with lymphoma who was diagnosed with PNP. A 42-year-old man was referred to Stomatology Clinic from Araçatuba Dental School (FOA-UNESP) for evaluation of oral ulcers which had started 20 days ago. The patient revealed treatment for an abdominal lymphoma 3 years. He was awaiting the result of a biopsy performed in the lower abdomen (same region of the neoplasm treated before). The patient sought a dentist who prescribed nystatin and triamcinolone acetonide, but there was worsening in the clinical presentation. Intraoral examination revealed multiple ulcers in buccal mucosa, tongue dorsum, mouth floor and soft palate. It was considered clinical diagnosis of PNP. The biopsy was performed and histopathological examination was compatible with autoimmune disease. Blood tests strengthened the PNP diagnosis. The conduct was to reduce oral symptoms and to inform the hematologist. The recurrence of abdominal lymphoma was confirmed and the patient going to death two weeks later. The oral autoimmune diseases can lead to hidden malignancy diagnosis and be indicative of a poor prognosis.

ES034 - Premalignant lesions

Daniela de Lourdes Simões FERREIRA[1]; Bárbara Eugênia Franco SILVA[1]; Pamela Aparecida DINIZ[1]; Jonas Jean Dutra de OLIVEIRA[1];

[1]National Institute of Higher Education and Postgraduation Padre Gervásio.

Morphological and histological alterations that can assume characteristics of a malignant tumor are called premalignant lesions or precancerous lesions. These lesions can remain paralyzed by a considerable period of time. Leukoplakia is a term used to for a white lesion in the oral region, which cannot be scraped off. It can present smooth, wrinkled or verrucosa surface, being the most frequent lesion of the mouth. It is mainly found on jugal mucosa and lip commissures followed by alveolar mucous membrane, lip, hard and soft palate, floor of the mouth and gums. Its malignancy rate is approximately 5%. Erythroplakia is a plate or red stain, which can be associated with a leukoplakia being a called erythroleukoplakia. In spite of being less common than the leukoplakia, its malignancy rate is higher (14 to 50%). Actinic cheilitis is a condition of inflammatory and potentially malignant nature, which affects the lower lip, due to prolonged and chronic sun exposure. It is generally asymptomatic, being white or red, white with red areas and also ulcerated with a malignancy rate around 10 to 20%. The objective of this work was to perform a literature review about premalignant lesions. The databases searched were: www.scielo.com.br, www.bivime.com.br, www.pubmed.com.br and www.dominiopublico.com.gov. It is concluded that the dentist must pay attention and be informed about the early diagnosis since it can result in an adequate treatment with a favorable prognosis to the patients.

ES035 - Pemphigus vulgaris: a dental and multidisciplinary approach

Danielly de Fátima Castro LEITE[1]; Mauricio Pereira MACEDO[1]; Camila Maria de Sousa SIMAS[1]; Luana Carneiro Diniz SOUZA[1]; Fernanda Ferreira LOPES[1]

[1]Department of Dentistry, Federal University of Maranhão.

Pemphigus vulgaris is an autoimmune intraepithelial blistering disease involving the skin and mucous membranes and with a possibility of following a dangerous clinical course. It affects mostly people over 40, regardless of gender. Oral mucosa is frequently affected in patients with pemphigus, and oral lesions may be the first sign of the disease in majority of patients. The purpose of this study was to report a case of pemphigus vulgaris

in a 29 year-old patient, treated in the dental service of the Hospital - UFMA, São Luis, Maranhão. The patient was admitted with a complaint of the presence of numerous scattered painful ulcers in the mouth that had developed in approximately three weeks and reported that at first, blisters that broke quickly appeared, leading to extremely painful ulcerations. The patient had an uncontrolled picture of pemphigus vulgaris, depression, diabetes decompensated, osteoporosis and gastric ulcer. The patient received multidisciplinary treatment and was treated to control pemphigus and other conditions, showing significant improvement of symptoms. The treatment of pemphigus vulgaris involves the administration of topical and systemic corticosteroids in association with immunosuppressive and pulse therapy to control the disease. At present, the patient is under the care of an interdisciplinary team that includes the dentists. The clinical case contributed to the understanding of the dentist in the dental approach to pemphigus vulgaris.

ES036 - Synchronous tumors of minor salivary gland: rare presentation

Daphine Caxias TRAVASSOS[1]; Andreia BUFALINO[1]; Elaine Maria Sgavioli MASSUCATO[1]; Mirian Aparecida ONOFRE[1]; Cláudia Maria NAVARRO[1]; Jorge Esquiche LEÓN[2]; Rose Mara ORTEGA[1]

[1]Department of Diagnosis and Surgery, Araraquara Dental School, Univ. Estadual Paulista.
[2]Department of Stomatology, Public Health and Forensic Dentistry, Ribeirão Preto Dental School, University of São Paulo.

Multiple salivary gland tumors (MSGTs) can be classified by topographic distribution (unilateral or bilateral) and chronological appearance (synchronous or metachronous). Synchronous presentation of either benign and/or malignant tumors is extremely rare. To our knowledge, to this date, synchronous occurrence of canalicular adenoma (CA) and pleomorphic low-grade adenocarcinoma (PLGA) of minor salivary glands has not been reported in the literature. The aim of this report was to present a rare case of synchronous MSGTs. A 61-year-old woman, heavy smoker for 47 years, presented with chief complaint of "round lesions in mouth, burning and dry mouth". Medical history revealed an extensive record of health issues as depression, hyperthyroidism and cardiopathy. Anticoagulants, antidepressants, analgesics, anti-inflammatory and psychiatric drugs were part of her medication routine. During intraoral examination, 9 discrete, firm to fluctuant submucosal nodules (ranged from 0.2 to 0.8 cm. in diameter) on the upper lip with 12-month evolution were observed. Prospective diagnoses were Sjögren's syndrome and salivary calculi. Excisional biopsy was performed in some nodules and histopathological analysis showed focal area containing PLGA and multiple CAs. The patient was referred to an oncologist who performed a complete resection of the reminiscent nodules. After 6 months of follow-up, no recurrence was observed. After review of the English-language literature, only 11 intraoral MSGTs (either benign or malignant) were identified to date, however, none showed similarity to clinical features and diagnosis of our case. Despite its rarity, this kind of synchronous presentation of MSGTs must be known by dentistry community, especially because a malignant neoplasia showed synchronicity to a benign lesion.

ES037 - The role of Candida albicans in the pathogenesis of oral cancer

Dayanne Simões Ferreira SANTOS[1]; Neli PIERALISI[1]; Vanessa Cristina VENTRINI[1]; Cristiane Melissa THOMAZINI[2]

[1]Department of Dentistry, State University of Maringá.
[2]Department of Pathology, Faculty Inga.

Cancer is the second most lethal disease worldwide. Knowing the risk factors is essential for prevention. The role of microorganisms in carcinogenesis has been studied extensively; for example HPV (human papilloma virus) and bacterium *Helicobacter pylori (H. pylori*), and their participation in cervical cancer and gastric cancer, respectively. Oral cancer is among the most prevalent in Brazil and worldwide. While there is recognition of viruses and bacteria related to cancer, little has been discussed about the role of fungi in the process. One might speculate, in the literature, the possibility of *Candida albicans* participate, initiating or promoting their development, directly or indirectly. Since it is a fungus present in the oral microbiota of most healthy individuals, this study aims to conduct a literature review to try to understand their possible carcinogenic role, as this happens to be very important. We found that there are few data in the literature, but the existing point to effective participation, although it is not clear its real role. They suggest that fungal metabolism products such as acetaldehyde and nitrosamines compounds participate as adjuvants enhancing alcohol and tobacco. It is essential that more studies are conducted. This would help to guide the population screening and prevention campaigns.

ES038 - Oral myiasis and stroke: case report

Elizandra FRISSO[1]; Isabella Cardoso Coimbra de ALMEIDA[2]; Rosângela OLIVEIRA[3] ; Ligia Buloto SCHMITD[2]; Fabiana de Freitas Bombarda NUNES[2]

[1]Dentistry course of FAESA (Integrated Colleges São Pedro), Stomatology discipline
[2]Dentistry course of FAESA (Integrated Colleges São Pedro), Stomatology discipline.
[3]Periodontist CEO (Center for Dental Specialties) of Serra / ES.

Oral myiasis is a disease caused by infestation of tissue by fly larvae, is common in tropical countries. The oral manifestations of the disease are rare and sometimes are related to poor oral hygiene, presence of oral lesions with fetid emanations that attract the flies in search of suitable place to lay their eggs. Senility, neurological impairment and halitosis added gradually hygiene and sanitation conditions can also predispose to this parasitic infection. The male patient, 68, holder of stroke sequelae, coming from the rural area of the municipality of Serra/ES, wheelchair, attended the City of Dental Specialties Centre accompanied by his daughter, to increase evaluation volume with bleeding and fetid mouth odor. During anamnesis the accompanying confirmed the total dependence of the patient to daily activities, antihypertensives and anticoagulants daily use and the second stroke sequelae 2 years ago. General physical examination confirmed a lucid picture, little responsiveness, facial pain, no fever patient, eupneic, controlled hypertension, intense and continuous secretion drooling. Intra-buccally, there was nodular, reddish lesion with localized edema in the tooth 21 on the buccal and lingual surfaces, removing exudate larvae permeating the gingival sulcus of said tooth and bad smell, confirming the

diagnosis of myiasis. The patient was treated with a single 6 mg dose of ivermectin, repeated 7 days after the first dose, analgesic and antibiotic and was done mechanical removal of larvae in three subsequent sessions. The clinical features associated with the social condition of the patient and the procedure adopted will be described and discussed in this work.

ES039 - Adenomatoid odontogenic tumor characteristics – case report

Fernanda Furuse Ventura dos SANTOS[1]; Sabrina FERREIRA[1]; Nathália Januario de ARAUJO[1]; João Martins de MELLO NETO[1]; Juliano Milanezi de ALMEIDA[1]; Idelmo Rangel GARCIA JUNIOR[1]; Edilson ERVOLINO[1]

[1]Department of Surgery and Integrated Clinic, Araçatuba Dental School, Univ. Estadual Paulista.

Adenomatoid odontogenic tumor (AOT) is a benign, non-invasive lesion, presenting limited growing rate that is recognized by its clinical characteristics and variable microscopical pattern. A 19 year-old man, with a chief complaint of growth in the alveolar ridge correspondent to teeth 12 and 13, which were absent, presented to the Clinic of Oral and Maxillofacial Surgery at FOA – UNESP, searching for treatment. During clinical examination a swelling in the referred region was observed, firm to palpation and ulcerated. Tomography revealed a mixed lesion with radiopaque areas in its central region, involving the crown of tooth 12. Image suggested a well-limited lesion, with regular margins, presenting 1.5 cm of diameter. Provisional diagnosis was of Pindborg tumor, calcifying epithelial odontogenic tumor, adenomatoid odontogenic tumor, and odontogenic cyst. Patient underwent excisional biopsy for anatomopathological evaluation. Microscopy analysis revealed an encapsulated lesion filled by sand-like content, involving tooth crown. Microscopically, various dystrophic calcification foci were noted, along with tubular structures formed by ameloblasts, hyperchromatic small cells proliferation, and large cells presenting eosinophilic cytoplasm and pyknotic nuclei, compressed by collagenic and calcified rings, presenting no atypia, confirming the hypothesis o AOT. After a 6-month follow-up, it was possible to observe a decrease of the radiolucent image, suggesting new bone formation with no signs of recurrence. However, patient is still under follow-up.

ES040 - The viability of extractions after radiotherapy

Gissela de Souza BIGUETTI[1]; Gustavo Jacobucci FARAH[1]; Lilian Cristina Vessoni IWAKI[1]; Mariliani Chicarelli da SILVA[1]; Neli PIERALISI[1]

[1]Department of Dentistry, State University of Maringá.

The adverse effects of radiotherapy established in the treatment of head and neck cancer affect significantly the quality of life of their patients. Among them, there is the well-established risk of osteoradionecrosis, resulting of post radiotherapy extraction. However, even if radiation have been finished and despite of a number of reasons justifying its realization, there are many differing views on the appropriate time to perform any surgical procedure, even of small extent. Therefore, this study aimed to evaluate the results of post radiotherapy extraction and the timing for realization, described in the literature. For this purpose, 16 articles of the last 15 years were selected, using the key words ¨"extraction, radiation therapy and osteoradionecrosis". The most frequently cited protocol, named PROTOCLO, was used by Dr. Delanian, composed of associated doses of vitamin E, pentoxifylline and clodronate, the with higher recovery and healing of wounds, showing to be effective and successful for more than a decade. The studies analyzed showed different periods of indication for extraction after radiotherapy, between three months to five years. It was concluded that the extraction is viable after radiotherapy with determined care, however, no definition of the optimal time yet.

ES041 - Using L-PRF treatment of related MRONJ with sepsis

Guilherme SIMPIONE[1]; Gustavo MALUF[1]; Paulo Sergio da Silva SANTOS[1]

[1]Department of Stomatology, Bauru School of Dentistry, University of São Paulo.

The medication-related osteonecrosis of the jaw (MRONJ) is the development of bone necrosis in patients under treatment with anti-angiogenic and anti-resorptive. L-PRF is a concentrate of platelet rich in leukocytes and fibrin that has growth factors used to promote and accelerate the healing of soft and hard tissues, and the promising treatment of MRONJ. A male patient, 78 years old, smoker, with prostate cancer, bone metastasis, used 32 doses of Zometa, was admitted to the ICU with sepsis. It features exposed bone, pus, swelling, pain and redness in the posterior region of the left mandible. Cone-Beam Computed Tomography (CBCT) showed osteolysis beyond the alveolar bone with cortical bone disruption and kidnapping. It was staged as grade 3 (AAOMS, 2014). Because the patient's weakness surgery was not released by the oncologist, it is used Meropenem in the ICU and was discharged after 1 week. But in 2 months it was admitted three times with infection frame, so the surgery has been requested. Surgical resection of necrotic bone was performed, associating the L-PRF, primary closing of the injury and the administration of ciprofloxacin. There was clinical improvement without pain symptoms and signs of infection after four months, but seven months of surgery the patient developed fistulas in the lower left alveolar ridge, swelling and pain. In the CBCT analyzes showed bone and sequestration in the coronoid process was performed so a new surgical resection using the L-PRF. After 14 months there was complete healing confirmed by CBCT. The L-PRF as an adjunct to surgical treatment and it is shown to be a good alternative in the management of MRONJ and shows the importance of the effective treatment of these injuries at imminent risk of sepsis.

ES042 - Gingival cysts of adult: case report

Heitor Albergoni da SILVEIRA[1]; Nataira Regina MOMESSO[2]; Paulo Domingos RIBEIRO[2]; Camila Lopes CARDOSO[2]; Andréia Aparecida da SILVA[2]

[1]School of Dentistry, University of Sagrado Coração.
[2]Department of Oral Surgery, University of Sagrado Coração.

Gingival cyst of adult is an uncommon odontogenic cyst, etiologically related to the dental lamina. The aim of this study was to report a clinical case diagnosed as gingival cyst of adults. A 60-year-old male patient was referred

in our department for evaluation of lesions located in the anterior region of the left maxilla, close to the teeth 21 and 22. In clinical examination showed nodular lesion, normal color, well-defined, with evolution of approximately five months, asymptomatic, with no radiographic evidence. The main clinical hypotheses were lateral periodontal cyst and gingival cysts of adult. Based on such information, it performed excisional biopsy and the material sent for histopathological examination. Microscopically noticed cystic lesion lined by squamous epithelium with either cells with flattened cells, sometimes with cuboid cells. Epithelial thickening areas were also present. After 3 years, the patient is well with no signs of recurrence. We concluded that the Gingival Cysts of Adult is an unusual odontogenic cyst, but should be included in the differential diagnosis of gingival lesions.

ES043 - Calcifying cystic odontogenic tumor treated with decompression

Ingrid da Silva SANTOS[1]; Vitor Bonetti VALENTE[1]; Saygo TOMO[1]; Antônio Augusto Ferreira de CARVALHO[2]; Renata CALLESTINI[2]; Eder Ricardo BIASOLI[1]; Daniel Galera BERNABÉ[1]; Glauco Issamu MIYAHARA[1]

[1]Oral Oncology Center, Department of Pathology and Clinical Propedeutics, Araçatuba Dental School, Univ. Estadual Paulista. [2]Department of Pathology and Clinical Propedeutics, Araçatuba Dental School, Univ. Estadual Paulista.

Calcifying cystic odontogenic tumor (CCOT) is a relatively rare lesion of oral and maxillofacial region and forms only 2% of all odontogenic tumors with clinical presentation and histopathological diversity. It generally affects young adults in the third to fourth decades, with no gender predilection. The aim of this study is to report a case of CCOT, which was treated by decompression, followed by enucleation of the lesion. The patient, a 71 years-old male, with medical history splenomegaly, attended in Oral Oncology Center to the Stomatology Clinic of Araçatuba Dental School (FOA-UNESP) complaining of swelling in the jaw, which hindered the use of the lower denture. During clinical examination, we observed diffuse tumefaction in the anterior mandible, with 4 cm, inaccurate limits, painless, flat surface, fibrous consistency, with six months of evolution. Panoramic radiography and computed tomography (CT) showed a radiolucent and well-defined lesion with radiopaque halo, located in the anterior mandible extending to the left side. An incisional biopsy was performed and the microscopy examination diagnosed CCOT, followed by the installation of a decompression device in the lesion. After 8 months of follow-up, there was significant reduction of clinical and radiographic lesion, with increased radiopacity observed in panoramic radiography and CT. Enucleation of the lesion was performed, and the histopathological analysis suggested CCTO. After one-year follow-up, radiographic examination and CT showed adequate bone repair of the operated area. The findings from this case suggest that decompression and subsequent enucleation can be successfully applied for the treatment of CCOT in patients with extensive lesions in the jaw.

ES044 - Diagnosis of vertical root fractures with cone beam computed tomography

Irma Milena Menck ROMANICHEN[1]; Lilian Cristina Vessoni IWAKI[1]; Sergio SABIO[1]; Mariliani CHICARELLI[1]; Cassia Almeida FIORENTINI[1]

[1]Department of Dentistry, State University of Maringá.

The study evaluated the relation between de exposition parameters (DAP function) and the diagnosis accuracy on root fractures by means of Cone Beam Computed Tomography (CBCT), using different fields of image (FOV) e voxels. A sample with 20 teeth (10 fractured and 10 non-fractured), they were put in five human jaws which alveoli were macerated and after scans were realized in i-Cat Next Generation (Imaging Sciences International, Hatfield, PA, USA). 18 exposition parameters were tested. In this study was obtained that the exposition parameter 1 (FOV 8 X 8 cm, voxel 0.125 mm, 120 kVp and 26.9 seconds) had better resolution, according to analyses results realized by examiners, but the parameters 7 and 9 were the only ones that presented the dose-area product (DAP) under 250 mGy cm^2, based on the reference levels stated by the Seventh Framework Programme of the European Atomic Energy Community from de SEDETEXCT project. FOV and matrix sizes had a little contribution to improve the diagnosis accuracy. Exposition parameters 2 and 7 with DAP values of (283 mGy cm^2 and 243 mGy cm^2), respectively, are suitable for FRVs diagnosis.

ES045 - Ameloblastoma: the importance of correct diagnostic

Irma Milena Menck ROMANICHEN[1]; Vanessa Cristina VELTRINI[1]; Gustavo Jacobucci FARAH[1]; Helder Fernando BORGES JUNIOR[1]; Caroline Resquetti LUPPI[1]; Yasmin Firmino de SOUZA[1]; Isabella Maria ZANUTT[1]

[1]Department of Dentistry, State University of Maringá.

Ameloblastoma is a benign epithelial odontogenic tumor with a huge clinical significance, since it has a slow growth, but invasive. Ameloblastomas are tumors that have epithelial odontogenic origin. Theoretically, they can come from remnants of dental lamina, developing enamel organ, also from epithelial lining of an odontogenic cyst or from the oral mucosa's basal cells. Radiographically, it can appear in three different types, conventional solid or multicystic (approximately 86% of all cases), unicystic (about 13% of all cases) and peripheral (extraosseous) (close to 1% of all cases). The three types have different prognosis. The aim of this task is to report the case of a 54-year-old female patient who complained about her dental prosthesis being "loose". Clinically, there was an expansion on the mandibular cortical bone. Radiographically, it was possible to see a radiolucent lesion, unilocular, well-defined and sclerotic margins, in the region of the teeth 44 and 46. The initial diagnostic hypotheses were Residual Radicular Cysts and Keratocyst Odontogenic Tumor. An excisional biopsy was done and the histopathological result was compatible with ameloblastoma. The patient was subjected to peripheral ostectomy, then it was placed a 2.4-mm reconstruction plate to avoid pathological mandibular fracture. An autogenous bone graft was performed. The patient is being monitored for 11 months, without recurrence so far.

ES046 - Ectodermal dysplasia: case report involving family members

Isabela Costa MARTINEZ[1]; Cintia BERNER[1]; Diogo Tales da SILVA[1]; Ana Regina Casaroto MORESCHI[1]; Gustavo Zanna FERREIRA[1]; Elen de Souza TOLENTINO[1]

[1]Department of Dentistry, Maringá University Center.

Ectodermal Dysplasia (ED) occurs due to defects in the development of the ectoderm tissue, causing problems in hair, nails, sweat and sebaceous glands, and teeth. It can be classified into 1) Pure: the defect occurs only in tissue development, with hypotrichosis (presence of thin or sparse hair, eyelashes and eyebrows), hypodontia (congenital partial absence of teeth) or anodontia (complete absence of teeth), hypohidrosis (total or partial absence of sweat glands), and irregular or conoid teeth with common delay in its irruption; and 2) Non-pure: the defect in tissue formation is associated with cleft lip, congenital limb defects, spinal deviations among others. Dental management of these patients aims to return aesthetic and function, which requires a multidisciplinary therapy. The aim of this work was to review the literature regarding this subject and report a case of a male patient, 10 years old, leucoderma, with ED syndrome, evaluated in the Project of Oral Lesions at Unicesumar-Proleb, which presented hypotrichosis, hypohidrosis with episodes of hyperthermia, supraorbital and frontal bossing, wrinkled and pigmented periocular skin and lip protuberance. Intraoral examination revealed hypodontia and teeth with conoid format, and most of them had the open apex. Family history revealed his mother and one brother with hypodontia and conoid teeth. The case illustrates the challenge of therapeutic intervention in these patients; there is often the need for monitoring the progression of tooth eruption and emphasis on cleaning and care of teeth present. Periodic reviews will be essential in the evolution and outcome of the case.

ES047 - Squamous cell carcinoma in tongue: clinical case report

Isabela Silva ARAÚJO[1]; Maíra Vilhena STRACCI[1]; Maraisa Teodoro de SOUZA[1]; Franciele Carla BELARMINO[1]; Emily FRANCISLENE[1]; Pedro de Souza DIAS[1]; Tatyane Gabrielle Freire ARAÚJO[1]; Márcio Américo DIAS[1]

[1]Dental School, National Institute of Higher Education and Postgraduation "Padre Gervasio".

Squamous cell carcinoma represents about 90-95 % of the malignant neoplasms that affect the oral cavity. Usually affects males, aged over 50 years, in most cases with a history with high consumption of alcohol and tobacco, being located in the tongue region. The clinical characteristics of this neoplasm are distinct regardless of the age of the patient, but a classical characterization, and given by the presence of persistent ulcer with hardening and peripheral infiltration, associated or not to vegetations, whitish or reddish. The aim of this study was to report a case of a biopsy of a lesion of tongue with presumptive diagnosis of carcinoma, whose diagnosis was confirmed after histopathological examination. The prognosis for the squamous cell carcinoma is quite doubtful, hence the importance of a physical examination and appropriate for the clinical diagnosis as early as possible is crucial, thus favoring the patient's health state.

ES048 - Burning mouth syndrome: review of literature and a case report

Julia Cavalca MASSONI[1]; Greison Rabelo de OLIVEIRA[2]; Natasha Magro ÉRNICA[2]; Geraldo Luiz GRIZA[2]; Eleonor GARBIN JUNIOR[2]; Fabiana SEGUIN[3]

[1]State University of West of Paraná.
[2]Department of Traumatology and Oromaxillofacial Surgery, State University of West of Paraná.
[3]Department of Pathology, State University of West of Paraná.

Burning mouth syndrome (BMS) is considered a burning sensation in oral mucosa, mainly in the tongue, palate and gingiva, without any clinically evident of specific lesions. It is considered a syndrome because of the associated symptoms, like oral dryness, alterations on taste and smell, paresthesia and intolerance of prosthesis use. BMS symptomatology has chronic evolution, pain levels vary between weak and strong and in some cases spontaneous remission occurs. Although the cause of BMS is unknown, a complex association of local, neural, systemic and psychological factors has been identified, suggesting the existence of a multifactorial etiology. Interdisciplinary and systematic approaches are required for better patient management, however oftentimes are considered ineffective. The purpose of this study was to report a case of BMS and review the literature about your diagnostic, etiology and treatment. The patient S.M.C, female, 42 years old, reached for the Center of Dentistry Specialties on University State of West of Paraná complaining of burning sensations in the mouth. According to the physical exam, it was not observed any condition that justified the symptomatology. Correlating with anamnesis, the diagnostic hypothesis was BMS. The treatment was mouthwashes with dexamethasone elixir with significant improvement of the case. In summary, BMS is a syndrome with complex etiology without a pattern management; the identification of possible causes and treatment of choice is a responsibility of the Dental Surgeon.

ES049 - Atypical manifestation of Gardner's Syndrome: a case report

Juliana Dreyer da Silva de MENEZES[1]; Willian Caetano RODRIGUES[1]; Marina Reis OLIVEIRA[1]; Marisa Aparecida Cabrini GABRIELLI[1]; Eduardo HOCHULI-VIEIRA[1]

[1]Department of Diagnosis and Surgery, Araraquara School of Dentistry, Univ. Estadual Paulista.

Gardner's Syndrome is a rare autosomal dominant disorder characterized by the presence of multiple osteomas, tumors of the hard and soft tissues and intestinal polyps with high potential for malignant transformation. Compounds odontomas, hypodontia, supernumerary teeth, impacted teeth and hypercementosis can also be observed in approximately 30% of patients. The present study describes an atypical case of Gardner's syndrome with presence of bilateral coronoid hyperplasia causing mouth opening limitation and a fibromyxomatous lesion in the mandibular body. Imaging exams have shown multiple osteomas diffusely distributed in the craniofacial skeleton, leading to suspicion of Gardner's syndrome. Diagnosis was subsequently confirmed by specific exams. The patient underwent surgery under general anesthesia for removal of the mandibular fibromyxoma and bilateral coronoidectomy. In the postoperative follow-up normal mouth opening and lack of local paresthesia were observed. The dentist may play an important role in

the early diagnosis of this condition, thus one should be familiar with the classic maxillofacial conditions caused by the disease and take in account that, although rare, other characteristics may be present as described in this clinical case.

ES050 - Ulcers and erosions spread throughout the oral mucosa

Ketelin Juliane DAL PRÁ[1]; Aneliza de Fatima Moraes da SILVA[1]; Renata CALLESTINI[2]; Daniel Galera BERNABÉ[1]; Glauco Issamu MIYAHARA[1]; Eder Ricardo BIASOLI[1]; Kellen Cristine TJIOE[1]

[1]Discipline of Stomatology, Department of Pathology and Clinical Propaedeutics, Araçatuba Dental School, Univ. Estadual Paulista.
[2]Discipline of Pathology, Department of Pathology and Clinical Propaedeutics, Araçatuba Dental School, Univ. Estadual Paulista.

Pemphigus vulgaris is an autoimmune, chronic and severe disease characterized by the production of auto-antibodies reactive against desmosomal glycoproteins. It does not present predilection for sex and the average age at diagnosis is 50 years. If not treated, this disease can lead the patient to death. Our aim is to report the case of a patient who was diagnosed with pemphigus vulgaris by our team after consulting other medical professionals. A 39-year-old woman complained about "stomatitis in the mouth". She declared to have lesions throughout of oral cavity that appeared and disappeared in different locations for about three months. A dermatologist previously performed a biopsy but it was inconclusive. The treatment prescribed by him (anti-inflammatory, antibiotic, and multivitamin prescriptions) was ineffective. The intra-oral examination revealed erosions and ulcers presented in the buccal and labial mucosa, dorsal and ventral aspects of the tongue, lower and upper gingiva, and hard palate. The mucosa was fragile and easily loose when manipulated. Incisional biopsy of a non-ulcerated area was performed and the microscopic analysis exhibited an intraepithelial cleft containing acantholytic cells and with persistence of basal layer of the epithelium attached to the connective tissue, which presented unspecific chronic inflammatory infiltrate. The final diagnosis was pemphigus vulgaris. In order to control the patient's signals and symptoms, prednisone 30mg/day was prescribed and the patient was referred to a reference center. She returned 3 weeks after and showed significant improvement of oral lesions, but it was observed one ulcer in the ocular region that has been treated and monitored. This case report reinforces the importance of the dentist in the early diagnosis and management of oral lesions that may be the first manifestations of a systemic disease.

ES051 - Vascular leiomyoma in the lip: diagnostic challenges - a case report

Lafayette Dolphine GRENIER[1]; Andressa Bolognesi BACHESK[1]; Amanda Bolognesi BACHESK[1]; Luiza Roberta BIN[1]; Neli PIERALISI[1]; Vanessa Cristina VELTRINI[1]

[1]Department of Dentistry, State University of Maringá.

Vascular leiomyoma is a benign tumor of smooth muscle, most commonly found in genitourinary and gastrointestinal tracts. In utero, corresponding to 95% of the tumors; already in the mouth, neoplasia is considered rare, with a prevalence of less than 1%.
It presents itself as a firm nodule, sessile base, asymptomatic, slow growth and located preferably in tongue, lips and palate, being confused with several injuries of higher prevalence. The objective of this study was to report a case of this injury underreported in the literature, and its difficult diagnosis, commonly confused with persistent caliber artery. A male patient, 73, melanoderma, came to dental clinic of UEM complaining of "ball on the lip." Intraoral physical examination, there was a lump in the lower labial mucosa, left, with about 5mm in diameter, firm consistency, smooth surface, similar staining the mucosa, asymptomatic and with 2 years of evolution. Excisional biopsy and the specimen sent for histopathological analysis was performed. Microscopically, had vascular spaces of different diameters, with significant thickening of the smooth muscle wall, and calcification foci of glandular tissue with fat infiltration and atrophic acini. Surgical excision is indicated with little recurrence and good prognosis. Patient is under observation, without recurrence and presenting satisfactory results.

ES052 - Combination of rare pathology in the temporomandibular joint

Leonardo Alan DELANORA[1]; Letícia Ângelo WALEWSKI[1]; Mariliani Chicarelli da SILVA[1]; Lilian Cristina Vessoni IWAKI[1]; Rafael Santos SILVA[1]; Gustavo Zanna FERREIRA[1]; Rodrigo Lorenzi POLUHA[1].

[1]Department of Dentistry, State University of Maringá.

The objective of this study was to report a case of osteoarthritis in rapid progression combined with synovial chondromatosis temporomandibular joint (TMJ). Osteoarthritis is an inflammatory condition associated with bone disorders. Synovial chondromatosis is a rare metaplastic disease of the joints and can erode the cranial base, and even intracranial spread. The patient is leucoderma, 32 years old, female, attended in the Dental Clinic of the State University of Maringá with initial complaint of limitation in mouth opening, joint pain severe bilateral and muscle. It was observed in magnetic resonance imaging of anterior articular disc left without recapture. The initial treatment was appropriate guidance, physical therapy, drug therapy, occlusal splint. In evolution, corticosteroid injection was performed bilaterally in the TMJ, then was held at the left TMJ arthrocentesis and viscosupplementation with sodium hyaluronate. The diagnosis of computed tomography cone beam in the left TMJ was compatible with osteoarthritis and synovial chondromatosis, showed structural changes in condyle planing, osteophytes, subchondral cysts and irregularities of the glenoid fossa. The patient is monitored for five years without spontaneous pain and lack of facial asymmetry. It has slight pain, located in the left TMJ under palpation. The images of the advanced stage of osteoarthritis do not reflect the disease accurately, and synovial chondromatosis have aggressive potential. It concludes that it is necessary methods to deformity identification to document and possible treatment strategy.

ES053 - Oral complications in a patient with acute myeloid leucemia

Letícia Fogaça MENDES[1]; Letícia Nunes de FREITAS[1]; Luiz KAWAI JÚNIOR[1]; Rafael Zetehaku ARAUJO[2]; Camila Lopes CARDOSO[2]; Marcos Martins CURI[2]; Cristina ZARDETTO[3]; Daniel Henrique KOGA[3]

[1]School of Dentistry, University of Sagrado Coração.
[2]Department of Oral Surgery, University of Sagrado Coração.
[3]Santa Catarina Hospital, São Paulo, Brazil.

Acute myeloid leukemia (AML) is a kind of cancer in the bone marrow that invades the peripheral blood. AML is characterized by the rapid proliferation of abnormal and immature malignant cells, which do not perform its function and also accumulate in the bone marrow, interfering with the normal production of other blood cells. It is the most common type of acute leukemia affecting adults, and its incidence increases with age. The aim of this presentation is to report a 48-year-old male patient, diagnosed with AML, submitted to chemotherapy in order to induce remission and which was accompanied by the dentistry team in the treatment of post-chemotherapy oral mucositis. After a year under chemotherapy with relapse of leukemia, there was a transplant indication of allogeneic hematopoietic stem cells. The patient was subjected to high-dose chemotherapy and subsequently transplanting evolved with graft-versus-host disease (GVHD) acute, involving the viscera, skin and mouth. Due to the GVHD, the patient died few weeks after transplantation. This case illustrates the role of the dentist in the hospital and as a professional in multidisciplinary teams for cancer treatment, specifically in the diagnosis and treatment of manifestations and oral complications of a leukemic patient.

ES054 - Spindle cell squamous cell carcinoma: case report

Livia Assumpção PEDRO[1]; Audrey Foster Lefort ROCHA[1]; Daphine Caxias TRAVASSOS[1]; Alfredo Ribeiro da SILVA[2]; Jorge Esquiche LEÓN[3]; Mirian Aparecida ONOFRE[1]; Andreia BUFALINO[1]

[1]Department of Diagnosis and Surgery, Araraquara Dental School, Univ. Estadual Paulista.
[2]Department of Pathology, School of Medicine of Ribeirão Preto, University of São Paulo.
[3]Department of Stomatology, Public Health and Forensic Dentistry, School of Dentistry of Ribeirão Preto, University of São Paulo.

The objective of this study was to present a spindle cell squamous cell carcinoma (SpSCC) case report, which is a rare biphasic malignant neoplasm, uncommonly affecting the oral cavity. The diagnosis is difficult especially when it exhibits a tissue sample that is inadequate for morphological analysis or an association with exuberant inflammatory reaction. This case showed the importance of immunohistochemistry as an aid in the differential diagnosis of these lesions. A 49-year-old man was referred to our service complaining of "painless injury on the tongue" with 20 days of duration. He reported smoking and alcohol consumption. Medical history revealed SCC on the tongue treated with surgery and radiotherapy 10 years ago. Intraoral examination showed a polypoid lesion with ulcerated areas, measuring 3 cm in diameter, on posterior tongue and floor of the mouth. Microscopic analysis showed small foci of carcinomatous component admixed with exuberant inflammatory reaction. Immunohistochemistry highlighted the sarcomatous component. Both malignant components showed positivity for CK, EMA, p63, vimentin, CD138 and p53. Ki-67 labelling index was >10%. This case emphasizes the importance of immunohistochemistry in the differential diagnosis of SpSCC from mimics.

ES055 - Study of medication-related osteonecrosis without bone exposure

Mariane PEXE[1]; Camila Lopes CARDOSO[2]; Marcos Martins CURI[2]; Maria Flávia RODRIGUES[2]; Cláudia CURRA[2]; Carlos César DEANTONI[2]; Osny FERREIRA JÚNIOR[3]; Andréia Aparecida da SILVA[2]

[1]School of Dentistry, University of Sagrado Coração.
[2]Department of Oral Surgery, University of Sagrado Coração.
[3]Department of Stomatology, Bauru School of Dentistry, University of São Paulo.

The aim of this study was to evaluate cases of medication-related osteonecrosis of the jaw (OM) without clinical bone exposure, given the paucity of research on this clinical variant. Following the favorable decision of Ethics Committee, medical records and panoramic radiographs of patients diagnosed with OM were evaluated retrospectively. The study included only cases of OM without clinical bone exposure. Patients treated by head and neck radiation therapy or presenting clinical bone exposure were excluded. Through the selected records were collected the following information: age and gender of the patient, type of systemic disease, type of bisphosphonate, time of use and administration. Radiographic analysis was performed using panoramic radiograph. The jaws were divided into sextants to assess the presence of: osteolysis, bone sequestration, bone sclerosis, periosteal reaction, abnormalities in the lamina dura, presence of pathological fracture. Only five patients were included in this study, all of oncological and female. The average age was 57.6 months, the type of bisphosphonate Zometa was administered intravenously with the average time of 114 months. Regarding the radiographic study, bone sclerosis was the most frequent finding, followed by osteolysis, and abnormalities of the lamina dura. The mandible was more affected than the maxilla. Through this study, it was concluded that patients with OM without bone exposure, present significant radiographic changes, emphasizing the importance of radiographic analysis in patients who make use of antiresorptive drugs in an attempt to prevent or diagnose early bone changes.

ES056 - Chronic ulcerative stomatitis: a systematic review

Mariel Ruivo BIANCARDI[1]; Tulio Morandin FERISSE[1]; Darcy FERNANDES[1]; Elaine Maria Sgavioli MASSUCATO[1]; Andreia BUFALINO[1]

[1]Department of Diagnosis and Surgery, Araraquara Dental School, Univ. Estadual Paulista.

The purpose of this study was to perform a systematic review about clinical, histopathological and immunopathological characteristics and treatment for chronic ulcerative stomatitis (CUS). Two research approaches, one manual, and the other in PubMed and SCOPUS search were conducted to identify English-language articles published from January 1962 through December 2015, providing details regarding the clinical and immunological features as well as management of patients with CUS. The sample

was composed of eleven studies that fulfilled the criteria for inclusion in the review; and most patients were white women in the fifth and sixth decades of life. The clinical and microscopic features were very similar to those observed in oral lichen planus and oral lichenoid lesions, which requires the use of direct immunofluorescence for final diagnosis. The results of this study suggest that small number of reports do not allow determining the real prevalence and features of CUS. Further studies with a larger number of cases should be performed to reliably assess the clinical and immunological characteristics of this condition.

ES057 - Impacted canine associated with odontoma and supernumerary tooth

Michelle de Sousa NEVES[1]; Jeanderson Costa PORTELA[1]; Cinthia Magalhães RIBEIRO[1]; João Adolfo Costa HANEMANN[1]; Felipe Fornias SPERANDIO[1]; Renato do Prado Gomes PEREIRA[2]

[1]Federal University of Alfenas.
[2]Mineiro Institute of Post-Graduation.

Impacted teeth are those that are retained inside the bone or submucosal and prevented from erupting due to some obstacle between the germ of this tooth and the oral cavity. These obstacles can be fibrous gingival tissue, dense bone, odontoma, supernumerary tooth, lack of space in the arch or any genetic abnormality. The objective of this work was to present a case report illustrating the success of conservative treatment involving a retained lower jaw canine associated with odontoma and a supernumerary tooth. A male patient, 14, Afro-Caucasian, was referred to the Clinic of Stomatology, Unifal-MG, by his orthodontist for injury assessment associated with tooth 33, discovered in orthodontic pretreatment radiographic examination. In the interview, the patient reported no significant change. During the oral examination, there was absence of tooth 33 and the mucosa was normal. Radiographically, it was noted the presence of radiopaque areas associated with the tooth crown 33, which was included and impacted and the dislocation of the root of tooth 32 to the mesial. The diagnostic hypotheses were odontoma and supernumerary tooth. The proposed treatments were surgical excision of odontoma, extraction of supernumerary and traction of tooth 33. Then, the patient was referred to the orthodontist to start orthodontic treatment. Microscopic diagnosis was Odontoma. Six months after starting treatment, there was complete healing of the operated region, and a favorable positioning of the tooth 33 to eruption. This study illustrates the importance of conservative multidisciplinary approach in solving complex cases involving dental impactions in young patients.

ES058 - Relationship of oral care with congestive heart failure

Nelsiane Bruno Citra PRACHEDES[1]; Luciana Silva ARAÚJO[1]; Marina OKADA[1]; Ricardo José TÓFANO[2,5]; Luis Fernando FREGATTO[5]; Sérgio Koodi KINOSHITA[3]; Leonardo MARQUES[4,5]

[1]Marilia Medical School, University of Marília.
[2]United Cardiac Surgery and Hemodynamics Hospital Charitable Unimar.
[3]Pró-Rectory of Research and Graduate Studies, University of the Sacred Heart.
[4]Centro of Oral Medicine and Dentistry Hospital, Hospital Charitable Unimar.
[5]Hospital Beneficent Unimar, University of Marília.

Congestive heart failure is a chronic disease in which the heart cannot pump enough blood to the rest of the body, increasing the risk of problems related to infections of cardiovascular tissues. Etiologic factors comprise hypertension, coronary heart disease, congenital heart disease, arrhythmias, and associations with other diseases that increase the risk of problems associated with infection of cardiovascular tissues. Knowing the relationship of oral health associated with heart problems, this study aimed to carry out a cross-sectional, retrospective, descriptive and observational study through chart analysis and dental clinical evaluation of patients with congestive heart failure admitted to the Beneficent Hospital Unimar presenting disease periodontal. The results demonstrated the socioeconomic profile, prevalence of underlying diseases (diabetes, hypertension, hyperlipidemia, smoking, alcohol consumption, type of cardiovascular disease) and its relationship with periodontal changes. It is concluded that the prevalence of periodontal disease was numerically significant in patients with congestive heart failure compared with the control group.

ES059 - Non-carious lesions: presentation of clinical cases

Paulo Felipe dos Santos RIBEIRO[1]; Sabrina Miranda de JESUS[1]; Melissa Thiemi KATO[1]

[1]Department of Health Sciences, Dentistry Course, University of Sagrado Coração.

The teeth surface loss or the non-carious lesion can be considered a disease when the destruction level creates functional, aesthetic or dentinal hypersensitivity problems. Several factors can contribute as causes of the non-carious lesions (NCLs). One of the major challenges is to identify or quantify the influence of factors such as the excessive and abusive use of drugs and acid substances, the environmental factors and intrinsic etiological agents such as the gastroesophageal reflux. The immediate treatment must be directed to solving the hypersensitivity and pain; however, the investigation of the cause is essential. Thus, this study aimed to describe and classify the different types of non-carious lesions (erosion, abrasion, attrition and abfraction) in order to help the differential diagnosis of carious and non-carious lesions. Google Scholar was used as a tool for searching and recognizing the theme, as well as for determining the keywords. Afterwards, training was done to search specific data, such as PubMed, Medline and SciELO. The years of bibliographic search varied from 1969 to 2014 and 32 references were used. Besides the bibliographic search, photographic records of some clinical cases were done aiming to illustrate the different types of NCLs. It

is possible to conclude the variety and permutation of names found in literature regarding the NCLs reflect the confusion in the comprehension or agreement on the etiology and the imprecision of the terminologies use. Being considered as irreversible lesions, it is important to know the NCLs, its main characteristics, etiology, in order to perform a precise diagnosis considering the different alterations and elaborate of a perfect treatment plan to remove the possible causes and prevent the progression.

ES060 - Conservative treatment of oral vascular injury in ASA III patient

Ricardo Natã Fonseca SILVA[1]; Andréia de Souza GONÇALVES[1]; Nádia do Lago COSTA[1]

[1]Department of Stomatological Sciences, College of Dentistry, Federal University of Goias.

The aim of this work was to report the conservative treatment of an oral vascular injury in a systemically compromised patient. A Female patient, 61 yearsold, presented to the Stomatology Service complaining of "abscess on the cheek" that had been increasing for one year. In the medical history, her companion reported, hypertension under medical control and two previous episodes of stroke. It was also reported recent surgery procedures to contain the hydrocephalus clinical condition and vascular embolization. About the extraoral physical examination, it can be seen difficulty in speech, facial paralysis and paralysis of the limbs. About the intraoral physical examination, it was noticed the presence of nodular lesion located in her left cheek mucosa, blue-purple colored, uneven surface, well-defined, soft consistency, measuring approximately 2 cm in greatest dimension. The diascopy showed a wilting in the coloring of the injury. It was envisaged as a clinical hypothesis to varicosity. Faced with systemic conditions of the patient, classified by American Society of Anesthesiologists (ASA) as ASA III, we opted for a conservative treatment with therapeutic sclerosis using 5% ethanolamine oleate (Ethamolin®) and 50% glucose, with the 1:1proportion. Intra-lesional injections of the drug were applied and distributed on three points of the lesion to obtain ischemia. The patient's vital signs were monitored before, during and after the intervention. In total six sessions with a fifteen-day break between them were held. After that period it was observed almost a complete regression of the lesion. The patient is still under observation, but she has no signs of recurrence for the last 10 months. The treatment of varicosities in the oral cavity with the Ethamolin® agent promoted faster involution of the injury was safe and non-invasive, and this therapy here addressed is a good indication for systemically compromised patients.

ES061 - Topographic relation between maxillary sinus and later teeth in CBCT

Rodrigo Almeida Nunes TEIXEIRA[1]; Juliana Nunes CARDOSO[1]; Luciana Barreto Vieira AGUIAR[1]; Maria de Fátima Batista de MELO[1]; Wilton Mitsunari TAKESHITA[1]

[1]Department of Dentistry, Center of Biological Sciences and Health, Federal University of Sergipe.

The relation between superior teeth roots and the floor of maxillary sinus is required to the planning in dental procedures, mainly in dental extraction, mini-implants, endodontic treatment e dental implants rehabilitation. The topographic relation on the apex of the later teeth with the floor of the maxillary sinus was observed through CBCT in 81 jaw examinations. The CS 3D Imaging 3.2.9 software was used to measure the shorter distance between the root apexes and the floor of the maxillary sinus. Besides, each tooth was classified depending on the kind of vertical and horizontal relation with the maxillary sinus. The bigger distances between the root of the teeth and the cortical buccal and palatal were also measured. The data obtained passed by analysis statistics descriptive and were tabulated. Kappa test was conducted to evaluate level of intra-examiner agreement. The first premolar showed a bigger distance between the apex and the sinus floor, while the relation of bigger proximity was found on the third molar. The bigger distance found between the buccal and palatal roots and the buccal alveolar cortical was found in the third and second molar, respectively. The vertical relation type 1 prevailed for molars and premolars. For the horizontal classification, the type 3 prevailed for premolars; the type 2 prevailed for molars. Therefore, the evaluation of the relation of the maxillary sinus with its near structures is fundamental to avoid complications and accidents, besides contributing for a safe planning and minimally invasive.

ES062 - Radiographic evaluation of the maxillary sinus prior implant therapy

Rosana Mara Adami TUCUNDUVA[1]; Marina De Almeida Barbosa MELLO[2]; Renato Yassutaka Faria YAEDÚ[2]

[1]Department of Rehabilitation Science, Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo.
[2]Department of Stomatology, Bauru School of Dentistry, University of São Paulo.

The rehabilitation of the posterior maxilla with osseointegrated implant is a challenge since, besides the bone resorption after tooth extraction, the pneumatization of the maxillary sinus occurs, which hinders rehabilitation. There are some alternatives for the rehabilitation of the maxilla, including the use of short implants, inclined implants, bone graft and zygomatic implant. Two cases of complications related to maxillary sinus post rehabilitation with implant will be presented, which resulted in a chronic rhinosinusitis condition that did not respond to conservative treatment. The objective of this work was to warn the dentist about the need for thorough radiographic evaluation of the maxillary sinus, which may influence the prognosis of implant surgeries. There is evidence indicating that the failure of the surgery may be associated with pre-existing sinus disease and any condition of the maxillary sinus should be treated prior implants, including zygomatic, are positioned. Computed tomography (CT) is the imaging modality of choice to evaluate the maxillary sinus. However, its high cost, radiation dose and availability have restricted use in routine dental practice. The introduction of cone beam computed tomography (CBCT), with its low cost, low radiation dose and high spatial resolution, is becoming the modality of choice for preoperative surgical planning for implant placement and diagnosis of diseases in the maxillary sinus. Appropriate preoperative radiographic evaluation of maxillary sinus through the CBCT and the screening of patients with predisposing factors for rhinosinusitis, before any procedure in which manipulation of the maxillary sinus tissues occurs, it is essential to minimize postoperative complications, increasing probability of success.

ES063 - Unusual occurence of three impacted fourth molars

Saulo Rios da CONCEIÇÃO[1]; Agnes ASSAO[1]; Gabriel Ramalho FERREIRA[1,2]; Denise Tostes OLIVEIRA[1]

[1]Department of Stomatology, Discipline of Pathology, Bauru School of Dentistry, University of São Paulo.
[2]Dental surgeon, Hospital for Rehabilitation of Craniofacial Anomalies.

Multiple supernumerary teeth in the same patient is rare and usually associated with syndromes. This case report a twenty-year-old white male patient, chief complaint was a painless swelling at the right and posterior mandibular region, with 6 months of evolution. Radiographic examination revealed the presence of three fourth molar teeth, located distally to the third superior right molar and third inferior right and left molars. The second and third inferior molars were impacted bilaterally. The impacted right second and third molars were associated with a radiolucent well-delimited area surrounding their crowns, with clinical hypothesis of dentigerous cyst. Additionally, prolonged retention of the second right superior deciduous molar was detected, with hypodontia of the permanent successor premolar. Surgical treatment included enucleation of the cystic lesion and extraction of involved teeth (47, 48 and fourth right molar). Histopathological examination of the surgical specimen revealed a cystic cavity, lined by a non-keratinized epithelium, consisted of two to four layers of cuboidal epithelial cells. Cystic wall contained islands of odontogenic epithelium as well as hemorrhagic and chronic inflammation areas. Based on clinical and microscopic examination, the diagnosis was of dentigerous cyst. We highlight that bilaterally fourth molars, simultaneously to hypodontia, in the same patient is rare. Therefore, early detection and intervention in such cases are important to prevent other major consequences related to such dental anomalies.

ES064 - Lichen sclerosus of the oral mucosa – diagnosis and treatment

Saygo TOMO[1]; Luciana Estevam SIMONATO[2]; Ingrid da Silva SANTOS[1]; Rosani Bouhid BETIOL[2]; Débora Lima PEREIRA[3]; Oslei Paes de ALMEIDA[3]; Pablo Agustin VARGAS[3]; Glauco Issamu MIYAHARA[1]

[1]Oral Oncology Center, Araçatuba Dental School, Univ. Estadual Paulista.
[2]Medical School, Camilo Castelo Branco University, Fernandópolis/SP.
[3]Department of Oral Diagnosis, Piracicaba Dental School, Campinas State University.

The term lichen sclerosus describes a chronically relapsing autoimmune mucocutaneous disease which mostly affects genital mucosa and skin, with uncommon manifestation in oral mucosa. This work describes a case of a 12-year-old female patient which sought treatment at the outpatient clinic of an oral diagnosis service presenting with a 3-month history of a stain in mouth. Oral examination revealed an asymptomatic white stain in lower lip vermilion with no surface alteration extending to labial mucosa and gingiva, which was retracted in the region of teeth 31 and 32. In the anamnesis the patient reported the habit of eventually nibbling the lips, which was associated to the occurrence of the lesion, once trauma is a factor associated to lichen sclerosus. An incisional biopsy of the lesion was performed and histopathological evaluation revealed discrete epithelial atrophy with basal hydropic degeneration, hyalinization of the extracellular matrix and an intense inflammatory component below, leading to the diagnosis of lichen sclerosus. On physical examination searching for similar lesions in genital region and all of the skin, it was not observed any alteration. Treatment choice was the intralesional infiltration of 20 mg/ml triamcinolone, which after 3 treatment sessions had resulted on the satisfactory regression of the lesion. Patient is now under clinical follow-up due to the risk for relapsing. Lichen sclerosus is a rare disorder in oral mucosa with significant destructive potential; nevertheless, controlling the atypical inflammatory response by local corticosteroid administration is a simple and effective treatment for this lesion.

ES065 - Bilateral oral lymphoepithelial cyst in the floor of the mouth: a case report

Thaís dos REIS[1]; Wellington Hideaki YANAGUIZAWA[1]; Lígia Gonzaga FERNANDES[1]; Suzana Cantanhede Orsini Machado de SOUSA[1]; Norberto Nobuo SUGAYA[1]; Camila de Barros GALLO[1]

[1]Department of Stomatology, Bauru School of Dentistry, University of São Paulo.

A 55-year-old white female patient was referred to the Stomatology clinic due to nodular lesions in the floor of the mouth for 20 years. Intraoral examination revealed two asymptomatic flattened and sessile nodules at the floor of the mouth, bilaterally and close to the lingual frenulum, showing smooth surface, well-defined edges, yellowish in appearance, soft on palpation and measuring 8 and 4 mm each. A differential diagnosis of oral lymphoepithelial cyst, lipoma and schwannoma lead to an excisional biopsy procedure. During surgery a clear and viscous drainage fluid was observed, reinforcing the first clinical hypothesis. Microscopic examination revealed a cystic capsule constituted by a stratified squamous epithelium and a lymphocytic inflammatory infiltrate in the dense connective tissue of capsule wall, consistent with an oral lymphoepithelial cyst (OLC) diagnosis. The OLC is classically reported as a rare disease with a predilection for males in the third decade of life. According to a recent report (2011) with a series of 120 cases, the OLC was most frequently observed at the floor of the mouth of female patients in the fifth decade of life, as observed in this case. The low frequency of this kind of lesion contributes to these controversies on epidemiological data. Bilateral presentation of OLC was reported only once in the literature. The presumed etiology of these lesions is related to obstruction of some lymphoid tissue crypt, since these lesions are mainly located in the region of Waldeyer's ring, originating a pseudocyst covered by epithelium in a lymphoid stroma. The recommended treatment is surgical excision that is usually curative. The aim of this presentation was to add a new case of a bilateral presentation of an oral lymphoepithelial cyst.

ES066 - Aggressive central giant cell lesions with extensive bone formation

Tuana Caruso MEDEIROS[1]; Victor TIEGHI NETO[1]; Rosana Mara Adami TUCUNDUVA[1]; José Burgos PONCE[1]; Luis Antonio de Assis TAVEIRA[1]; Osny FERREIRA JUNIOR[2]; Eduardo Sanches GONÇALES[2]

[1]Department of Stomatology, Bauru School of Dentistry, University of São Paulo.
[2]Department of Stomatology, Discipline of Surgery, Bauru School of Dentistry, University of São Paulo.

This work aimed to report a case of central giant cell granuloma (CGCG) with nonconventional clinical and radiographic aspects. Male patient, 35 years old, referred by the dentist with histopathological diagnosis through incisional biopsy of CGCG, presented swelling in gingival mucosa in the region of teeth 25-28 extending to palatal with an evolution of approximately one year after extraction of tooth 26.The lesion extended from the buccal vestibule to surpass the occlusal plane. It showed areas of purple color and areas of normal skin color, smooth surface, defined limits and fibrous consistency. In the CT scan hypodense images were observed corresponding to the region of the lesion and extensive hyperdense area extending into the maxillary sinus, with defined borders, consistent with fibro-osseous lesion. Therapy was adopted with intralesional injection of triamcinolone hexacetonide aiming the decrease of the lesion. However, due to the lack of cooperation of the patient by not attending the appointments, the surgical procedure was performed under general anesthesia. During surgery the injury was completely removed in two fragments: a piece of soft tissue and part of hard tissue expanded to the maxillary sinus, using drills for osteotomies, thus causing a bucosinusal communication. After the settlement of bony walls, the buccal fat (Bichat Ball) was used to close the bucosinusal communication. Histopathology confirmed the diagnosis of CGCG. Conclusions: tomographic examinations are important for providing detailed data of the injury such as aggressiveness, extension, bone destruction, cortical perforation and involvement of key structures, which are key data to define the treatment plan. Other coadjuvant therapies, such as corticosteroids, used to minimize the surgical damage should be considered, taking into account also the aggressiveness of the lesion.

ES067 - Salivary biomarkers on oral carcinoma: systematic review

Vitor de Toledo STUANI[1]; Cassia Maria Fischer RUBIRA[2]; Adriana Campos Passanezi SANT'ANA[1]; Mariana Schutzer Ragghianti ZANGRANDO[1]; Carla Andreotti DAMANTE[1]; Sebastião Luiz Aguiar GREGHI[1]; Maria Lúcia Rubo de REZENDE[1]; Paulo Sérgio da Silva SANTOS[2]

[1]Department of Prosthodontics, Bauru School of Dentistry, University of São Paulo.
[2]Department of Stomatology, Bauru School of Dentistry, University of São Paulo.

Oral squamous cell carcinoma (OSCC) corresponds to the predominant form of malignant manifestation in the oral cavity. Despite the scientific progress of its treatment, the survival rate remained stable over the past three decades. This effect can be credited to the diagnoses occurring mostly in the late stages of the disease. Thus, there is a clear contribution in the early findings. The use of minimally invasive techniques for monitoring, diagnosis and prognosis, such as analysis of salivary markers are interesting tools. A systematic review was performed of all studies that establish a comparison between the levels of salivary markers expressed by patients with OSCC compared to those expressed by healthy individuals. This review was conducted according to the Preferred Reporting Items for Systematic Reviews and MetaAnalyses (PRISMA). An electronic search was performed in PUBMED, SCOPUS and WEB OF SCIENCE by publications relevant to the topic. The search resulted in 3,574 articles of which 28 were included on the review. The results showed a wide range of markers that could discriminate tumor presence, but also showed a lack of methodological criteria. The diversity in methodologies and marker selections does not guarantee a sufficient quantity of articles for a meta-analysis. As result it was observed that the study field of salivary markers for oral malignant lesions is fertile, but it is poorly explored. Although the articles included in this review bring important contributions to the scientific field, there is no set of reliable information to place any of the salivary markers evaluated as a sentinel for OSCC. Thus, it is possible to conclude that to culminate in a clinical application, the use of salivary markers for OSCC still needs validation by further studies with higher methodological strictness.

XXIII COFAB

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10 a 13 agosto de 2016

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Acceptable noise level (ANL): results with different stimuli

AZENHA, Fabiana de Souza Pinto[1]; FERRARI, Deborah Viviane[1]

[1]Bauru School of Dentistry – USP, Department of Speech Therapy.

Objective: Describe the procedures of acceptable noise level - ANL - test and verify the type of signal and noise influence on the results. Literature review: Literature research on Pubmed database was carried out with index term *"hearing"* and free text *"acceptable noise level"*. It was limited to English, Spanish, and Portuguese, without limiting by year of publication. The search generated 59 entries. From these, 45 were excluded by their title/summary and 14 retrieved, and two excluded after full reading. Citations in the analyzed articles references were also retrieved. Results: ANL test was first described in 1991, with the purpose of investigating background noise acceptance and use of personal sound amplification devices. The test is presented to the patient using sound field speakers or headphones, with a recording of a female voice speaking in English and 12-talkers babble as background noise. Noise intensity is progressively increased until the listener indicates the noise reached a maximum acceptable intensity for understanding speech. The articles presented changes in the test signal, e.g., male voice; non semantic vocal stimulus (ISTS); continuous speech different from the original text; speech in other languages. Speaker's gender and use of continuous speech in English and in other languages did not influence test results when compared to standard. ISTS results differed from the original test. Regarding use of other types of noise, in one study there was no difference observed when compared to the original test results, however, in three other studies there were differences. Conclusion: it is suggested to adapt ANL test to Brazilian Portuguese, maintaining the "12-talkers babble".

Benefits of the cochlear implant in post-lingual deafness: a case study

SILVA, Joice de Moura[1]; COMERLATTO, Mariane Perin da Silva[2]; MORET, Adriane Lima Mortari[3]

[1]Graduate Program in Speech Therapy at the Bauru School of Dentistry, University of São Paulo (FOB/USP).
[2]Hospital for Rehabilitation of Craniofacial Anomalies of the University of São Paulo (HRAC-USP).
[3]Department of Speech Therapy of the Bauru School of Dentistry, University of São Paulo (FOB/USP).

Objective: To evaluate the auditory performance of an adult with sudden post-lingual deafness user of a cochlear implant (CI). Case report: Retrospective case study based on an analysis of results of objective tests – auditory skills assessment protocol (closed set) and list of daily sentences (open set) – and of subjective impressions recorded in the medical record of a 32-year-old male patient with sudden bilateral post-lingual deafness, of undetermined etiology. The patient performed the CI surgery on the CI Section -Audiologic Research Center (CPA) of the Hospital for Rehabilitation of Craniofacial Anomalies of the University of São Paulo (HRAC-USP), after one year and seven months of sensory deprivation. Results: On activation, the average performance of the auditory skills assessment protocol was 77%, and the patient was unable to perform the test that evaluates auditory skills in open set. After three months of use of the CI, a significant increase in the performance of the evaluations carried out was observed, totaling 100% in the auditory skills assessment protocol and list of daily statements, 67% in the silence condition and 59% in the competitive noise condition. Regarding subjective impressions, after activation, the patient reported being happy and satisfied with the new reality and in subsequent calls, pointed out the benefits gained from the use of the CI in his personal, social, professional and family life. Conclusion: The CI was shown to be effective, as it enabled the recovery of speech perception in open set and reached the preoperative patient expectations, directly impacting on satisfaction and improved quality of life.

Characterization of a Program of FM System Adaptation

BUCUVIC, Érika Cristina[1]; PACCOLA, Elaine Cristina Moreto[1]; JACOB, Regina Tangerino de Souza[2]

[1] Hospital for Rehabilitation of Craniofacial Anomalies – USP, Division of Hearing Health.
[2] Bauru School of Dentistry – USP, Department of Speech-Language Pathology and Audiology.

Objective: Due to the publication of the ordinance 1.274 from June 25th, 2013, of the Ministry of Health that included the personal frequency modulation (FM) system in the table of the Brazilian National Health System (SUS), this work aimed to present the results of the implementation of the Program of FM System Adaptation in a Hearing Health service. Methods: Analysis of 541 medical charts of patients adapted with the FM system in the years of 2013, 2014 and 2015. Results: All of the 541 patients that received the FM system were adapted with individual hearing aids (HA), with 121 kits of FM system being granted in 2013, 265 in 2014 and 155 in 2015. Of these, 82% were adapted with universal or specific receptor and 18% with induction collar. The analysis of the use of 163 patients demonstrated that 60% effectively used, 21% partially used (songs, TV, cell phone, computer, talks at home, church, in a few classes at school, feel shame about the use at school, lack of teacher's or school's acceptance) and 19% did not use the device because they felt ashamed about using the FM system at school, had esthetic complaint, did not feel the need and interference in transmission. Regarding the reasons of maintenance of the device, the following were observed: receptors oxidation, break of audio shoe, battery, transmitter's microphone, led of the transmitter's display, audio cable and neck strap. Of the total, 7 patients reported loss of the receptor and/or transmitter and 11 patients disregarded the FM system kit. Conclusion: Granting of FM system by SUS allowed the access of children and adolescents to this assistive technology, but new articulations are necessary between the Hearing Health Services, health managers and the Ministries of Health and Education to guarantee the maintenance and reposition of this device and the permanence of this health policy, which meant a great accomplishment for the actual inclusion and right of the individual with hearing loss in the educational context.

Effectiveness of informal auditory training: a literature review

CARVALHO, Dayane Silva de[1]; OLIVEIRA, Cristiane Correia de[1]; VIRTUOZO, Carol Pedrosa Monteiro[1]; MARQUES, Maria Cecilia dos Santos[1]

[1]Faculty of Speech Therapy – Health Sciences State University of Alagoas (UNCISAL).

Objective: To conduct a literature review on national studies on the effectiveness of informal auditory training, as well as its importance in the rehabilitation of changed hearing abilities. Literature review: Central auditory processing disorder is an inability to perceive, locate, discriminate, recognize, remember, or understand auditory information. These disorders may be associated with a learning disability. Auditory training therapy is indicated for the rehabilitation of this disorder. This therapy can be performed via: acoustically controlled auditory training, performed in a booth; and informal training performed in a clinic, at home, and at school. However, informal training also covers, in addition to auditory skills, language skills. Results: After a bibliographic survey in the databases Bireme, SciELO and Lilacs, between 2011 and 2016, we found 944 articles. Of these, after checking the eligibility criteria, we selected 8 articles for final analysis based on the same eligibility criteria. Conclusion: Of the 8 selected articles, 6 concluded the effectiveness of informal auditory training, indicating improvement in temporal processing in children with phonological and auditory processing disorders, as well as improvements in the skills of decoding and encoding, sorting time and memory, becoming instrumental in the rehabilitation of auditory skills. However, there is still a shortage on national literature on the subject. Therefore, we suggest that more studies that emphasize the importance of informal auditory training are developed to assess the evolution of the speech therapy treatment.

FM system portal: efficacy of a virtual learning environment

ALVES, Tacianne Kriscia Machado[1]; MEDINA, Camila[1]; JACOB, Regina Tangerino de Souza[1]

[1]Bauru School of Dentistry - USP, Department of Speech-Language Pathology and Audiology.

Introduction: For the adequate implementation of a program for concession, adaptation and monitoring of the FM system in students with hearing loss in Brazilian schools, an intersectoral work is necessary, which is characterized by a careful articulation between the educational and health systems. Objective: Develop and evaluate the efficacy of a virtual environment for transmission of information about the FM system to professionals using the Interactive Tele-education. Methods: Due to the geographic distribution of the professionals working with the adaptation of the FM system, the access to the modules was proposed through the FM system portal. The portal is composed of 7 modules, and all the materials were transformed into an infographic design. Fifty professionals that work in Hearing Health Services accredited by SUS performed their enrollment at the FM system portal, and 31 speech therapists made the evaluation. In order to evaluate the training program, the following search instruments were proposed: motivational form, self-assessment scale of the impact at work after the training - amplitude measure - and a theoretical content questionnaire (approved by the Institutional Review Board, Protocol no. 970.760/2015). Results: The speech therapists answering the motivational form considered that the FM system portal prospects success. The scale of impact at work demonstrated that access to the modules of the FM system portal generated an impact at the participants work when applied after the first access and also two months later, but without a statistically significant difference. In the questionnaire applied on the theoretical content, participants gained an average of 79.03% accuracy. Conclusion: The FM system portal was created and it is available at http://portalsistemafm.fob.usp.br/, and the participants evaluated it as an impressive portal when it comes to the motivation of the participants. The access to the modules available brought a considerable impact at the professionals work.

Frequency modulation systems in the Brazilian Unified Health System (SUS): how are we?

CRUZ, Aline Duarte da[1]; SPOSITO, Caroline[1,2]; PACCOLA, Elaine Cristina Moreto[1,2]; BUCUVIC, Érika Cristina[2]; ANGELO, Thais Corina Said de[1]; MORET, Adriane Lima Mortari[1]; JACOB, Regina Tangerino de Souza[1]

[1]Department of Speech-Language Pathology and Audiology, University of São Paulo - Bauru School of Dentistry.
[2]Hospital for Rehabilitation of Craniofacial Anomalies, Division of Hearing Health, University of São Paulo.

Objective: Characterize the state of the art of the public policy for granting the Frequency Modulation (FM) System in the hearing health services in Brazil. Method: Information available in the database of the Brazilian Unified Health System (DATASUS) from August 2013 through February 2016 was analyzed. RESULTS: It was possible to verify that 13,523 patients were granted the FM system in Brazil, with a higher incidence in the Southeast region (55%), followed by the South region (20%), the Northeast region (16%), the West Central region (7%) and the North region (2%). In the general sample of the quantity of FM systems adapted in Brazil, the following means per period were observed: 813 kits from August through December 2013; 486 from January through December 2014; 269 from January through December 2015, and 200 adaptations from January through February 2016. From August 2013 through February 2016, a total of 552,712 individual hearing aids and 20,446 cochlear implants were granted or replaced in the country. DATASUS does not provide the patients' age range, which limits the analysis of the relationship between these devices and the FM systems offered, since, among other performance criteria and the type of hearing loss, SUS authorizes the adaptation in the age range from 5 through 17 years. Conclusion: Although currently the FM system is being adapted in the five regions of Brazil, it was verified a higher incidence of granting such devices in the Southeast region, which may be attributed to the concentration of hearing health services in this region. The mean of adaptations has decreased on an annual basis, most likely due to the initial need of attention to the repressed demand of patients meeting the profile indicated by the ministerial ordinance that regulates granting the FM system. However, the number of FM systems adapted in the period evaluated represents 2.3% of all individual hearing aids and cochlear implants granted in the same period.

Interprofessional Residency: Hearing screening in adults

SATERS, Thaís[1]; ROSA, Bárbara Camilo[1]; CARDOSO, Maria Julia Ferreira[1]; MEYER, Adriana Sampaio[1]

[1]Hospital for Rehabilitation of Craniofacial Anomalies of University of São Paulo (HRAC/USP).

Objective: To describe the results of hearing screening carried out by students of the Interprofessional Residency in Hearing Health. Methodology: The study was conducted at the institute of Social Service of Transport/ National Training Service of Transport (SEST/SENAT) of Bauru, São Paulo, Brazil. We used the hearing screening mobile unit of Hospital for Rehabilitation of Craniofacial Anomalies of the Universidade de São Paulo (HRAC-USP). The activity was carried out on one Saturday by Speech Therapy, Psychology, and Social Work residents, accompanied by the preceptors of the respective areas. The Social Service and Psychology residents held interviews addressing gender, age, and complaints related to hearing. After that, a hearing screening was performed by Speech Therapy residents. The equipment used for screening was the Interacoustics AD229e audiometer. We researched the 500Hz-6000Hz frequency and defined as a pass criterion a minimum response of 25dB to all frequencies. Results: Fifty-five individuals were evaluated, being 54 men and 1 woman, aged from 23 to 64 years. Regarding the interview, we noted that five individuals reported "to not listen well", eight had tinnitus, and six had vestibular complaints. In hearing screening, 22 individuals failed, being oriented regarding the importance of the audiologic diagnosis. The other individuals were also oriented regarding the hearing care and to seek a hearing health professional in case of a subsequent complaint. An important finding is that only four individuals who failed had hearing complaint. Conclusion: Individuals who failed the screening were mostly male. In addition, we observed that a significant number of individuals who have failed the screening did not have any perception regarding hearing loss. In this context, this experience shows us the importance of activities aimed at promoting hearing health as well as screening programs.

PART prevalence in company of perfumery and cosmetics

DONIZETTE, Sabrina Soares[1]; SILVA, Carolina Souza e[1]; PEREIRA, Rudmila Carvalho[1]; BOZZA, Amanda[1]; PRESTES, Simone Cristina Chiodi[1]; FERREIRA, Denise de Casto[2]; LOPES, Patrícia Monteiro de Barros[2]; LOPES, Andréa Cintra[1]

[1]Department of Speech Pathology, University of São Paulo - Bauru School of Dentistry.
[2]SEAI – Serviço Especializado de Audiometria Industrial.

Objective: To investigate the prevalence of PART in a perfumery and cosmetic goods company in 2010 and 2015. Case report: The Hearing Loss Linked to Work (PART) is an occupational disease of high prevalence in Brazilian industry. It generally known as Induced Hearing Loss (NIHL), although many cases of hearing illness caused by work are arising also from other causal factors, such as vibration, heat and chemicals. NIHL configured as a sensor neural hearing loss type, usually bilateral, irreversible and progressive with the noise exposure time (ICD-10 - H 83.3). A study was conduct to investigate the prevalence of PART in a perfumery and cosmetics company in 2010 and 2015. Results: It was found that the 193 (12.6%) workers who had some type of hearing loss in 2010 , 140 (72.5%) exhibited changes with features suggestive of hearing loss induced by occupational noise exposure to high sound pressure levels and 53 (27.46%) hearing loss unrelated to noise. Comparing with the 2015 data, it was observed that 367 (18.8%) workers had hearing loss, but that 84 (22.8%) were related to the noise of the work, while 283 (77%) were occupational. Conclusion: Although the number of workers with hearing loss have increased in 2015, is not relate to occupational noise. The Hearing Protection Program (PCA) may have contributed to the improvement of these findings, since its main purpose is to prevent hearing loss and even stabilize the losses already marked because of occupational noise exposure. To be a continuous and dynamic process of implementing routines in companies, the possibility of reducing the number of workers with PART.

PCA effectiveness in a chocolate factory

DONIZETTE, Sabrina Soares[1]; SILVA, Carolina Souza e[1]; PEREIRA, Rudmila Carvalho[1]; BOZZA, Amanda[1]; PRESTES, Simone Cristina Chiodi[1]; FERREIRA, Denise de Casto[2]; LOPES, Patrícia Monteiro de Barros[2]; LOPES, Andréa Cintra[1]

[1]Department of Speech Pathology, University of São Paulo - Bauru School of Dentistry.
[2]SEAI – Serviço Especializado de Audiometria Industrial.

Objective: To report the effectiveness of the Hearing Conservation Program (PCA) in a chocolate factory in the years 01/01/2010 to 31/12/2015. Case report: The Hearing Conservation Program (PCA) is a set of coordinated measures that prevent the installation or development of occupational hearing loss. It is a program provided by NR - 9, which is the regulatory standard that establishes and requires the development and implementation by companies. The noise associated with chemical agents, ionizing radiation, cold / heat / vibration, accidents with head trauma, barotrauma and allergens are occupational agents that cause hearing loss. PCA involves the work of a multidisciplinary team, as they are necessary engineering measures, medicine, speech therapy, training and administration. The Program for Environmental Risk Prevention Program (PPRA) aims at the prevention of health and workers' integrity, through anticipation, recognition, evaluation and control of the occurrence of existing environmental risks or which may exist in the workplace. PPRA is the program that guides the hearing conservation, thus facilitating the development of the PCA. Results: The report of this program will be presented in the years 01/01/2010 to 31/12/2015. They evaluated 590, 463, 519,565, 549 and 561 employees, respectively. All underwent ATL periodically and made use of PPE properly. In this PCA, speech therapists were insert in the stages of audiological and educational programs. The themes addressed in educational programs were the importance of hearing, auditory system, noise effects on hearing and noise reduction offered by IPE. In 2010, it obtained 67 tests indicating occupational changes, already in 2015, were 35, ie, a reduction of 11.35% to 5.91% of audiometries related to occupational noise. Conclusion: After implementation of the PCA, there was a significant decline in the evolution of hearing thresholds. The educational actions were effective and significant accession of workers.

Resonance response using hearing aid: relationship with target NAL-NL1

JESUS, Tamiris Guarnieri[1]; PAIVA, Paula Maria Pereira[1]; FERRARI, Deborah Viviane[1]

[1]Department of Speech Pathology, University of São Paulo - Bauru School of Dentistry.

Objective: To analyze the leveling of the resonance response using amplification (REAR) with the targets prescribed under rule NAL-NL1. Methods: Retrospective study. We analyzed the medical records and databases of the measures with microphone probes of 30 individuals (60 ears). Fifteen were men and 15 women, aged between 45 and 89 years (average of 74 years), new users of personal sound amplification devices (hearing aids), with degree of sensorineural hearing loss light (n = 2), moderate (n = 44), and severe (n = 14). Hearing aids of the retroauricular (n = 26) and intra-aural (n = 34) types were used. Rule NAL-NL1 was used for the programming, and the adaptation manager of the hearing aid were set on the maximum position. REAR was obtained with the noise modulated speech used by the International Collegium for Rehabilitative Audiology (ICRA) in the intensities of 50 (weak sounds), 65 (medium sounds) and 80dBNPS (strong sounds). Frequencies of 250 to 8000 Hz were analyzed, except for 3000 and 6000 Hz, due to equipment limitations. It was considered that the REAR was leveled to the target when the differences between them were of up to ±3dB in frequency bands or between 3 and 10dB in isolated frequencies. In all cases, it was necessary to manipulate the characteristics of the hearing aid from the initial proposal by the programming software. Results: The leveling to the target was achieved in 83 to 92% (light losses), 90 to 93% (moderate) and 80 to 89% (severe losses) of the frequencies analyzed, being greater for the intensity of 65 dB NPS. Conclusion: This preliminary analysis showed that it is possible to obtain the leveling to the target prescribed in the initial moment of adaptation. The implications of these findings to the selection of the adaptation manager during the programming of hearing aids will be discussed.

The influence of the intensity of presentation on SRI test: case report

QUADROS, Isabela Alves de[1]; TEODORO, Ana Teresa Hernandes[1]; TERRA, Mariana Silva[1]

[1]Department of Speech-Language Pathology and Audiology, University of São Paulo - Bauru School of Dentistry.

Introduction: The Speech Recognition Index (SRI) is generally performed with a fixed intensity presentation (IP), but it is observed in clinical practice that patients with sensorineural hearing loss may have different performances depending on the intensity in which the speech is presented during the test. Objective: report three cases with improved recognition of monosyllabic words after changing the IP. Case report: Three male patients performed audiologic evaluation and presented bilateral sensorineural hearing loss with abruptly falling audiometric configuration of mild degree. First case: JGS, 71 years old. Complaint of difficulty to hear and to understand the speech in noisy environments, bilateral tinnitus, exposed to occupational noise, no use of personal protective equipment during 30 years and history of exposure to chemical agents. Second case: RRM, 39 years old. Complaint of hearing loss after head injury. He presented difficulty to hear when in places with noise and people talking. Third case: JMS, 55 years old. Complaint of difficulty to hear. He worked in places with noise during 30 years and used personal protective equipment. He presented bilateral tinnitus and vestibular complaints. SRI was initially performed with 30 dB sensation level (dBSL), starting with the mean frequencies of 0.5, 1k and 2k Hz (IP-SRI1). After the low performance was observed, the test was performed with 50 dBSL starting with the value of Speech Reception Threshold (SRT) (IP-SRI2). Results: Right (RE) and left (LE) ears: First case: IP-SRI1 = 50dB - 84% (RE) and 76% (LE); IP-SRI2 = 75 dB - 96% (RE and LE). Second case: IP-SRI1 = 40 dB – 96% (RE) and 88% (LE); IP-SRI2 = 70 dB: 92% (LE). Third case: IP-SRI1 = 40 dB - 84% (RE) and 88% (LE); IP-SRI2 = 60 dB – 96% (RE) and 92% (LE). Conclusion: IP influences the performance in SRI test. Thus, IP of speech must not be presented in a fixed sensation level, since it may not be enough to promote audibility in higher frequencies, thus not allowing the achievement of the maximum SRI of the patient.

The use of hearing in noise tests in elderly: partial analysis

GOMES, Mayara Santos Diniz[1]; QUADROS, Isabela Alves de[1]; JACOB-CORTELETTI, Lilian Cássia Bórnia[1]

[1]Department of Speech-Language Pathology and Audiology, University of São Paulo - Bauru School of Dentistry.

Abstract: Objective: Verify if hearing in noise tests are applied in the audiologic evaluation in elderly, at Hearing Health Care Centers that belong to the Brazilian Unified Health System (SUS), and identify how the results are used in the rehabilitation process of presbycusis. Methods: Current casuistry: 14 answers. An online form, developed through *Google Docs* tool, was sent to centers and also to authors and co-authors of national research works with the same theme of this study. The form was composed of the Written Informed Consent Form, identification record and quiz. Partial results: Out of the 14 answers obtained, 8 were from centers and 6 from authors and co-authors. Centers: 83% of the professionals were aware of hearing in noise test, but they did not use it: 60% did not have the test and/or the correct equipment; 20% did not have time to apply the test in a clinical routine and 20% were implementing the test in the clinical routine. Authors and co-authors: 100% were aware of hearing in noise test, but only 71% used it; among these, 100% used it in the elderly population; 57% used it in audiologic evaluation, 33% in rehabilitation, 27% to define referral to complementary evaluation (electrophysiology, physician, etc.), 13% to help/determine the choice of the hearing aids, 13% in the adaptation of hearing aids and 13% in therapeutic counseling. Conclusion: The hearing in noise tests are not being applied in the majority of the centers. Among authors and co-authors, those professionals that still work in this area use these tests in an effective way in some stages of the rehabilitation process (including diagnostic evaluation) of hearing loss.

Wideband absorbance in children with serous otitis media

ARAÚJO, Eliene Silva[1]; SATERS, Thais Lenharo[1]; ALVARENGA, Katia de Freitas[2]

[1]Hospital for Rehabilitation of Craniofacial Anomalies of University of São Paulo (HRAC/USP).
[2]Bauru School of Dentistry, University of São Paulo, Department of Speech Therapy.

Objective: To analyze wideband absorbance in children with serous otitis media. Methods: This is a prospective cross-sectional study, approved by the Ethics Committee, report 141.301/2012. Twenty two children – 11 to 55 months – were evaluated (40 ears) and divided into two groups: the experimental (n = 20 ears) and control group (n = 20 ears), paired according to age, gender, and laterality (right or left ear). Criteria for inclusion in the experimental group were the absence of maximum peak compliance on conventional tympanometry and otoscopy carried out by an Otolaryngologist diagnosing serous otitis media (OME) and with the recommendation of drug and/or surgical intervention. For the control group we adopted the 226 Hz probe-tone tympanometry and otoscopy indicating normality of the tympanic-ossicular system. Wideband absorbance was obtained through Acoustics' Middle-Ear Power Analyzer (MEPA) measurement system, version 5.0, using pure tone stimuli and chirp. A total of 248 frequencies were assessed. Absorbance percentage was analyzed through descriptive and inferential statistics, with a significance level of 0.05. Results: For both groups we found a small percentage of absorbance for low frequencies (250 to 500 Hz), with a gradual increase from 750 Hz on up, reaching the maximum at 4008 Hz and reducing again after this. Although the acoustic transfer behavior was similar between the groups, the absorbed energy percentage differed significantly. Lower absorbance was registered for ears with OME in the 750-4008 Hz frequency range for pure tone stimulus and between 586 and 4734 Hz for chirp ($p<0.05$). Conclusion: Serous otitis media in children decreases wideband absorbance in comparison with health ears with integral tympanic-ossicular system. The variance is better identified at medium frequencie.

Collaboration of interlocutors in children's speech evaluation

TOMAZI RISSATO, Camila[1]; FERREIRA-DONATI, Grace Cristina[2]

[1]GCFD Speech Therapy Clinic, Graduate Program of the Lahmiei Institute –UFSCar. [2]GCFD Speech Therapy Clinic, UNESP (Marília) Sensory and Physical Disabilities Research Group.

Objective: Describe the evaluation of the communicative skills of a child with multiple disabilities as part of the process of prescribing alternative communication systems. Case report: Male child (five years and six months old) diagnosed with global neuropsychomotor development delay, mild intellectual disabilities, and features that suggest autism spectrum disorder. The evaluation consisted of direct assessment of the child and two semi-structured interviews, one with the mother and another with the teacher and the assistant. Communicative behavior and expressive vocabulary was assed at consulting room. Data collection with the mother was carried out using an adaptation of the List of Functional Vocabulary and the Protocol for Identification of Communicative Skills in Family Context. For the teacher and the assistant, we used the Protocol for Identification of Communicative Skills in School Context. Results: Assessment in structured environment had restricted involvement in dialogues, single words were produced, reduced expressive vocabulary, poor eye contact and gesture imitation, and good verbal imitation. Data gathered in interviews with the the child's interlocutors demonstrated a necessity to focus work on the following communicative functions: actions and objects request and refusal, help and rest request, proper verbal protest facing discomfort situations, providing simple personal information and use of vocatives, and expanding the child's vocabulary. Conclusion: The participation of child's interlocutors in the assessment process – those who share other social spaces with him – was essential to elaborate the therapeutic plan, mostly to help the development of CSA systems, in a pragmatic approach adapted to dialogical needs in different social contexts.

Effectiveness of intensive therapy in children with language delay

GONÇALVES, Mariana Ferreira[1]; GEJÃO, Mariana Germano[1]; GONÇALVES, Bianca Lopes Rodrigues[1]; GUARNIERI, Camilla[1]; CAVALHEIRO, Maria Gabriela[2]; MAXIMINO, Luciana Paula[1,2]; LOPES-HERRERA, Simone Aparecida[1]

[1]Bauru School of Dentistry – USP, Department of Speech Therapy.
[2]Hospital for Rehabilitation of Craniofacial Anomalies – Section of Genetics.

Objective: To verify the effectiveness of intensive therapy of children diagnosed with Delayed Language Development. Method: Data were analyzed from the initial and final assessment of two modules of intensive speech therapy, being the first with duration of five weeks and the second of 10 weeks, consisting of three weekly sessions of 55 minutes, being two individual and one in group. Six children aging from 3 to 5 years participated; they have no hearing changes, appropriate motor development, and family history (language delay, disfluency, hearing impairment, and phonological disorder). The following tests were used: Test of Child Language in the fields of Phonology, Vocabulary, Fluency, and Pragmatics (ABFW – Vocabulary), Language Development Assessment (LDA), Behavioral Development Scale of Gesell and Amatruda, Behavioral Observation Protocol (BOP), Morphosyntactic Assessment, and Verbal Communication Skills (VCS). Results: There was evolution in the vocabulary, however, some semantic fields were still delayed. In the LDA, three children evolved to normality and three decreased the severity of the change. In the Gesell Scale, all children evolved to normality, with the exception of one child who continued with delay in adaptive behaviors and language. In BOP, VCS, and morphosyntax, one child evolved to normality and the other continued showing pragmatic and morphosyntactic difficulties. Conclusion: Intensive speech therapy intervention proved to be effective in the development of language in all its aspects. Pragmatic/ Morphosyntactic skills were those that remained with more delay, justified by the chronological age of the children, who even with evolution, presented difficulties in narrative and structure of sentences. Longitudinal studies with a greater casuistry are being developed in order to verify the actual effectiveness of this intervention program.

Fluency disorders: review of the literature on tachyphemia

LUPO MERELES, Juliana[1]; CURIOSO VÍLCHEZ, Iván Carlos[2]

[1]Faculdade de Filosofia e Ciências - UNESP, Departamento de Fonoaudiologia.
[2]Faculdade de Filosofia e Ciências - UNESP, Departamento de Educação Especial.

This study aims to identify and analyze articles on tachyphemia in databases at national and international level to know the advances in this area. We selected studies through bibliographical research in Periodic CAPES, and tried to highlight more recent ones, from 2000 to 2016 – a total of 16 articles (13 in English and 3 in Portuguese). They are in the following databases: Science Direct, Scielo, One File, and Ovid Medline. The results of the articles suggest that, in the speech of a tachyphemic people, there is an increase in the utterance rate and in the number of common disfluencies. They have difficulties in accessing the lexicon, pneumophonoarticulatory incoordination, and positive family history to fluency disorders. The intelligibility of their speech, prosody, articulation, writing, and regular intervals in time are affected features. Moreover, this disorder has no apparent causes and improves its clinical conditions over the years. Generally it is a disorder that does not appear isolated, for it can be associated with stuttering, schizophrenia, auditory processing, Down Syndrome, and learning problems. Its prevalence seems to be higher in male adults. In fact, more studies are necessary to evaluate this disorder, and the instruments and international protocols used in these researches should be translated and validated into several languages besides Brazilian Portuguese.

Fluency of school children with stuttering

MARCONATO, Eduarda[1]; PALHARINI, Talissa Almeida[1]; PICOLOTO, Luana Altran[1]; OLIVEIRA, Cristiane Moço Canhetti de[1]

[1]São Paulo State University "Julio de Mesquita Filho" – UNESP – Marília Campus, Department of Speech Therapy and Graduate Program in Speech Therapy.

Objective: To assess the fluency of school children who present stuttering of persistent development. Methods:

This is cross-sectional study developed at the Faculty of Philosophy and Sciences of the São Paulo State University (FFC-UNESP), Marília campus, with the approval of its Research Ethics Committee, under Protocol No. 0081/2011. The participants were 35 school children, aged from 6 to 11 years, native speakers of Brazilian Portuguese, who presented stuttering. The procedures used were: assessment of speech fluency and application of the Stuttering Severity Instrument. Results: The percentage of disfluencies typical of stuttering ranged from 3.00 to 19.50% (average of 7.19%, SD = 4.58), the average of total disfluencies was 13.00% and other disfluencies was 5.86%. The stream of syllables per minute ranged from 52.86 to 186.00 (average of 135.41, SD = 31.74), and the stream of words per minute ranged from 27.00 to 150.00 (average of 97.88, SD = 30.76). The total score of the SSI ranged from 11 to 33, and 57.14% of school children showed mild stuttering, 25.71% moderate, 14.28% serious, and 2.85% very serious. Conclusion: Most school children who presented stuttering expressed it mildly, with hindering of the flow of information. The speech therapist needs to be prepared to perform properly the diagnosis and therapy of school children with stuttering, knowing that there is a great diversity of clinical manifestations.

Lexical performance of children with operated cleft lip and palate

CAVALHEIRO, Maria Gabriela[1]; LAMÔNICA, Dionísia Aparecida Cusin[2]; MAXIMINO, Luciana Paula[2]

[1]Hospital for Rehabilitation of Craniofacial Anomalies – USP, Section of Genetics. [2]Bauru School of Dentistry – USP, Department of Speech Therapy.

Objective: To check the performance of the receptive and expressive vocabularies of children between 36 and 47 months with cleft lip and palate (CLP) and compare them with the group without the malformation. Methods: The sample was composed by a sample group (SG), with 30 kids between 36 and 47 months with operated CLP and a comparative group (CG) with 30 children without CLP in the same age group. Children who presented cases of otitis in the period of the assessment and who were diagnosed with genetic syndromes or other associated malformations were not included in the SG. The two groups were subjected to assessment of receptive and expressive vocabularies through the MacArthur Communicative Development Inventory. Results: The SG had an average of 367 words in the receptive vocabulary and 315 in the expressive. As for the type of CLP, individuals with cleft palate presented an average of 377 words in the receptive vocabulary and 355 in the expressive; while those with cleft lip and palate presented an average of 361 words in the receptive vocabulary and 301 in the expressive. There was no significant difference regarding the performance and type of cleft. The CG had an average of 415 words in the receptive vocabulary and 413 in the expressive. There was no statistically significant difference between the groups regarding the receptive and expressive vocabularies. Conclusion: Children with CLP presented inferior lexical performance with greater loss in the expressive vocabulary, being statistically significant the difference when compared with children without the malformation.

Muscle behavior during the speech of people who stutter

ALVARENGA, Aline Silva Lara de[1,2]; SOUSA, Caroline Brandão Teixeira[1]; CASTRO, Arleys Pereira Nunes[3]; ZEBENDE, Gilney Figueira[3]

[1]University Center Jorge Amado (UNIJORGE). [2]State University of Bahia (UNEB) – Department of Life Sciences. [3]Industrial Technology Faculty (SENAI-CIMATEC).

Objective: To describe the muscular behavior during the speech of people who exhibit the diagnosis of development stuttering. Method: Fifty-four individuals aged between 18 and 60 years, of both sexes participated in the study, divided into 2 groups: RG – research group, with 7 subjects with diagnosis of development stuttering of varying degrees of severity from mild to severe, ranging in age from 21 to 38 years, all male; and CG – control group, with 47 subjects who did not present stuttering. All were submitted to surface electromyography during the execution of 3 speech tasks (spontaneous speech, automatic speech and reading). The electromyography-signals were monitored and collected in time series by using the *facesEMG.exe* application. The statistical method provided for analysis of the data was composed of Detrended Fluctuation Analysis (DFA), Detrended Cross-Correlation Analysis (DCCA), and rhoDCCA. Results: The series of all speech modalities from RG were compared to the average of the CG series. We observed that both RG and the CG participants presented strength oscillations when producing speech. However, we found greater oscillation in the RG than in the CG. We found that all participants of the RG presented muscle activity always below the CG, with the exception of participant P5, the only one with serious degree of severity. This suggests that the strength oscillation that happens during speech tends to decrease the strength average produced, while in the CG the force is constant because the oscillation presented by them is smaller. The time series in automatic speech and reading activities are greater in the RG, evidencing that people who stutter take longer to produce the same amount of speech than people who do not stutter. Conclusion: The described muscle behavior showed that the difference between people who stutter and do not stutter can be shown in the presence of greater fluctuation of voltage from the first group and in the duration of episodes, which tend to be higher in the first group.

Neuropsychomotor development of children with cleft lip and palate

CAVALHEIRO, Maria Gabriela[1]; LAMÔNICA, Dionísia Aparecida Cusin[2]; MAXIMINO, Luciana Paula[2]

[1]Hospital for Rehabilitation of Craniofacial Anomalies – USP, Section of Genetics. [2]Bauru School of Dentistry – USP, Department of Speech Therapy.

Objective: To verify the performance of Personal and Social, Language, Fine-Adaptive Motor and Gross Motor skills of children with cleft lip and palate (CLP). Methods: Thirty children aged between 36 and 47 months with operated CLP were subjected to neuropsychomotor development assessment, by the Denver Developmental Screening Test II. Children who presented cases of otitis in the period of the assessment and who were diagnosed with genetic syndromes or other associated malformations were not included in this study. Data were analyzed according to the rules of the protocol

considering all areas. The children could be classified as normal or of risk for neuropsychomotor development. The scores in each area were described in percentage considering the chronological age. Results: In total, 23 children failed, being classified as at risk for delay in the neuropsychomotor development. Only 7 presented performance within the expected for the age group. The Personal and Social skills item presented average performance of 82.2%; Gross Motor skills presented an average of 72.7%; Fine-Adaptive Motor skills, 81.4%; and language skills presented the smallest performance, of 66.7%. There was no statistically significant difference between the performance of children with cleft palate and cleft lip and palate. The inductive analysis allowed us to verify that there was no correlation between the performance of Language and Gross Motor skills. Conclusion: We observed performance below the expected for the majority of the studied sample, with indicators of risk factors for neuropsychomotor development.

Profile of cases in a school clinic in the area of child language

SANTOS, Aline Azevedo[1]; MAXIMINO, Luciana Paula[2]

[1]Undergraduate Student of the Speech Therapy Course of the Bauru School of Dentistry, University of São Paulo (FOB/USP), Bauru, SP, Brazil.
[2]Speech therapist; Associate Professor of the Department of Speech Therapy, Bauru School of Dentistry, University of São Paulo (FOB/USP), Bauru, SP, Brazil.

Objective: To outline the profile of the patients seen at the school clinic of Speech Therapy of a public university in the field of child language, from 2004 to 2016. Method: This is a retrospective study that proposed a protocol analysis involving personal data, pre, peri and postnatal factors for registered records data collection over 12 years (2004 to 2016) at the Clinic of Child Language of the public university involved, notifying also the diagnosis and rehabilitation process. Results: the study found 138 cases between 2004 and 2016. As to the characterization of the sample, we found: regarding sex, 73.9% of the children were male; regarding diagnosis, 51.4% presented phonological disorder; as for gestational monitoring, 73.7% of mothers performed it; as for childbirth, 61.5% were cesarean sections, 63.7% of children were born at term, and 63.7% have no history of perinatal complications. As for twin pregnancy, 83.3% are not and 27% of children are the second child in order of birth. Breastfeeding was performed by 43.4% for more than 6 months. As for speech development, 35% were over the age of 12 months. Regarding family history, there was recurrence in 47.8% of cases and the mother tongue was Portuguese in 99.2% of the cases. Conclusion: we observed higher occurrence of language changes associated with the male sex and the diagnosis of phonological disorder. This study highlights the need for standardization of case histories, to allow detailed search for all cases and the promotion of proper understanding, as well as the implementation of a good system of retrospective searches in school clinics.

Speech intelligibility in children with oral language change

GONÇALVES, Mariana Ferreira[1]; GUARNIERI, Camilla[1]; CAVALHEIRO, Maria Gabriela[2]; GONÇALVES, Bianca Lopes Rodrigues[1]; GEJÃO, Mariana Germano[1]; MAXIMINO, Luciana Paula[1,2]; LOPES-HERRERA, Simone Aparecida[1]

[1]Bauru School of Dentistry – USP, Department of Speech Therapy.
[2]Hospital for Rehabilitation of Craniofacial Anomalies – Section of Genetics.

Objective: To determine the degree of speech intelligibility of children attended in a Clinic of Child Language and verify that in these cases there is a correlation between the degree of speech intelligibility, age, and speech therapy diagnosis. Methods: Thirty-three children aging between 3 and 8 years participated in this study, with changes of oral language (being 11 with Language Delay – LD, 17 with Phonological Disorder – PD, four with Specific Language Impairment – SLI, and one a with Secondary Language Disorder – SLD). We used phonology protocols of the ABFW Test of Child Language for the calculation of the PCC index (Percentage of Consonants Correct) in pre-intervention situations. Data were qualitatively analyzed using descriptive statistics and inductive analysis, using the Spearman correlation coefficient ($p<0.05$) in order to verify the correlation degree between the variables. Results: We observed that regarding the imitation test, four children with SLI (50%) have a speech intelligibility degree classified as slightly moderate, with slightly moderate PD (58.82%), mild LD (45.47%), and the child with severe SLD. On the other hand, in the designation test, three children with SLI (75%) obtained the slightly moderate classification, with slightly moderate PD (52.94%), slightly moderate LD, and the child with SLD. In addition, PCC correlation was not verified in designation and imitation situations with age and with therapy speech diagnosis. Conclusion: The majority of children in this study had better degree of speech intelligibility in imitation tests. Furthermore, we did not verify relation between PCC with age or therapy speech diagnosis. Studies are being carried out with a larger number of children.

Speech therapy and pedagogy: an interdisciplinary look

CARVALHO, Dayane Silva de[1]; BALBINO, Elisa Maria Santos[1]; VIRTUOZO, Carol Pedrosa Monteiro[1]; SILVA, Priscila Rufino da[1]

[1]Faculdade de Fonoaudiologia – Universidade Estadual de Ciências da Saúde de Alagoas (UNCISAL).

Objective: To investigate interdisciplinary actions regarding speech therapy and pedagogy. Literature review: Speech therapists commonly act focused only to the area of health, however, they can act also in the administrative and educational areas. Speech therapy activities within school aims to promote and prevent problems related to audiology, voice and orofacial motricity. We highlight that the area that has an increased demand is that of language. For the proper development of language within speech therapy practices in the school environment, the communication between teachers and speech therapists is necessary, in an interdisciplinary relationship, since this interdisciplinarity will provide knowledge about the possible changes to be investigated by both professionals, each following its specificities.

Results: The search engine adopted allowed us to understand the forms of interdisciplinary between speech therapy and pedagogy. Ideally, the two professions should realize the right time to carry out screening, guidance to parents, promotion,and prevention activities, and possible referrals. Furthermore, it is important that the school planning is carried out by these two professionals, so that they can meet the particularities of the group of children. Conclusion: With the review, we noted the lack of studies in the area and that interdisciplinarity between speech therapy and pedagogy is of utmost importance. Therefore, if any change is perceived in school children, it must be referred for therapy, which is not performed at school. With that, individuals who present changes in any of the already mentioned areas can be diagnosed and referred for treatment early, decreasing the risks that such changes can bring to their lives. In addition, the easy access that parents and children will have to speech therapists will facilitate the entire process.

Speech-language pathology acting in preschool

SILVA, Nathane Sanches Marques [1]; BACK, Anicy Terezinha Bainha Pacheco[1]; CARRIÇO, Juliana Ribeiro[1]; HAAS, Patricia[1]; VIANNA, Karina Mary de Paiva[1]; BLASI, Helena Ferro[1]

[1]Health Sciences Center - Federal University of Santa Catarina, Department of Speech-Language Pathology and Audiology.

Objective: Verify the effectiveness of stimulation practices of oral language as a way to promote progress in the communicative and cognitive development in preschool children. Methods: The intervention was performed in Celso Ramos day care center, located in Florianopolis/SC, in three steps: Evaluation of oral language of children aged one year and six months to four years and six months, through the application of the Behavioral Observation Protocol (PROC); Division into two groups by age, and subdivision in the control group and intervention group; Stimulation of oral language to the intervention group at school; New application of the protocol was performed after completion of the stimulation program. Results: A considerable increase was observed with respect to the development of skills necessary for the development of oral language and preventing reading and writing difficulties, since between application of the first to the second evaluation stage the control group showed an increase of 21.22% in the PROC score, and the intervention group showed an increase of 41.10%. Conclusion: This research confirms that the activities developed in the early childhood period are of great importance to the awakening of the first knowledge of reading and writing. It is a consensus among researchers that children with change in oral language have difficulties in phonological processing skills and, therefore, they can be considered at risk for literacy.

Telehealth in the intervention in Apraxia of Speech: a case report

TOGNOZZI, Julia dos Reis[1]; FERREIRA-DONATI, Grace Cristina[2]

[1]GCFD Speech Therapy Clinic, Postgraduate Program of the LHAMIEI Institute –UFSCar.
[2]GCFD Speech Therapy Clinic, Sensory and Physical Disabilities Research Group of UNESP-Marília.

Objective: Describing a model of speech therapy intervention in Telehealth, with a child diagnosed with Apraxia of Speech. Case report: Female patient, six years old, diagnosed with Apraxia of Speech. Speech therapy assessment indicated emission at disyllables level of phonemes/p/, /t/, /m/, /n/, /f/, /b/ e /d/, and pseudowords level of phoneme /l/. Due to the number of alterations and the geographical distance between the family and the clinic, a model of speech therapy intervention was proposed, with three weekly sessions lasting 20 minutes, through voice and video communication software Skype™, with participation of the mother, and one face-to-face session per week, lasting 1 hour. The therapeutic plan has as objective the installation of phonemes in all segmental units of the word, generalization for application in phrases and spontaneous speech and family guidance. For this case report, 22 sessions via Skype ™ and six face-to-face sessions were analyzed. Results: Until the current phase of the intervention, improvements in point accuracy and manner of articulation of phonemes /p/, /t/, /m/, /n/, /f/, /b/, /d/, /s/ e /l/ was reported, with 100% success in the emission of sentences without auditory clue. The child achieved competence in the production of phoneme/ʃ/at syllable level. According to the perception of the therapist and parents, there was an increase of speech intelligibility in spontaneous communication situations, with reduction in the number of omissions of syllables and preservation of the formal structure of the word. Conclusion: Therapeutic gains have resulted in greater motivation for dialogical exchanges in different contexts and the model of multiple weekly sessions with the use of Telehealth resources has clearly contributed to maintain the engagement of the child in phonoarticulatory practices, with a higher number of weekly sessions than with the usual. Such format is a more economically viable alternative, with advantages for the achieving of therapeutic results.

Ultrasound analysis of lingual phonemes

MAURÍCIO DA SILVA, Lídia[1]; BERTI, Larissa Cristina[1]

[1]Faculty of Philosophy and Science of Marília – FFC/UNESP, Department of Speech Therapy.

Objectives: To characterize the ultrasound pattern of tongue movement on 14 consonant phonemes in Brazilian Portuguese (BP). Specifically, we will seek to describe the ultrasound differences that distinguish the phonemes in BP. Methods: We selected 20 subjects with typical speech production, aged between 20-30 years, of both genders. The selected stimuli include the 14 lingual consonant phonemes in the intervocalic context of [a]. Data were collected and analyzed with the use of ultrasound and the AAA (Articulate Assistant Advanced) and Ultracats softwares. The parameters adopted were: GAD (global average distance); IA (index of anteriority); and difference between AP (distance from the anterior portion of the tongue)-GAD. We conducted a descriptive and inferential statistical treatment of the data from One Way ANOVA. We adopted as dependent variables the 3 parameters, and as fixed factor the place with 4 levels (alveolar, pre-palatal, palatal and velar) and manner of articulation (occlusive, fricative, nasal and liquid lateral and non-lateral). Results: For GAD, ANOVA showed a significant effect for the place ($F(3.279)=4.44$, $p>0.05$), but not for manner. The Post-Hoc test by peer comparison showed differences in the following descending order: velar, palatal, alveolar, and pre-palatal. For IA, there was no effect of significance regarding place and manner. For the difference between AP-GAD, there was a significant effect for the period ($F(3.279)=44.84$, $p>0.00$), differentiating the 4 levels in the following order: palatal, pre-palatal, alveolar, and velar. As for manner, a significant effect was verified $F(4.279)=88.756$, $p>0.02$), differentiating the class of nasal, fricative and occlusive. Conclusion:

We observed the analyzed parameters were sensitive to distinguish the 14 phonemes when considered place. The difference parameter between AP-GAD proved to be the most sensitive, differentiating phonemes regarding place and manner. The indexes obtained can be used for clinical application on subjects with changes in speech production.

Effects of vocal therapy on swallowing of an elderly: case report

FREIXO, Leticia de[1]; GODOY, Juliana Fernandes; ROSA, Raquel Rodrigues; BERRETIN-FÉLIX, Giédre; BRASOLOTTO, Alcione Ghedini

[1]Bauru School of Dentistry – USP, Department of Speech-Language Pathology and Audiology.

Objective: Vocal exercises have been used in dysphasia rehabilitation programs since swallowing and phonation functions are executed by common structures. Thus, the aim of this work was to describe the effects of a vocal therapy program for elderly focused on the swallowing function. Case report: Female patient, 67 years old, complaining of weak and hoarse voice. In the nasoendoscopy the patient presented arched vocal folds, fusiform glottic closure and median constriction to phonation. She was subjected to the vocal therapy program for elderly, which was composed of 16 exercise sessions with the aim of improving the quality, projection and vocal stabilization. A functional exam of swallowing was performed through videoendoscopy by a physician and a speech pathologist before and after the vocal therapy. It is noteworthy that in the interval between pre and post-therapy the patient was not subjected to the swallowing therapy. A speech pathologist received the videos of the pre and post-exams and analyzed in a blind way the function of swallowing to compare both moments. This case report is part of a project approved by the Institutional Ethics Committee (# 1.115.572). Results: In the evaluation after the vocal therapy program an improvement in swallowing was observed for all the consistencies tested in comparison with the period before the therapy: for the liquid consistency, a reduction in the delay of the beginning of the pharyngeal phase was observed; for the paste consistency, the following observations were made: reduction of the premature posterior escape of food as well as reduction of the stasis in valleculae, pyriform sinuses and pharynx; for the solid consistency there was a reduction of the beginning of the pharyngeal phase and of the stasis in valleculae. Conclusion: The results obtained suggest that vocal exercises promoted positive changes in the biodynamics of swallowing and must be considered in swallowing rehabilitation programs.

History of the speech therapy program in the cleft lip and palate

ZAMBERLAN, Rafaella[1]; FERREIRA, Gabriela Zuin[1]; WHITAKER, Melina Evangelista[2]; PINTO, Maria Daniela Borro[2]; SOUZA, Olivia Mesquita Vieira[1]; DUTKA, Jeniffer de Cassia Rillo[1,2]; PEGORARO-KROOK, Maria Inês[1,2]

[1]Bauru School of Dentistry – FOB/USP, Department of Speech Therapy.
[2]Hospital for Rehabilitation of Craniofacial Anomalies – HRAC/USP, Palate Prosthesis Service.

Objectives: To describe the history of Intensive Speech Therapy (IST) from the descriptive report of supervisory speech language pathologists. Methods: We carried out semi-structured interviews about the IST history in the Palate Prosthesis Service of the Hospital for Rehabilitation of Craniofacial Anomalies of USP (SPP/HRAC/USP). We recorded and transcribed the answers of six speech language pathologists who took part in IST. Results: The results show that the first speech therapies, in a traditional way, at SPP/HRAC/USP, started in 1999, with the aim of treating patients who did not improve speech after adjustment of prosthesis of palate and/or before the need for diagnostic therapy prior to the modeling of the pharyngeal bulb. To get to today's structure, there have been several changes in the intervention model over the years. From 2003 to 2011, ISTs occurred in a variety of ways, with duration from 1 week to 3 months, and 1 or 2 sessions daily. From 2011 on, intensive care was structured in intensive modules lasting from 2 to 4 weeks with 2 to 4 daily sessions (between 30 and 60 per-module sessions per patient). Since 2011, the interventions at SPP include a team involving undergraduates students of Speech-Language Pathology of FOB/USP, residents, graduate students, staff of SPP/HRAC/USP, coordinated by professors. In 2014, the Intensive Speech Therapy Program (PFI) was proposed, with modules lasting 3 weeks with 45 sessions in total. Conclusion: The history of IST of SPP/HRAC/USP has undergone modifications, becoming a structured program for care of patients and teaching of undergraduate and graduate students.

Intensive speech therapy in the speech correction in cleft lip and palate

DINIZ, Roberta Santana[1]; ANDRADE, Laura Katharine[1]; FERREIRA, Gabriela Zuin[1]; DUTKA, Jeniffer de Cassia Rilo[1,2]; PEGORARO-KROOK, Maria Inês[1,2]

[1]Bauru School of Dentistry - USP, Department of Speech-Language Pathology and Audiology.
[2]Hospital for Rehabilitation of Craniofacial Anomalies – USP.

Objective: To document the evolution of speech therapy in the intensive modality at the Service of Palatal Prosthesis of the Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo (SPP/HRAC/USP), from a descriptive report of two coordinators. Methods: From recorded interviews, which were transcribed, of two coordinators the history of intervention in the intensive modality for correction of speech disorders at the (SPP/HRAC/USP) was obtained. Results: The results revealed that in 1999, speech therapies were started at the SPP, in the traditional modality, with appointments at 5 days a week with two daily sessions that included exercises to be performed at home with the duration of approximately 3 months. In 2007 the "Professionalizing Practice: Intensive Speech Therapy of the Speech Disorders Derived from Palate Clefts" was started, with the participation of 6 patients in an initial modulus of 3 months, which was extended for more 3 months. In 2010 the team started discussions aiming at building up a modular program of Intensive Speech Therapy (FI). In 2011 undergraduate students from the 4th year of the Speech-Language Pathology and Audiology course of the Bauru School of Dentistry (FOB), University of São Paulo, speech therapists of the Multidisciplinary Residency Program of HRAC and graduate students of HRAC and FOB were enrolled in the intensive care, which culminated with the proposal for the Modular Program of Intensive Speech Therapy (PFI) in 2014. In the PFI, 45 sessions are offered (not considering the evaluations) during 3 weeks, being 3 daily sessions with the duration of 30 to 45 min. In the end of each module patients and their speech therapists got involved in a tele-partnership aiming at the continuation of the appointments in the cities where they lived. Conclusion: PFI at HRAC in partnership with FOB presents an unprecedented history of innovation in the treatment of speech disorders in subjects with cleft lip palate, from the clinical, research and teaching point of views.

Intensive speech therapy on a case of velopharyngeal dysfunction

JESUS, Tamiris Guarnieri[1]; MORELLI, Beatriz Castanheira[1]; PREARO, Gabriela Aparecida[2]; SOUZA, Olívia Mesquita Vieira de[1]; DUTKA, Jeniffer de Cássia Rillo[1,2]

[1]Department of Speech Pathology, University of São Paulo - Bauru School of Dentistry.
[2]Hospital Rehabilitation of Craniofacial Anomalies – HRAC.

Objective: To describe the result of an intensive speech therapy module in a case of velopharyngeal dysfunction. Methodology: The patient is a 12-year-old female with a profile of velopharyngeal dysfunction even after correction of a cleft post incomplete foramen. The patient has been using a prosthetic palate with pharyngeal shutter for 4 years and participated in her first intensive speech therapy module (IST) at the beginning of the year of 2016, with duration of 15 days, totaling 45 sessions (3 daily sessions). In the initial assessment the following results were found: Hypernasality, poor pressure, EAN and Compensatory Articulations. After identifying the changes in speech presented by the patient, the speech therapy sessions aimed to elicit and systematize the velopharyngeal closure and eliminate the compensatory articulations. Auditory, visual and tactile-kinesthetic clues were used. Results: We developed the correction of the articulation point and systematization of velopharyngeal closure in the following phonemes: plosive /p/, /b/, /t/, /g/, /d/, fricative /j/, /f/, /v/, /s/, /z/, /x/, liquid /r/ and /l/, and affricate /tʃ/. Due to the patient's performance, it was possible to develop, concurrently to this study, the work of reducing the pharyngeal bulb. At the end of the IST, the patient presented balanced speech resonance, with consistent velopharyngeal closure in all worked phonemes to the level of directed speech, besides correct articulation of all phonemes. Conclusion: IST has resulted in a significant improvement of speech intelligibility and balance of speech resonance.

Interdisciplinarity in the treatment of velopharyngeal incompetence

BASTOS, Priscila[1]; FUMAGALI, Franciele[1]; ANDRADE, Laura Katarine Félix[1]; CAMPOVERDE, Pedro Araujo[1]; PINTO, Maria Daniela Borro[2]; PEGORARO-KROOK, Maria Inês[1,2]; DUTKA, Jeniffer de Cássia[1,2]

[1]Department of Speech-Language Pathology and Audiology, Bauru School of Dentistry – University of São Paulo (FOB/USP).
[2]Service of Palatal Prosthesis, Hospital for Rehabilitation of Craniofacial Anomalies – University of São Paulo (HRAC/USP).

Objective: To report the interdisciplinary work of Speech-Language Pathology and Audiology in the intensive speech therapy and of Dentistry in the fabrication of palatal lift prosthesis (PPE) in a subject with velopharyngeal incompetence (IVP). Case report: Male child, 9 years old, with congenital IVP, without apparent cleft, started the use of PPE in another institution in 2010, for one year, but he did not adhere to the treatment. In 2013, he was referred to prosthetic treatment at HRAC/USP, by medical recommendation, and another PPE was fabricated. In 2015, during re-evaluation in the Service of Palatal Prosthesis, it was decided to replace the PPE for a pharyngeal obturator due to the absence of improvement in the speech and difficulty in the adaption to the use of PPE. With the success in the adaptation of the pharyngeal obturator, the boy was subjected to intensive speech therapy in two modules in the Intensive Speech Therapy Program (PFI), with the objective to accomplish the velopharyngeal closure and correct the compensatory articulations present during speech. Results: After completing the second module of PFI, the hypernasality, which was moderate, became mild; the audible nasal air escape was eliminated and the compensatory articulations constituted of occlusive glottal sounds that were systematic became unsystematic. Conclusion: The association of speech therapy and dental treatment has been shown to be effective and essential for the result of speech and correction of IVF.

Speech after Furlow palatoplasty in different surgical times

SILVA-MORI, Mariana Jales Felix[1]; DUTKA, Jeniffer de Cássia Rillo[1,2]; SOUZA-BROSCO, Telma Vidotto[3]; PEGORARO-KROOK, Maria Inês[1,2]

[1]Hospital for Rehabilitation of Craniofacial Anomalies – USP (HRAC/USP), Service of Palatal Prosthesis and Laboratory of Experimental Phonetics.
[2]Bauru School of Dentistry – USP, Department of Speech-Language Pathology and Audiology.
[3]Hospital for Rehabilitation of Craniofacial Anomalies – USP (HRAC/USP), Plastic Surgery Section.

Objective: To compare the results of speech among patients with unilateral cleft lip and palate (FLP), operated on the palate through the Furlow technique, in two distinct surgical times. Methods: The sample was composed of 211 patients from the HRAC/USP, being 98 (46%) operated on between 9 and 12 months and 113 (54%) between 15 and 18 months of age. The results of the auditory-perceptual judgment of nasality and compensatory articulation (AC) were collected from the Protocols of Phono-Articulatory Evaluation, available in the medical charts of the patients, related to the last speech evaluation they were submitted, between the ages of 1 year and 10 months and 17 years and 11 months (mean = 12 years and 7 months, SD = 3 years and 7 months). Results: Out of all the patients that were submitted to the auditory-perceptual judgment of nasality and speech, 86 (45%) were in the group aged 9-12 months and 84 (45%) were in the group aged 15-18 months, whereas out of all the patients submitted to evaluation of AC occurrence, 86 (45%) were in the group aged 9-12 months and 106 (55%) in the group aged 15-18 months. As far as the auditory-perceptual judgment of nasality, 69 (80%) in the group aged 9-12 months and 84 (81%) in the group aged 15-18 months presented absence of hypernasality, 14 (16%) in the group aged 9-12 months and 14 (13%) in the group aged 15-18 months present mild hypernasality, while 3 (4%) in the group aged 9-12 months and 6 (6%) in the group aged 15-18 months presented moderate/severe hypernasality. Regarding AC occurrence, 11 (13%) in the group aged 9-12 months and 12 (11%) in the group aged 15-18 months presented AC and 75 (87%) in the group aged 9-12 months and 94 (89%) in the group aged 15-18 months did not present it. The comparison of the results was not statistically significant (qui-square test, p=.930). Conclusion: The surgical time was not relevant to the results of speech among patients with FLP operated on the palate through the Furlow technique.

Community Health Agent: work process analysis

ARAKAWA-BELAUNDE, Aline Megumi[1]; DAMIANCE, Patrícia Ribeiro Mattar[2]; XAVIER, Angela[3]; FRANCO, Elen Caroline[2]; SANTO, Cristina do Espírito[2]; CARLETO, Natalia Gutierrez[2]; BASTOS, José Roberto Magalhães[2]; CALDANA, Magali de Lourdes[2]

[1]Federal University of Santa Catarina – UFSC – Department of Speech Language and Hearing Sciences.
[2]Bauru School of Dentistry – USP – Departament of Public Health.
[3]Estadual University of Amazonas – UEA - Dentistry Coordination.

Objective: This study aims to understand the experiences of users and of community health agents in a municipality of the Amazon region, regarding the development of the agent's work process and its impact on health care practices. Method: This is a qualitative study developed with ten community health agents. The reports were submitted to the Discourse of the Collective Subject technique. The project was approved by the Research with Humans Ethics Committee and all participants signed an informed consent form. Results: The central ideas produced showed: the professional and social recognition of the work of the agent by the community; the identification that, through the agent's work, the possibility of individuals from the community joining and using health services is expanded; the need for formal preparation and appropriation of means and instruments for the agent, not only to advise the health team, but also to watch the families settling personal demands and problems that affect health in a critical, reflective and autonomous way. Conclusion: We believe that the expansion of the view of local managers and policymakers to the community agent's work process, considering the perceptions of users, may impact significantly on the activities carried out by the workers, producing changes in health indicators and in the level of resolution of social and health problems.

Development and validation of an educational material for the care of babies

ALMEIDA, Charmiane Rafaela[1]; PRADO, Karine Antunes do[1]; CANO, Amanda de Souza[1]

[1]Faculty of Medicine of Marília – FAMEMA, Integrated Multidisciplinary Residency in Health.

Objective: To develop and validate brochures with guidelines for parents/caregivers about neuropsychomotor development stimulation of babies from 0 to 12 months old. Method: The developed instruments contain explanatory drawings concerning the development of babies in their first year of life. The material employs an easy-to-understand language to guarantee frequent use. The brochures developed were submitted to analysis of judges for the indication of suggestions about the appropriateness of the language, technical aspects, images and, presentation. Results: After the judges' analysis, we considered the suggestions qualitatively, grouping them into common areas of interest. The relevant ones were incorporated into the manual. After they were ready, the brochures were distributed during the visits carried out by the multidisciplinary team. Conclusion: The brochures were evaluated from the point of view of content and relevance. Their content was regarded as enriching and enlightening by the judges, justifying the use of these materials as an additional feature of the educational activities.

Health conditions in elderly of a city in the countryside of the state of São Paulo

DAMASCENO, Rafael José[1]; SANTO, Cristina do Espírito[1]; CALDANA, Magali de Lourdes[2]

[1]Bauru School of Dentistry - USP, Area of Community Health.
[2]Bauru School of Dentistry - USP, Department of Speech-Language Pathology and Audiology.

Objective: To present the partial results of a research about the health conditions of elderly, focusing on the presence of non-communicable diseases (NCDs) and polypharmacy. Methods: A questionnaire on NCDs and medications taken was used. After, based on these data, a detailed search on the website drugs.com was performed in order to evaluate the drug interactions, which were classified according to the potential as severe, moderate, mild and without interaction. The sample was composed of 80 elderly between 60 and 90 years old. Results: Hypertension was present in 80% of the elderly, and the following medications were used: atenolol, hydrochlorothiazide, losartan potassium or captopril. Diabetes was present in 40% of the elderly, and insulin or metformin were used. In the same context, 40% presented some dyslipidemia and used simvastatin or atorvastatin. Finally, 60% declared to have arthritis/arthrosis or osteoporosis, and used calcium supplements, vitamin D and analgesic drugs such as dipyrone or paracetamol. As far as drug interactions, there was no interaction for calcium, vitamin D as well as simvastatin, atorvastatin, metformin, sodium dipyrone and paracetamol. But there were moderate drug interactions between atenolol and hydrochlorothiazide (decreased heart rate and weakness), between atenolol and insulin (hypotension, hypoglycemia, headache and weakness) as well as between captopril and metformin (enhanced effects of metformin, headache and hypoglycemia). Along with these findings, in average 3 different medications were used for each NCD, except for the concomitant use of hydrochlorothiazide and atenolol for hypertension. Conclusion: The panorama aforementioned highlights the relevance of NCDs in elderly, mainly focusing on cardiac and metabolic aspects, which are related to the use of several medications that may develop harmful therapeutic situations, thus worsening the general state of health.

Health promotion in the community: language and communicative interaction

MONFREDINI, Daniela Cristina[1]; CARVALHO, Raissa Pereira[1]; MACHADO, Maria Aparecida[1]

[1]Bauru School of Dentistry– USP, Department of Speech Therapy.

Objective: To report the experience of health promotion in a community. Experience report: The study related university extension and health promotion in speech therapy, focusing on communicative interaction. The practices aimed at stimulation of language and communication. Previously, there were two meetings with the team to plan actions and draft materials (rattles and plates with animal figures). At the location, badges were made, the rattles were decorated, paintings were made of the figures on the boards and a musical activity

was performed. Results: The actions were carried out in November 2015, with 20 children. Each volunteer answered a questionnaire about the experience of the activity. The results were tabulated and divided into categories. Category 1 pointed out that 100% of the group noticed change in professional practice, after the performance. On Category 1a (Meaningful Learning), we identified 10 subcategories: facing challenges; flexible responses and assertive to unpredictability; approximation of community needs; use of material resources available; availability and commitment; health promotion; integrating theory and practice in a group performance; planning of the actions in the community; and relevance of the team. Category 2 (Reflections), emphasized five subcategories: making a difference as a professional is motivating; integrality; community reactions; inclusion of people with disabilities; and expectations about the future. Category 3 (Community: social and participatory space) has seven subcategories: professional performance; results of previous activities; previous meetings and planning; sharing of ideas and work in the team; available resources - interaction and ambience; and community interest in the proposed activities.Conclusion: The experience has provided benefits to children, promoting the improvement of language and communication. To the volunteers, who observed the significant learning regarding the performance, the experience provided theoretical contents and social role of the profession.

Health promotion: stimulation of memory and communication

SILVA E SILVA, Ana Carolina Marian[1]; MORATELLI DEPARIS, Julia Cristina[1]; ARAKAWA-BELAUNDE, Aline Megumi[1]

[1]Federal university of Santa Catarina – UFSC, Department of Speech Therapy.

Objective: To report an experience of a stimulation of memory and communication workshop focused on the promotion of older adults' health. Methodology: This is an extension project carried out weekly with a group of older adults. The reported period refers to the first and second semesters of 2015 with 13 meetings in each semester. The actions are performed in the Senior Studies Center of the Federal University of Santa Catarina. Low-cost activities, of easy access and development are developed, so that participants can apply them in their daily lives, such as dynamic and playful activities involving auditory, tactile and visual stimuli focused on attention, memory and communication. Results: A total of 19 older adults aged 60 years or more participated of the group. Among them, three (15.78%) were males and sixteen (84.22%) were female, with average age of 60.05 years (SD = 5.71). The participants had a good adhesion to the workshop, collaborating with the proposed activities and achieving the goal of social interaction. It was possible to observe the feeling of belonging to the group and mutual support in times of discussions. The group constantly stated that the activities and tips offered during the meetings contributed significantly to their daily activities. In addition, in some moments, some participants shared anxieties related to the process of dementia. In this regard, guidelines and discussions around the question were carried out. Conclusion: Through the meetings of group interaction, we observed that the older adults felt motivated to participate in the proposed activities, not only to improve the performance of attention and memory, but also as an opportunity to develop communication skills and social inclusion, aspects linked to the process of health promotion.

Introduction of fruits in the diet of children under two years old

ALMEIDA, Charmiane Rafaela[1]; SEBASTIÃO, Luciana Tavares[1]; PEREIRA, Maria Cecília Bayer[1]; DOMINGUES, Sandra Mendonça Oliveira[2]; NASCIMENTO, Edinalva Neves[2]

[1]Faculty of Philosophy and Science, UNESP, campus Marília.
[2]Municipal Secretariat of Health of Marília.

Objective: To analyze the consistency and time of introduction of fruits in the diet of children under two years old. Method: The study was conducted in six municipal public schools of early childhood education in a city of the state of São Paulo. We applied a questionnaire with open and closed questions, sent to be answered at home by the students' legal guardians. Results: 189 children aged between four and 23 months participated in this study. Respondents reported offering fruits in the form of juice (98.9%), as well as processed and sieved (26.5%). In addition, we observed introduction before six months of age both of juice (54.5%) and of (13.2%) processed and sieved fruits. Conclusion: The results showed that the recommendations of the Ministry of Health concerning Step 5 are not being followed. Such findings highlight the need for health education to parents and professionals from educational institutions with a view to discuss public health policies that deal with the children's diet.

Relationship between verbal fluency and sociodemographic aspects in active older adults

ARAKAWA-BELAUNDE, Aline Megumi[1]; MACHADO, Camila Kretzer[1]; SOUZA, Monique Coan[1]; BERNARDES, Flavia Rodrigues[1]; MACHADO, Marcos José[2]

[1]Universidade Federal de Santa Catarina – UFSC – Coordenadoria Especial de Fonoaudiologia.
[2]Universidade Federal de Santa Catarina – UFSC – Departamento de Análises Clínicas.

Objective: to relate sociodemographic aspects to verbal fluency of active older adults participating of coexistence groups. Methods: This is an epidemiological study conducted in a capital of the southern region of Brazil. The inclusion criteria used were individuals aged 60 years or more, regardless of gender, and regular particpants of coexistence groups, who accepted to participate in the study by signing an informed consent form. The research included the completion of a questionnaire to verify sociodemographic aspects and application of a verbal fluency test (by the semantic category "animals"). Results: A total of 386 older adults participated in the study, 95% being female and 4.1% male, average age of 71 years (SD = 7.90), with prevalence of women (95.90%) and individuals with some elementary school (61.3%). The older adults of the sample produced on average 12.63 animals, with a standard deviation of 4.45, with a maximum of 28 and minimum of zero animals, and median of 13 animals. The verbal fluency test variables were influenced by gender ($p = 0.0001$), age ($p = 0.0118$) and education ($p = 0.00022$) of the participants. Given the inferential analysis, we observed significant differences regarding the amount of animals generated among the age group ($p = 0.0118$) and the pass/fail between octogenarians ($p = 0.0163$). We did not found any significant differences regarding verbal fluency and monthly income. Conclusion: The results confirmed that the performance in the verbal fluency test should be interpreted along with the sociodemographic

information from this population, being interesting to conduct studies with older adults who are not inserted in coexistence groups.

Symptoms in adolescents who use individual sound equipment

PRESTES, Simone Cristina Chiodi[1,2]; COELHO, Thaisa Rino de Freitas[1,2]; PRESTES, Marcelo Pires[2]; BASTOS, José Roberto de Magalhães[1]; LOPES, Andréa Cintra[1]

[1]Department of Speech Pathology, University of São Paulo - Bauru School of Dentistry.
[2]Universidade Paulista – UNIP, Campus Bauru.

The continued use of electronic equipment in adolescence and lack of physical activity can cause muscle pain related to posture and hearing problems. In order to observe the relation between the use of these individual sound equipment with the physical activity and the appearance of signs and symptoms such as pain and tingling in various parts of the body. As well as the presence of dental compression, they were interviewed 68 teenagers, with an average age of 14 years, 61.76% male and 38.24% female. Data were analyzed using absolute and relative frequencies where in relation to physical activity, it was found that 30.88% do not practice, 39.71% practice 1-2 times a week while only 19.12% of practice 3 to 5 times a week. Regarding the time devoted to computers, mobile phones and tablets can observe that 52.94% of adolescents using remain the same for a period of 2 to 4 hours, 33.82% 1 to 2 hours and 11.76% more than 4 hours per day. By analyzing electronics with the use of these pains or symptoms it was found that the most affected area was 34.08% with the column using 1 to 2 hours per day, 36.1% using 2 to 4 hours and more using 62.5% to 4 hours per day. Other relevant data were headache in 30.6% of adolescents who use 2 to 4 hours a day, neck pain in 62.5% of those who use more than 4 hours daily, tingling in the upper limbs in 37.5% for more than 4 hours per day and compression of the teeth 19.4% from 2 to 4 hours. Regarding the use of earphones 69.12% adolescents' use, most of which 72.06% remains 1 to 2 hours a day. It can concluded that these issues deserve attention mainly of parents and awareness of adolescents themselves, since the electronic are becoming increasingly part of their lives, so should be used sparingly and with limited hours during the workday.

Teachers' views on health education

TEODORO JR, José do Carmo[1]; BERTOZZO, Marilia Cancian[1]; LANDRO, Izabel Cristina Rossi[1]; GOMIDE, Daniela Dias[1]; PICCINO, Maria Thereza Forastieri[1]; SILVA, Aline Papin Roedas[1]; BLASCA, Wanderleia Quinhoneiro[1]

[1]Department of Speech-Language Pathology and Audiology, University of São Paulo - Bauru School of Dentistry.

Objective: Conduct a literature review on teachers' understanding and perceptions about health education and health promotion at school. Method: a research was carried out in Lilacs BVS, PubMed and SciELO databases using the following descriptors: 'teachers', 'health education" and "school health" in Portuguese and in English. Inclusion criteria were applied to select articles that presented the teachers' point of views on educational practices in health at school. Exclusion criteria consisted of repeated articles that addressed issues not related to the topic. Results: Seven articles were found in SciELO, 33 in Lilacs BVS and 16 in PubMed. Out of these only 2 articles were selected. The first was a study conducted in Brazil in 2003 that investigated the perception of 45 elementary school teachers about school health and their training in this subject. The other was a study from 2007 on teachers' understanding and perception from a school located in São Paulo city, Brazil, on health education and health promotion at school. However, no articles on hearing health education were found. Conclusion: Due to the paucity of works in the literature, it was noted the importance of developing further studies about teachers' perception on educational practices in health.

The role of speech therapy in mental health

SILVA, Chrishinau Thays de Sales[1]; PASCON, Caroline[1]; OLIVEIRA, Ariadnes Nobrega de[1]

[1]Bauru School of Dentistry - USP, Department of Speech Therapy.

Introduction: Mental health is the area designed to treat and rehabilitate individuals who have mental imbalances. The story of its implementation in Brazil's healthcare system is marked by the presence of psychiatric hospitals and the consequent anti-asylum movement. In its course, several policies in the area aimed to include that portion of the population, long segregated from living in society, aiming to rehabilitate them along with social practices, avoiding inefficient hospitalizations and treatment methods. Objectives: To present and characterize the different functions of speech pathologists who work with mental health. Literature Review: Mental health care emerged as a result of the need of people in mental distress. After questioning and reproaching the care offered to this audience, social and political mobilization happened to promote the process of psychiatric deinstitutionalization in Brazil. The presence of public policies in the area allowed the actions to consolidate the psychiatric reform, which includes speech therapy in collective spaces that emphasize conversation, listening and welcoming. Results: Speech therapy is essential to rescue communication, providing conversation spaces where individuals can exchange experiences. Speech therapists in mental health differ from those who work in the clinical setting, ensuring the effectiveness of the therapeutic process in question. They should contribute to the development of the comprehensive perspective of care to mental health of the population, along with the other professionals from the multidisciplinary team and identify the presence of speech pathology for the full recovery of the individual when necessary. Conclusion: Speech therapy provides better quality of life for individuals in mental distress through communication strategies, conversation groups and qualified listening, promoting symbolic and emotional exchanges and reiterating the individual in society.

Comparison between OHFO and the sonorous vibration technique in dysphonic individuals

MAROTTI, Beatriz Dantas[1]; RIBEIRO, Vanessa Veis[1]; OLIVEIRA, Amanda Gabriela de[1]; LUCA, Isabella de[1]; SILVERIO, Kelly Cristina Alves[1]

[1]Bauru School of Dentistry – USP, Department of Speech Therapy.

Introduction: The sonorous tongue vibration technique (STVT) aims to mobilize the mucosa of the vocal folds, being one of the most used techniques in clinical practice. However, some people may have difficulties to vibrate the tongue, thus being necessary to seek secondary sources that could be employed to assist in the promotion of laryngeal vibration. In this sense, the Oral High Frequency Oscillation (OHFO) technique, by the use of the New Shaker® device, can be an alternative resource to replace STVT, since it also causes the vibration of the entire skeleton laryngeal cartilage tissue. Objective: to compare the effects of OHFO and STVT on vocal quality, acoustic, and maximum phonation time (MPT) of dysphonic individuals. Methods: prospective, randomized, and blind study. Thirty adults (mean age = 32.1 years) with functional dysphonia and organofunctional participated in the study, divided into: Group 1 – 15 women; Group 2 – 15 men. All of them performed the OHFO and STVT, for three minutes each, with a seven-day interval between them and in a random order. Before and after the execution of both techniques, the participants performed vocal recording (sustained emission of the vowel/a/and counting from one to 20, in the usual pitch and loudness), which enabled the perceptive-hearing and acoustic analysis of the voices, in addition to the extraction of the MPT of /a/, /i/ and /u/, /s/, /z/, and numbers. The data were statistically analyzed by comparing the variance between the pre and post technical moments through Mann-Whitney Test ($p<0.05$). Results: There was a reduction of the MPT of the /z/ phoneme after STVT in comparison to the OHFO technique only on G2 ($p\geq0.01$). There was no significant difference in the other analyzed parameters, in both techniques, for both groups. Conclusion: As there was no difference between the techniques in relation to vocal quality and acoustic data, OHFO can be an alternative resource to replace STVT on vocal clinic for dysphonic individuals.

Discomfort of the vocal tract of teachers after voice workshop

GONÇALVES, Mariana Ferreira[1]; NARECE, Iara Lorca[2]; TELES, Lídia Cristina da Silva[1]

[1]Bauru School of Dentistry – USP, Department of Speech Therapy.
[2]São Carlos School of Engineering – USP.

Objective: To analyze the frequency and intensity of the discomfort of the vocal tract in teachers after Voice Workshops. Methodology: The Vocal Tract Discomfort Scale (VTD), before and after Voice Workshops, was answered by 34 teachers members of the Workshops, being 31 women and 3 men between 32 and 65 years (mean=43 and ±9 years). Voice workshops are held on six meetings of 2 hours with the following modules: voice anatomy and physiology, breath, vocal health, vocal heating and cooling, and expressiveness. The comparison before and after Voice Workshop of the eight manifestations of VTD (burning, tightness, dryness, pain, itching, sensitivity, irritation, and lump in the throat) was done by Wilcoxon test. The percentage of increase and reduction in scales of frequency (never, sometimes, many times, and always) and intensity (none, mild, moderate, extreme) of VTD was analyzed. Results: The Wilcoxon test showed significant reduction ($p<0.05$) of frequency and intensity in all manifestations of VTD after the Voice Workshop. Regarding the frequency of manifestations of VTD, most teachers reduced burning, dryness, and sore throat and more than 40% of the teachers reduced sensitivity, irritation, tightness, itching, and lump in the throat. The decrease in intensity of VTD to most teachers occurred with manifestations of burning, dryness, and sensitivity of the throat; for more than 40% of them, with irritation and sore throat, and for 38% with tightness, itching, and lump in the troat. There was an increase in the frequency of VTD to less than 10% of teachers for irritation and sensitivity of the throat and to 3% for tightness, dryness, pain, itching, and lump in the throat. For the intensity of VTD the increase was observed to 6% of teachers. Conclusion: Voice Workshops enabled a reduction in the frequency and intensity of burning, tightness, dryness, pain, itching, sensitivity, irritation, and lump in the throat of the participating teachers.

Immediate effect of OHFO and LaxVox in individuals without vocal complaints

ANTONETTI, Angélica Emygdio da Silva[1]; DUTRA, Thayse Benigna[1]; MOREIRA, Pamela Aparecida Medeiros[1]; RIBEIRO, Vanessa Veis[1]; BRASOLOTTO, Alcione Ghedini[1]; SILVERIO, Kelly Cristina Alves[1]

[1]Bauru School of Dentistry – USP, Department of Speech Therapy.

Objective: To verify the immediate effects of the Voiced Oral High Frequency Oscillation (OHFO) system and of LaxVox on the maximum phonation time (MPT) and intensity of vocal/laryngeal symptoms in individuals without vocal complaints of both sexes. Methodology: Research approved by the CEP/FOB-USP 1.051.511. Thirty adults aged between 18 and 45 years, with no history of dysphonia, complaints, or vocal changes participated in the study. We divided them into two groups: 15 women (mean = 25.13 years) and 15 men (mean = 24.13 years). All performed emissions in maximum phonation time (MPT) of /a/, /s/, /z/ and number counting, as well as answered a protocol on the intensity of vocals/laryngeal symptoms, before and after the implementation of the OHFO and LaxVox techniques (3 minutes each, random order, and 7 days interval). Data were analyzed using the Wilcoxon test and Paired T-test (significance≤ 0.05). Results: In women, there was a significant increase in the MPT of /z/ ($p=0.04$) only after performance of LaxVox. In men, there was an increase of the MPT of /s/ ($p=0.03$), /z/ ($p=0.00$), and number counting ($p=0.02$) only after OHFO. We also observed significant decrease of vocal/laryngeal sore throat symptoms ($p=0.02$ and $p=0.02$), irritated throat ($p=0.04$, $p=0.04$), and weak voice ($p=0.04$, $p=0.04$) in men and women, respectively, only after the OHFO. Conclusion: Both techniques are similar, however OHFO presented better results regarding self-perception of symptoms in both sexes, and in the increase in the MPT of men, while after the LaxVox there was an increase of MPT for women.

TENS and *laxvox* in the intensity of vocal symptons in dysphonic women

OLIVEIRA, Amanda Gabriela de[1]; RIBEIRO, Vanessa Veis[1]; MOREIRA, Pâmela Aparecida Medeiros[1]; BRASOLOTTO, Alcione Ghedini[1]; SILVERIO, Kelly Cristina Alves[1]

[1]Bauru School of Dentistry - USP, Department of Speech-Language Pathology and Audiology

Objective: evaluate the immediate effects of TENS associated with phonation into a tube *LaxVox* and placebo-TENS associated with *LaxVox* regarding the intensity of vocal and laryngeal symptoms in dysphonic women. Methods: prospective, randomized, blind and crossover study. Seven adult women aged between 18 and 45 years, with nodules/thickening and glottic fissure, participated in this study. Phase 1 – TENS (200µs, 10 Hz, motor threshold, 20 min, electrodes in the submandibular region and trapezius muscle – descending fibers, bilaterally); Phase 2 – Placebo-TENS (identical to phase 1 with the equipment set in minimum intensity) followed by *LaxVox* (identical to phase 1). A questionnaire was applied to investigate the intensity of vocal/laryngeal symptoms before and after these procedures. Data were analyzed through paired t-test (p<0.05). Results: After application of TENS + *LaxVox* significant improvements in the symptoms "voice failures" (p=0.02), "cough with secretion" (p=0.04) and "secretion in the throat" (p=0.02) were observed. After application of placebo-TENS + *LaxVox* significant improvements in the symptoms "dry cough" (p=0.04) and "tiredness to speak" (p.004) were detected. Conclusion: TENS associated with *LaxVox* as well as placebo-TENS associated with *LaxVox* showed beneficial effects to improve the intensity of vocal and laryngeal symptoms immediately after being applied.

TENS and sonorous tongue vibration: a proposal for application

GARCIA, Viviane Lopes[1]; ONOFRI, Suely Mayumi Motonaga[1]; BATISTA, João Carlos Torgal[2]; MEROLA, Beatriz Novaes[1]; FABBRON, Eliana Maria Gradim[1]

[1]Faculty of Philosophy and Sciences of Marília – UNESP, Department of Speech-Language Pathology and Audiology.
[2]Baixo Vouga Hospital Center , Aveiro , Portugal.

Objective: To verify the immediate effect of a proposal for application of transcutaneous electrical nerve stimulation (TENS) associated with the sonorous tongue vibration technique (STVT) in women's voice. Method: Thirty women, aged between 18 and 40 years and without voice complaints, participated in this study. TENS was applied for 5 min keeping the participant at vocal rest. After this period, STVT was associated for more 5 min, thus completing 10 min of TENS application. The equipment used was Neurodyn II (IBRAMED), set at the conventional TENS, frequency of 10 Hz, pulse of 250 µs and intensity in the comfortable limit of the patient, utilizing two self-adhesive electrodes, measuring 3.5 x 4.5 cm, applied laterally in the larynx. Sustained emissions of the vocal /a/ were recorded before and after the execution of the technique selected, in a room with acoustic isolation, using Marantz recorder (PMD660), Sennheiser e800 microphone, placed in a pedestal at a 4-cm distance of the participant's mouth. The recordings were edited to keep approximately 5 s. In order to verify the effect of the performance of the technique chosen on the participant's quality of voice, the following acoustic parameters were evaluated: *Average Fundamental Frequency (F_0)*, *Jitter Percent (Jitt), Shimmer Percent (Shim), Noise to Harmonic Ratio (NHR)* and *Fundamental Frequency Variation (vF_0),* by using the *Multidimensional Voice Program (MDVP)* s*oftware* from Key-Pentax. Results: The results of the pre- and post-performance moments of the technique were, respectively: F_0 of 220.018 and 223.901Hz; *Jitt* of 1.016 and 0.835%; *Shim* of 3.010 and 2.376%; *NHR* of 0.123 for both moments and vF_0 of 1.075 and 1.039. It was observed an increase in F_0 and decrease in the values of all the other acoustic parameters studied. Conclusion: The application of TENS associated with STVT for 10 min caused positive changes in the quality of voice of the participating women analyzed by acoustic parameters.

Vocal habits of early childhood education students

MENDES, Camila Cristina Camilo[1]; SEBASTIÃO, Luciana Tavares[1]

[1]Faculty of Philosophy and Science, UNESP, campus Marília.

Objective: To analyze the occurrence of harmful habits to the voice in early childhood education students through reports of legal guardians. Methodology: The identification of the vocal habits was made through questionnaires sent to be answered at home by the legal guardians of the students of the classes selected for the study. Results: Forty-one students of a Municipal School of Childhood Education in a municipality of the state of São Paulo participated in this study. The age of the students ranged from 4 years and 4 months to 5 years and 7 months, average of 5 years and 2 months. In relation to gender, the sample was composed of 13 boys and 28 girls. Screaming often was reported by 18 (43.9%) guardians. Frequent imitation of cartoon characters was reported by 5 (12.2%) and frequent imitation of animals by 5 (12.2%) guardians. Frequent intake of cold drinks was referred to by 16 (39.0%) guardians. Frequent habit of speaking with effort was indicated by 3 (7.3%). Conclusion: The study results indicate the presence of harmful habits to the voice among the preschoolers studied, and indicate the need for the development of health education activities aimed at building knowledge that will contribute to the incorporation of healthy vocal behaviors.