Friday, 7 September 2018

WDC 2018 Abstract book

FREE COMMUNICATION SESSIONS 28–42

and POSTER SESSIONS 31–45

FREE COMMUNICATION SESSIONS 28–42

Free Communication Session 28 | 07.09.2018, 10:00 – 11:00 | Cubicle 1

Theme: Esthetics

FC111

Full Digital Workflow for Orthodontics, Implant-Prosthetic Rehabilitation: A Case Report

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Introduction: Digital workflow facilitates and accelerates the dental practitioner's daily work. It includes the acquisition of digital photography (JPEG), cone-beam (DICOM) and oral scanners (STL) files.
Case Description: Sixty-one years old male with crowding on the anterior lower segment and missing upper and lower first premolars from a previous orthodontic treatment. Upper right first molar was missing due to a recent extraction. Main complaint was crowding and bad coloration of teeth. The lower right central incisor was extracted due to an infection and the space was closed orthodontically by a clear aligner system (Invisalign). An implant (Nobelactive, Nobel Biocare) followed by a screw-retained (Full contour zirconium, Nobelprocera) ceramic crown was placed to replace upper right first molar. Ten anterior upper veneers (E-max Press, Ivoclar) were placed to restore the smile.
Discussion: The whole treatment took a total of 4 months. The orthodontic treatment was completed in 14 weeks and there was a 12-week waiting period after placing the implant. The digital dentistry technology (Trios and Dental D-sign, 3-Shape), used in this case, allowed a more efficient collaboration between all the dental professionals involved. Further, providing the laboratory with a digital file minimized the risk of errors as the digital file could be reviewed and revised before the actual design and milling were made.
Clinical Significance: This multidisciplinary case involving orthodontics, implantology, prosthesis and restorative dentistry is a good example on how digital tools can be useful to augment quality, precision, and predictability in our routine treatments.

FC112

Bleaching with Low Concentration of Hydrogen Peroxide: Randomized Clinical Trial

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Aim or Purpose: This study aimed to evaluate the in-office bleaching efficacy (BE) and tooth sensitivity (TS) of 20% hydrogen peroxide bleaching agent.
Materials and Methods: Fifty-two patients with canines darker than C2, were selected for this double-blind randomized trial. Teeth were bleached in two sessions, with 1-week interval. The bleaching agent was applied under different concentrations of hydrogen peroxide, 20% or 35%. The color changes were evaluated by subjective (Vita Classical) and objective (Easy shade Spectrophotometer) methods at baseline and 30 days after the second session. Tooth sensitivity was recorded up to 48 h with 0–10 visual analog scale. Color change in shade guide units (SGU) and ΔE was analyzed by Wilcoxon test ($\alpha = 0.05$). The absolute risk and intensity of TS were evaluated by McNemar's test and Wilcoxon-paired test, respectively ($\alpha = 0.05$).
Results: Significant whitening was observed in both groups, after 30 days of clinical evaluation. The activation did not significantly influence the BE (ΔSGU HP20 = 5.6 and HP35 = 6.3, $p = 0.87$; and ΔE HP20 = 10.6 and HP35 = 11.5, $p = 0.98$). Absolute risk of TS (PH20 = 31.8 and PH35 = 93.0; $p = 0.01$) was different for both groups (Fisher exact test). Intensity of TS (VAS scale) was higher during the bleaching sessions and up to 24 h interval, for both groups, with no differences between groups (two-way ANOVA and Tukey).
Conclusions: The use of a 20% HP gel produced satisfactory whitening degree and tooth sensitivity.

FC113

Influence of Clinical Experience Level on The Shade Matching Accuracy

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Aim or Purpose: To evaluate the influence of clinical experience level on the shade matching accuracy.

Materials and Methods: A total of 80 participants, assigned to one of four groups depending of the level of their clinical experience in shade matching: dental technicians (DTs), residents in prosthodontics (RPs), specialists in prosthodontics (SPs) and dental students (DSs) took part in the study, 20 in each. They were asked to use Toothguide Training Box (TTB) and determine 15 standardized shade tabs using VITA 3D-Master shade guide. The number of mistakes in final test for each participant was recorded and accuracy was calculated. Color difference (dE) values for each shade were calculated from L*, a* and b* values of the VITA 3D-Master shade guide for each participant in four groups. ANOVA was used to determine statistically significant differences in accuracy, mean dE values and mean error dE values between four different groups.
Results: No statistically significant differences were found between groups regarding accuracy and mean dE values ($p > 0.05$). The accuracy rate in four groups was 0.51 ± 0.20, 0.54 ± 0.18, 0.49 ± 0.16 and 0.55 ± 0.14, respectively. Mean dE values were 2.10 ± 0.98, 2.18 ± 0.97, 2.51 ± 0.97 and 2.08 ± 0.86, respectively. Regarding mean error dE values, DTs made errors with significantly less deviations compared to other groups (p 0.05).
Conclusions: This study shows clinical experience is not found to be a significant factor to the shade matching accuracy. with regard to the mean error dE values, DTs were more successful in shade matching than other participants.

FC114
Minimal Invasive Management of A Diastema Case with Occlusal Management
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Introduction: Digitally designed and produced restorations are highly demandable options for correcting shape and size of anterior teeth to supply desirable smiles. These restorations are needed for diastema closuring with conservative preparations and in complex cases as well. This case report describes the esthetic rehabilitation of diastema closure by increasing vertical dimension using PLVs and overlays.
Case Description: A 32-year old female patient applied to Istanbul University Department of Restorative Dentistry complaining about her non-esthetic appearance. Clinical examination revealed that the patient had deep-bite occlusion pattern and vertical dimension loss. The impressions were done for diagnostic wax- up to allow necessary vertical increment and suitable detailing of anterior teeth. After, a VPS mock-up guide was obtained from the wax-up and the sculpture of the mock-up was reproduced in the mouth using the VPS guide filled with self-curing composite material. After rehearsal, laminates and overlays are sent to laboratory for manipulation of porcelains. IPS e-max system, consisted of IPS e-max for ingot (MT and HT) and IPS e-max Ceram for outer porcelain, was used.
Discussion: Vertical dimension management could achieve by pressable porcelain overlays and porcelain veneers could be used to fix esthetic appearances. In this low vertical-dimensioned case, IPS e-max containing ZrO_2 particles was preferred to overcome posterior forces with reliable functional strength (~500 MPa) and supplying esthetics at the same time.
Conclusion / Clinical Significance: The recovery of vertical dimension, function and esthetics of a patient with irregular diastemas by PLVs and overlays allowed excellent results with conservative preparations.

Free Communication Session 29 | 07.09.2018, 10:00 – 11:00 | Cubicle 2

Theme: General Dentistry

FC115
From Dental Extraction To Prevention In Pediatric Dentistry
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Introduction: Dental extraction in Odontopediatrics represents the most traumatic procedure both for patients and professionals. The frequency with which children present with unhealthy mouths is high and so is the persistence of primary teeth which affect the eruption of the corresponding permanent ones; for this reason, a large number of extractions are performed daily.
Clinical Case Reports: Five clinical situations of tooth extractions in children are presented briefly. Most removals were performed because of processes of destructive decay, apical pathologies, persistence of primary teeth, and trauma. In all the cases, attention is drawn to the absence of regular visits to the dentist, poor oral hygiene, high consumption of sugar, diagnosis errors, previous approach errors and lack of preventive care.
Discussion: DE is a frequent and worrisome problem that disturbs not only occlusion but also basic functions such as feeding, swallowing and speech. Preserving a temporary tooth with extensive decay and pulp involvement and developing comprehensive treatment plans focused on prevention are not always considered by professionals who are not pediatric dentists.
Conclusions: Prevention and education are the starting points and fundamental pillars of pediatric care. The primary objective of pediatric dentists is to provide oral health care for children and adolescents. They also seek to increase the number of teeth that remain until their normal exfoliation period, bearing in mind that many extractions can be avoided. The combination of various factors including dentists, children, parents and society itself, is necessary to achieve this goal.

FC116
Contribution of Portable Dental Radiographic Unit In Forensic Identification
Alan Diego Briem Stamm
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Introduction: The contribution of forensic dentistry in the unambiguous identification of 10 charred victims using the portable dental radiographic unit NOMAD (Aribex) is described.

Case Description: In 2015 two helicopters collided in Argentina. All its occupants died. The forensic analysis of the corpses was carried out, presenting carbonization and fragmentation. Information provided by tissues of the oral cavity was used, using the portable dental radiographic unit NOMAD (Aribex) to recreate the post-mortem profile of the victims when compared with the ante-mortem records retrieved.
Discussion: Success in dental identification will vary with the nature of the incident, nationality of the victims, dental treatments and availability (quantity and quality) of dental records. The portable dental radiographic unit NOMAD (Aribex) has demonstrated versatile operation in the forensic context in cases such as the tsunami in Southeast Asia in 2004 or Hurricane Katrina in 2005. In the present case, it allowed to digitize the images obtained during the autopsy using a sensor electronic adapted as a common movie, connected to a computer, generating an image instantly displayed on the monitor, speeding up the identification maneuvers.
Conclusion/Clinical Significance: The success of forensic dentistry was demonstrated by examining the digitized radiographic images, accelerating the identification and limiting the anguish of the families of the victims. The use of portable digital radiographic technology is recommended to systematize the dental findings, facilitating their analysis and interpretation, prioritizing the dentist as an auxiliary of justice.

FC117

Osteoarthritis of Temporo Mandibular Joint Non-Invasive Functional Rehabilitation

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Aim or Purpose: Evaluate the relationship between osteoarthritis of Temporo Mandibular Joint (TMJ) and its functional capacity before and after neuromuscular stabilizing treatment in a retrospective study.
Materials and Methods: Eight female patients with osteoarthritis of TMJ diagnosis (Wilkes's classification stages IV-V), between 20 and 42 years old signed the written consent approved by the Ethics Committee of the Faculty of Dentistry, Buenos Aires University. Evaluation Methods: a) clinically: mandibular pain measured by Visual Analogue Scale (VAS) and mobility, b) computerized bioelectrical studies (surface electromyography, electrosonography and jaw tracking): mandibular and cervical muscles activity, TMJ sounds and mandible movements before and after achieve articular and dental stabilization, c) imaging: magnetic resonance images (RMI) of TMJ. Materials: an occlusal intermediary constructed with the principles of neuromuscular philosophy was installed, and the patients were treated with kinetic therapy of TMJ. Stabilizing treatment took between 8 and 12 months. The data were analyzed using the analysis of variance (ANOVA).
Results: The stabilization of dental occlusion results in decompression of TMJ and absence of masticatory and cervical muscles fatigue, rehabilitating masticatory, swallowing and phonetic functions, increasing the range of mandibular movements and eliminating pain. Computerized bioelectrical studies and clinical response confirm successful treatment.
Conclusions: Dysfunctional dental occlusion is the principal etiological factor of osteoarthritis of TMJ, and not the advanced age. An optimal relationship between TMJ, masticatory and cervical muscles and dental occlusion through neuromuscular therapy guarantees the mandible stability. Considering the results obtained after neuromuscular treatment, we propose to perform non-invasive treatments.

Free Communication Session 30 | 07.09.2018, 10:00 – 11:00 | Cubicle 3

Theme: Oral Medicine

FC118

Human Papillomavirus (HPV) In Oral Mucosa

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Introduction: Human papillomavirus (HPV) can infect the epithelia, inducing proliferative hyperplasias in skin and mucosa.
Case Description: This study was carried out evaluating a case series with oral lesions compatible with HPV infection that were analyzed by Nested PCR-Sequencing and Nested PCR-RFLP (restriction fragment length polymorphism).
A cross sectional descriptive study was executed including 50 adult patients of both sexes, 33 women and 17 men who attended the Department of Stomatology of the faculty of dentistry of the University of Buenos Aires in the period between February 2017 and February 2018 and who presented lesions in the oral cavity compatible with HPV infection. 58% of the sample (n = 29) was positive for HPV, and the remaining 42% (n = 21) was negative for HPV.
The genotypes of high oncogenic risk of the virus (16, 31, 33, 35 y 58) found in the analyzed oral lesions correspond to a 41% (n = 12) of the total of the positive sample for HPV (n = 29) and 59% (n = 17) corresponds to genotypes of low oncogenic risk (6, 11, 64 and 72).
Discussion: This study allows to determine the frequency with which HPV occurs in oral lesions and to discriminate the viral genotypes.
Conclusion: It is important to identify the type of HPV (high risk/low risk) present in stomatological lesions since its prognosis and treatment will depend on it.

FC119

Helicobacter Pylori. Association with Ardor, Lingual Papillary Hypertrophy and Halitosis

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Objective: Our objective was to establish the relative frequency of the presence of the Helicobacter pylori (Hp) in the oral pathology using these diagnostic methods: a-Serology b- Histopathology c-Molecular Biology.

To Associate the Hp oral infection with the burning sensations, the lingual papillary hypertrophy and Halitosis (BHH), and make a correlation it with the gastric pathology.

Study Design: Case Series Design. 98 subjects with different oral pathologies were examined: 34 Glossitis, 16 Precancer, 12 Pseudotumor, 11 Aphthae, 11 Sjögren's syndrome 9 Herpes, 3 Cancer and 2 Actinomycosis. The following was performed to all subjects: 1-Protocolized medical history for gathering of data. 2-Determination of serology test for the detection of IgM and IgG antibodies for Hp. 3-Study Histopathology. 4-Study Molecular biology. 5-Evaluation Gastroenterological Evaluation.

The Statistic Analysis was performed using SPSS software.

Results: The prevalent pathology with positive results was Glossitis 33/34 (97%). In all of them there was gastric disease, and the most frequent was the Chronic non-erosive gastritis. V Cramer correlation: 0.565 $p < 0.01$. The sensibility and specificity, was for Molecular Biology 100% and 90%, for Histopathology 64.15% and 91%, and for Serology 81.13% and 64% respectively.

Conclusion: We have found a relation between the presence of Hp in the oral cavity and BHH. Consequently, the presence of Hp in subjects with BHH may be a risk factor for gastric infection.

FC120

Analysis and In-Silico Identification of PTS Inhibitors In Streptococcus Mutans

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Aim or Purpose: Dental caries is a pathology suffered by more than five billion people, positioning itself as the most prevalent disease on the planet according to WHO. This prevalence is associated with the high consumption of sugars in the population, providing substrates to the metabolism of acidogenic bacteria (energy production, excretion of acids and exopolysaccharides). The phosphoenolpyruvate-sugar phosphotransferase system (PTS), is one of the most active in these processes. Research sought to identify compounds with action on PTS, compromising the physiology and pathogenic expression of *S. mutans*, and possibly other acidogenic bacteria that use PTS.

Materials and Methods: The institutional ethics committee approved this *in-silico* study. Initially, the orthology and homology of PTS was evaluated in humans and other bacteria. Then, different bioinformatics techniques were applied: Through molecular *docking*, the binding potential (ΔG) between receptor proteins and 836,000 compounds was calculated; Likewise, the pharmacokinetic and pharmacodynamics parameters of the molecules were evaluated: absorption, distribution, metabolism, excretion, toxicity (ADMET). A chemical analysis characterized and identified structural motifs and possible pharmacophoric units in the compounds.

Results: Thirteen compounds with high binding potential on EII, subunits IIA, IIB and IIC of the PTS system of *S. mutans*, as well as common structural characteristics between compounds and favorable ADMET properties for a potential drug, were identified.

Conclusions: The compounds of the final list showed promising drug behavior, both in recognition of the ligand with its receptor, and physicochemical, stereochemical, electrostatic and toxicological characteristics related to the activity and specificity of a drug with its target.

FC121

Recurrent Aphthous Stomatitis and Gene Variability In Selected Interleukins

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Aim or Purpose: Genetic factors, especially those related to the immune system functioning, have been intensively studied for their role in the development of recurrent aphthous stomatitis (RAS). The aim of the present study was to analyze gene variability in interleukins (ILs): *IL-2*, *IL-4* and *its receptor* α (*IL-4Rα*), *IL-10* and *IL-13*, which were selected based on the literature review and/or their functional relevance, in Czech patients with RAS and healthy controls.

Materials and Methods: Generally, 252 subjects were enrolled in this case-control study (178 controls and 74 patients with RAS) and their detail anamnestic, clinical and laboratory data were obtained. Nine polymorphisms in the genes encoding ILs were determined by PCR techniques.

Results: There were no significant differences in allele or genotype frequencies of the studied polymorphisms *IL-2* (rs2069762 and

rs2069763), *IL-4* (rs2243250 and rs79071878), *IL-4Rα* (rs1801275), *IL-10* (rs1800896), and *IL-13* (rs1800925) between the controls and RAS patients. The minority alleles of the *IL-10* (rs1800871 and rs1800872) variants were associated with a higher risk of RAS ($p < 0.05$), as confirmed by the results of genotype and haplotype analysis ($p < 0.05$).
Conclusions: We suggest that variability in the *IL-10* gene may play an important role in the RAS development in the Czech population.

Free Communication Session 31 | 07.09.2018, 11:15 – 12:15 | Cubicle 1

Theme: Implantology

FC122
Effects of Osseointegrated Implants on Psychological and Social Well-Being
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Aim or Purpose: To assess the effects of osseointegrated implants on the psychological and social well-being of patients
Materials and Methods: This study is a descriptive longitudinal study carried out over a period of six (6) months. Data was collected using self-administered questionnaires which consists of items on biodata, previous experiences with function, self-esteem and aesthetics before and after implant placement. Subjects were selected from patients receiving implant treatment in the Restorative Dentistry Department of Lagos University Teaching Hospital. Pretesting of the questionnaires was carried out on 10 patients in Lagos University Teaching Hospital (LUTH) and a total of 42 questionnaires were distributed at implant placement with patients recalled after six (6) months for post treatment evaluation and filling of the second phase of the questionnaires. Analysis of data was done using Statistical Package for Social Sciences (SPSS) Version 22.
Results: Most of the respondents were in the lower age group 20–39 years (54.8%) with an equal sex distribution. Analysis revealed that 85.4% of subjects had a difficult time accepting the loss of their missing teeth and 82.5% had lower self-confidence on that account. Post treatment evaluation showed that 78.6% of subjects had improved self-confidence. Also, all the subjects (100%) claimed they would prefer osseointegrated implant as a means of tooth replacement as well as recommend it to other patients needing tooth replacement.
Conclusions: Osseointegrated dental implants have shown to have a high positive effect in improving the psychological and social wellbeing of individuals requiring tooth replacement.

FC123
Navigation In Implantology-Success or Failure Criteria?
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Introduction: Navigation in implantology is nowadays a very common sequence of treatment plan in performing important rehabilitations of edentulous cases. However, there is a lack of study regarding the long-term success of using such computerized approach.
Case Description: For a number of 256 cases on which implant solutions were applied a study was performed to determine the accuracy of navigation in terms of ideal position of implant site, depth, angulation and distance from the cortical walls, compared to the in-situ findings. The results were statistically evaluated and analyzed.
Discussion: More than 89% of the cases had identical navigation parameters to the clinical intraoperative findings, however for the 11% of cases, one or more than one parameter of the navigation failed to offer accurate planification in comparison to the in-situ case. Clinical assessment altogether with the paraclinical evaluation, completed with a thorough general and loco-regional evaluation ensure the success of the case. The accuracy with which these rehabilitation treatments, may they be simple or complex-implants and prosthetic treatments, can be managed and completed will offer degrees of predictability of the final success. Any of these multiple compartments neglected offer a short-term success.
Conclusion/Clinical Significance: Computerized and robotized methods used in implantology offer a predictable manner of surgical and prosthodontic therapeutic plan if associated with accurate and thorough clinical evaluation.

FC124
Survival and Success Rate of Attachments Systems
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Aim or Purpose: The objective of this clinical study was to evaluate the prosthetic complications of patients with a round bar or ball attachments and locator attachments during the follow-up period. This study was to also evaluate the clinical performance, survival and success rate round barr, ball and locator attachments systems.
Materials and Methods: This retrospective study evaluated the survival and success rate of 271 implants and their prosthetic rehabilitation to 97 patients at Istanbul University Faculty of Dentistry Department of Oral and Maxillofacial Surgery.
97 Patients who treated were also received implant supported prostheses were screened. Gender of patients considerable 58 women, 39 men ages between 43–89, the presence of any kind of maxillary, mandibular edentulism or fully edentulous

Applied 271 implants were such ITI, MIS, Swiss Plus and Era Mini. 75 of These implants installed in maxilla, 196 of these installed in mandibula. The number of the prosthetic solutions were 38 Locators, 38 Ball Attachments, 21 Round Barr Attachments.
Results: The common complications in attachment systems were overdenture fractures, hygiene complications, retention clip activations or O-ring replacements, abutment screw fracture, fractured retention clip, implant loss, periimplantitis, mucosal enlargement, round barr fractures, attachments' clips activation. The follow up period was chosen between 1–60 months
The number of total implant fail was 10. Total Success Rate was %96.30.
Conclusions: Implant-supported overdentures with bar or ball attachments or locators may be considered to be reliable methods in the treatment of the edentulous individuals.

Free Communication Session 32 | 07.09.2018, 11:15 – 12:15 | Cubicle 2

Theme: Orthodontics

FC126
Severe Deep Bite and Gingival Recession Treated with Clear Aligners
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Introduction: Deep bite has been considered one of the most common malocclusion and difficult to treat successfully. Malocclusions treated with the Invisalign system initially involved only mild crowding. In the last years, more complex cases involving deep bites, open bites, crossbites, and periodontal complications have been reported. The aim of this case report will be to discuss the application of one of the latest innovations introduced by Invisalign G5 in an adolescent patient.
Case Description: A 13-year-old male patient presented with a class I dental and skeletal (SNA 1.5); lower crowding, severe deep bite and deep curve of Spee. Lower left central incisor had severe gingival lost due to a traumatic occlusion. Impinging bite with damage to the palatal was also observed.
Discussion: Bite opening mechanics were performed on the lower arch due to the exaggerated lower curve of Spee and upright lower incisors. Additionally, given his smile line, upper incisor intrusion was not indicated as this would have disturbed the esthetics of his smile. Interproximal reduction was performed on the lower anterior segment to resolve the crowding and avoid further damage to the attached gingiva. The patient's good posterior occlusal relationship was preserved. The whole treatment consisted of a total of 43 aligners changed weekly.
Conclusion: The correction of deep overbite using Clear Aligner Treatment may be advantageous due to the more predictable nature of orthodontic intrusion mechanics and disclusion of the teeth with the new G5 features, which eliminates problems from occlusal interferences encountered with fixed appliances.

FC127
Topographic and Structural Enamel Changes After Orthodontic Primer Absence
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Aim or Purpose: To evaluate the effects of absence of orthodontic primer on enamel topographic structure and enamel minerals mass percentage
Materials and Methods: The study enrolled 20 patients whose condition indicated extraction of the four first pre-molars as part of an orthodontic treatment plan. Written consent was obtained from all participants.
Group (I): 10 patients first premolar brackets bonded with light cured orthodontic composite without primer.
Group (II): 10 patients first premolar brackets bonded with light cured orthodontic composite with primer.
Control group: for both groups bonding only first premolar in one side leaving the opposite side unbounded as control.
After 3 months the first premolar tooth extracted, brackets carefully removed, teeth sectioned bucco-lingually, topography of enamel surface was scanned with scanning electron microscopy, enamel structure, calcium and phosphorus mass percentage were measured using (SEM-EDX) scanning electron microscopy –energy dispersive X ray analytical system. The obtained data were histologically and statistically analyzed.
Results: More enamel defects occur in group (I) than group (II) due to absence of orthodontic primer in the form of enamel erosion, cracks and gaps between enamel rods and enamel surface.
Decreased mean calcium and phosphorus mass percentage in group (I) than group (II) with non-significant statistical difference between both groups.
Conclusions: Absence of orthodontic primer resulted in greater enamel defects and non-significant decrease in the mean calcium and phosphorous mass percentage than conventional bonding with primer.

FC128
Velopharyngeal and Glossopharyngeal Volume Changes After Implant Anchored Maxillary Expansion
Atia Abd Elwareth Abd Elrazik Yousif, Mahmoud Ibrahim Aly Elshenawy, Ghada Abd Elfatth Elmehy
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Aim or Purpose: To evaluate the changes in upper airway volume using MIMICS software eliminating the variations due to changes in tongue position after dental and implant anchored maxillary expansion
Materials and Methods: This study carried on 20 male patients indicated for maxillary expansion, their age ranged from 12 to 14 years after taken a written consent for acceptance to participate in this study divided into two groups

Group (1): 10 patients treated with teeth supported Hyrax expander
Group (2): 10 patients treated with Hyrax expander anchored with two palatal implants
The volume of velopharyngeal and glossopharyngeal airway was calculated for each patient just before the insertion of the Hyrax and after 10 days of expansion at a similar rate. Airway volume calculated from the level of the posterior nasal spine to the anterior inferior margin of the hyoid using full skull CT and MIMICS software after subtracting the anterior area form the inferior tip of the uvula to the superior tip of the epiglottis to eliminate the effect of tongue position during shooting of CT.
Results: For both groups significant increase in upper airway volume occurs after palatal expansion: 1.87 ± 0.76 cm^3 and 2.52 ± 0.92 cm^3 for group (I) and group (II) respectively.
Despite the statistical difference between both groups was non-significant group (II) showed greater airway volumetric increase than teeth supported Hyrax.
Conclusions: Both teeth supported and implant anchored Hyrax produce significant increase in upper airway volume.

FC129
Alveolar Bone Changes After Orthodontic Tooth Movements A CBCT Study
Atia Abd Elwareth Abd Elrazik Yousif, Shaimaa Mohamad Elmarhoumy
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Aim or Purpose: The purpose of this study was to evaluate the dimensional changes of the alveolar bone height after orthodontic intrusion and extrusion
Materials and Methods: The sample of this study consists of 20 patients indicated for intrusion and extrusion during a phase of their orthodontic treatment divided equally into 2 groups: intrusion group and extrusion group. The applied force was measured using tension gauge and kept (40) grams for 6 months. A cone beam CT was done just before force application and after 6 months. The distance between the alveolar bone margin and the CEJ is measured before and after 6 months of force application using computer software. Alveolar bone measurements were done mesial, distal, buccal and lingual for lower incisors and the obtained data were statistically analyzed
Results: After orthodontic extrusion the distance between the Cemento-enamel junction and the bone crest showed little non-significant changes from their original level as alveolar bone follows the direction of tooth movement by a percentage 1: 0.75 for tooth extrusion and alveolar bone extrusion.
After orthodontic intrusion there is a non-significant alveolar crest remodeling which is not equal to the extent of tooth movement with average crestal bone loss 1 mm after intrusion of 4 mm.
Conclusions: Low force level, slow tooth movement rate and less extensive extrusion and intrusion resulted in non- significant changes in alveolar bone height.

Free Communication Session 33 | 07.09.2018, 11:15 – 12:15 | Cubicle 3

Theme: Prosthodontics

FC130
Digital/Analog Combination In Oral Rehabilitation: Changing Paradigms
Germán Ariel Agüero Romero, Alan Braian Agüero Romero
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Introduction: The new paradigms in treatment planning and execution offers new tools to the same old philosophy. The combination of new protocols and old dental techniques is presented to offer the patient a predictable rehabilitation treatment. The aim of this presentation is the resolution of three clinical cases.
Case Description: Three young male adults with different levels of dental erosion and attrition are evaluated. Photos and impressions were taken for diagnosis. Treatment planning was performed with digital smile design and articulated models, wax up and mock up. then minimally invasive preparations were performed and analogic pvs impressions were taken. Dental technician and dentist communication is critical for final results. Restorations were CAD/CAM performed and adhesive resin luting was carried out.
Discussion: New paradigms and same old philosophy must combine for achieving predictable oral rehabilitation results.
Conclusion: All the new tools must follow the same old technics and new paths are introduced in treatment protocols for just achieving the desirable predictable results.

FC131
Clinical Result of Anti-Rotational Elements In Prosthesis
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Introduction: The Removable Partial Dentures (RPD) is the first treatment chosen by partially toothless patients. However, the post-operative period after this kind of rehabilitation is not completely successful in prosthesis with dento-mucous support.
Aim and Purpose: The objective of this work is to compare the functional adjustment of the patients to their dento-mucous RPD whether they have or do not have anti-rotational elements in their designs (indirect retention).
Materials and Method: In a 2-year period, 406 patients were rehabilitated by Odontology students of Universidad de Chile. A sample of 90 of these patients was selected, they presented dento-mucous channels of force in one or two maxillas. Only one operator examined each patient carefully according to a file card especially elaborated for this study. The Chi-square statistical test and the Comparison of Proportions test were applied to the results.
Results: There is a bigger number of patients (71.11%) satisfied with their prosthetic designs which have anti-rotational elements in their devices (53.22%). Statistically, there are not significant differences between the patients' satisfaction and the presence or

absence of anti-rotational elements (p = 0.09043). The most used anti-rotational element is the cingular type, especially in the jaw.
Conclusion: Patients with anti-rotational elements in their prosthetic designs show a higher level of satisfaction than the ones who do not have them.

FC132
Silicone Housing Versus Metal of Ball Attachment on Retained Overdenture
Ramy El Sherbiny[1], Alaa Aboul Ella[2], Mohamed Farouk[2]
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Aim or Purpose: Comparing between metal with nylon cap and silicone housing material of the ball attachment regarding retention and patient satisfaction for 2 weeks, 1 month and 2 months after denture insertion.
Materials and Methods: Eighteen completely edentulous patients with age ranges from 50 to 60 years were selected from the outpatient clinic of the Prosthodontics Department, Faculty of Oral and Dental medicine, Cairo University according to certain criteria. For all patients, implant supported over dentures were constructed as usual then divided into two equal groups. First group with ball attached two implants supported over dentures with metal housing, while the second group was patients with ball attached two implants supported over dentures with silicone housing. Patients was recalled after 2 weeks, 1 month and 2 months for measuring the retention with digital forcemeter and patient satisfaction by seven point's visual analogue scale.
Results: Statistical results obtained from this study revealed that the metal housing material with nylon cap is better than silicone housing material of ball attachment regarding retention and patient satisfaction at the all interval follow up periods.
Conclusions: Silicone housing material can be used for a limited time for ball attachment for implant retained overdenture. Metal housing has better retention and patient satisfaction than silicone housing for ball attachment for implant retained overdenture. Other housing material usage for ball attachment for implant retained overdenture are recommended for improving retention and patient satisfaction.

FC133
Digital Reverse Engineering Applications on Implant Supported Restorations
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Aim and Purpose: Is to analyze the effect of different digital reverse engineering computer aided design /computer aided manufacturing techniques [Full contour technique, Anatomical coping technique, over press technique] on marginal accuracy and retention of cement retained implant supported crowns versus innovative screw retained implant supported crowns.
Materials and Methods: A 3-dimension study model was virtually designed and printed using 3D printing machine. For cement retained implant supported restorations(I), custom hybrid zirconia abutments connected with the implant via titanium base were CAD/ CAM and milled by 5 axis milling machine. Customized hybrid zirconia abutments were then overlaid by CAD/CAM Full Contoured Super Translucent Multilayered zirconia crowns(A)or Solid Zirconia copings which were furtherly veneered by Hand layering(B)or by Pressing on using ZirPress ingots(C).For screw retained implant supported restorations(II) same were manufactured by same zirconia materials as cement retained and same milling machine and techniques of veneering but they were innovatively CAD/CAM to directly screwed to implant analog. For all samples, Marginal accuracy were measured by USB Digital microscope and Retention were measured by Instron Materials Testing Machine.
Results: Within all tested samples, Screw retained full contoured subgroup(IIA)showed the lowest marginal gap mean value 16.45 μm while the Cement retained press veneered subgroup(IC) showed the highest marginal gap mean value 34.95 ± μm. Cement retained (I) group recorded statistically significant higher retention mean value (458.72 N) than Screw retained(II)group (313.84 N).
Conclusions: While innovative one-piece zirconia digitally reversed CAD/CAM implant supported crown showed better adaptation than classically cement retained but the later showed better resistant to dislodgment. Designing and mode of veneering did affect the marginal adaptation and retention of implant supported restorations.

Free Communication Session 34 | 07.09.2018, 12:30 – 13:30 | Cubicle 1

Theme: Periodontics

FC134
Relationship Between Statins and Periodontal Parameters In Chronic Periodontitis
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Introduction: Chronic periodontitis is considered to start as plaque induced gingivitis. Its lesions include loss of attachment and bone. Progression of the disease is due to high levels of pro-inflammatory cytokines. Statins is one of those medications that cause reduction of consumption and risk of periodontal criteria. Statins are a class of lipid-lowering drugs which are used for cardiovascular disease and stroke. Statins anti-inflammatory effect act by blocking intermediate metabolites of the mevalonate pathway.

Aim or Purpose: The aim of this study was to evaluate the influence of Lovastatin and Simvastatin on parameters of chronic periodontitis in the population of Khorasan Razavi province.
Methods and Materials: 40 subjects (18 male, 22 female) that came to Mashhad periodontal department with chronic periodontitis were selected and informed consent was obtained from participants. Initially severity of disease of both groups were almost the same. Participants were divided into control and case groups. SRP was performed for both. Then in case group (cholesterol>240 mg/dl) patients were given lovastatin 20 mg tablet for 3 months while control group was taking placebo. Periodontal indices such as probing pocket depth (PPD), GI, PI, CAL and bleeding on probing in both groups were measured by the examiner before and after treatment.
Results: Our study showed that the index of GI, CAL, BOP and probing depth were significantly different between the two groups after the intervention ($p < 0.05$) and only PI index was not significantly different between the two groups ($p > 0.05$).
Conclusion: In conclusion, statins may improve periodontal indices in patient with periodontal disease. This is probably because statins increase bone regeneration and reduce inflammatory parameters.

FC135
Perceived Pain Assessment Using Laser and Surgical Technique For Depigmentation
Özge Göktürk, Ferhat Özelci, Umut Öğütücü, Kerem Çaglar Gümüş
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Aim or Purpose: Gingival hyperpigmentation is caused by different factors, such as quantity of keratinization and levels of pigments within the tissues. Various depigmentation techniques have been employed. Surgical stripping technique and laser depigmentation are widely used. The aim of this study was to compare surgical stripping technique and diode laser methods in terms of perceived pain in 1 week after the gingival depigmentation.
Materials and Methods: The study was conducted on 20 patients who had pigmented areas on the left and right of maxilla and mandibula. The 810 nm diode laser or the standard surgical technique was used to eliminate the pigmented areas under the local anesthesia. The depigmentation procedure was decided randomly. Participants were asked to mark their pain status on the Visual Analog Scale (VAS) after surgery.
Results: Compared to the two techniques, the VAS survey results showed that the perceived pain within the first 2 days for laser treatment was lower and there was no significant difference between 3 and 7 days ($p < 0.05$).
Conclusions: Laser therapy requires more advanced technology and is associated with higher financial costs. The scalpel technique is still considered the gold standard treatment in the literature for gingival depigmentation. This study showed that the use of diode laser is a safe and effective treatment method that provides optimal esthetics with minimal postoperative pain in gingival depigmentation. as a conclusion of the present study, it is thought that laser use may be an alternative to conventional methods in gingival depigmentation.

FC136
Comparison of Using Laser and Scalpel In Frenectomy: Patient Responses
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Aim or Purpose: Labial frenulum is a sagittal fibrous fold of oral mucosa with a periosteal insertion that extends from the lip to the alveolar or gingival mucosa. Sometimes frenulums have high attachments and wide soft tissue folds and these high frenulums may lead to functional and aesthetic problems. The aim of this study was to compare surgical scalpel technique and diode laser methods in terms of perceived pain in 1 week after frenectomy.
Materials and Methods: The study was conducted on 40 patients. Underwent frenectomy using a 980 nm diode laser or the standard surgical technique under the local anesthesia. The patients were randomly divided into two groups and the frenectomy procedure was decided randomly. The operation time for each technique was also calculated. Participants were asked to mark their pain status on the Visual Analog Scale (VAS) after surgery.
Results: Compared to the two techniques, the VAS survey results showed that the perceived pain within the first 3 days for laser treatment was lower and there was no significant difference between 4 and 7 days ($p < 0.05$). Operation time for frenectomy with diode technique is significantly shorter ($p < 0.05$).
Conclusions: In the present study showed that patients treated with diode laser had less functional complications and discomfort compared with traditional scalpel surgery. Frenectomy with diode laser is a safe, useful and practical treatment method. Diode laser frenectomies reduce trans operative bleeding, avoiding the need of suturing, and promotes a significant reduction of surgical time in comparison with conventional surgery.

FC137
Treatment of Gingival Enlargement: Comparative Evaluation Between Scalpel and Laser
Özge Göktürk, Kerem Çaglar Gümüş, Ferhat Özelci, Umut Öğütücü
Abant İzzet Baysal University Department of Periodontology, Bolu, Turkey

Aim or Purpose: Chronic inflammatory gingival enlargement is a common feature of the gingival disease, which may result from chronic inflammatory changes. Various surgical techniques have been used towards alleviating these enlargement areas. Standard scalpel technique and laser-assisted gingivectomy are widely used. The aim of this study was to compare surgical scalpel technique and diode laser in terms of perceived pain in 1 week after the treatment of gingival enlargement for aesthetical purposes.

Materials and Methods: The study was conducted on 20 patients who had had gingival enlargement at maxillary incisor region. The patients were randomly divided into two groups. In the laser group, patients were treated for 30 s per tooth by a 940 nm diode laser with a 400 μm fiber at 0.9 W power under local anesthesia. Participants were asked to mark their pain status on the Visual Analog Scale (VAS) after surgery.
Results: Compared to the two techniques, the VAS survey results showed that the perceived pain within the first day for laser treatment was lower and there was no significant difference between 2 and 7 days ($p < 0.05$). Chair time for gingivectomy with surgical scalpel technique is significantly shorter ($p < 0.05$).
Conclusions: Both diode laser and scalpel gingivectomy technique achieved similar outcomes regarding the postoperative pain perception after first day. However, the time required for the treatment is longer in the diode laser technique. on the other hand, gingivectomy with diode laser is an important advantage providing an aesthetic smile with minimal bleeding and discomfort for patients.

Free Communication Session 35 | 07.09.2018, 12:30 – 13:30 | Cubicle 2

Theme: Public Health

FC138
SDF Protocol For Reducing Preventable Dental Hospitalizations In Victorian Children
Rana Yawary
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Aim or Purpose: To assess whether the adoption of an alternative protocol for caries management that incorporates the application of 38% Silver Diamine Fluoride (SDF) will reduce the rate of Preventable Dental Hospitalization in children and compare parent reported child Oral Health Related Quality of Life (OHRQoL).
Materials and Methods: Ethical approval was granted by The Royal Children's Hospital Melbourne Human Research Ethics Committee (HREC/17/RCHM/290). Children who attended two public dental agencies for treatment of caries, and who were unable to tolerate comprehensive restorative treatment in the dental clinic setting, were divided into two groups.
One group received topical 38% SDF, instruction in twice daily tooth brushing with fluoride toothpaste and comprehensive diet counselling. The second (control) group consisted of those opting for referral for General Anaesthesia (DGA). Researchers examined child referral rates, caries progression (Arrested caries, New caries, DMFT, PUFA), and Oral Health Related Quality of Life (ECOHIS) for groups over a 6-month period.
Results: The measured referral rate for DGA was 14.3% of all eligible children. Follow-up was completed by 85 children in the SDF group and 12 children in the control group. The groups showed no significant difference ($p > 0.05$) in ECOHIS scores both before and after treatment.
Conclusions: Adoption of the SDF protocol resulted in a significant reduction in the rate of preventable Dental Hospitalisations in children. The majority of parents opted against referral for DGA, preferring to be managed locally. Parent reported OHRQoL for children managed under DGA were the same as those in the SDF protocol.

FC139
Australia's Oral Health Tracker – A National Report Card
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Aim or Purpose: Australia's Oral Health Tracker is a set of national report cards which detail the current state of Australians' oral health and sets targets for improvement by 2025. These report cards (adults, young people and children) look at oral health in relation to risk factors, oral disease and adverse health outcomes. Australia's Oral Health Tracker places Australia as a world leader in the area of health policy leadership and is supported by a national coalition of leading oral health, public health and health organizations.
Materials and Methods: An expert oral health working group comprising of recognized oral health clinicians, epidemiologists and public health experts was established to review the evidence base and policy landscape; and to validate and agree on priority measures, targets and indicators aimed at improving the oral health of all Australians. Publicly available population-level data sourced from the literature were used.
Results: Indicators for children, young people and adults have been established and targets set for the year 2025, in line with the WHO targets for global prevention and reduction of chronic disease. Indicators include risk factors such as sugar consumption, access to fluoridated water and adverse outcomes such as preventable hospitalizations. These indicators and targets are supported by an evidence-based technical paper.
Conclusions: The current data provides evidence-based tools to inform policy-makers and service providers regarding the impact of poor oral health on the health and wellbeing of children, young people and adults in Australia; oral health targets for 2025 are proposed.

FC140
Phuduhudu Community Oral Health Project
Mbangu Jones Kashweeka, Tapologo Pearl Lekgethiso, Thebeyame Modiri Rantshothe, Maunganidze Samuel Shemu
Ngami District Health Management Team, Oral Health Department, Kasane, Botswana

Aim or Purpose: Reaching small villages for better Oral Health.
Materials and Methods: Random sampling of small villages, interviews and questionnaires, community assessment needs, stakeholders 'consultations
Results: Screening coverage 92%, Disease burden coverage 61.1%, Treatment coverage 45.7%, Knowledge and awareness level 71.8%, Revived village committees

Conclusions: The disease burden has been reduced by 74.8% (from 61.1% to 15.4%). The community Oral Health status improved by 45% (from 38.9% to 84.6%) Due to community participation, the project achieved high positive impact and was replicated in the second project community.

Free Communication Session 36 | 07.09.2018, 12:30 – 13:30 | Cubicle 3

Theme: Materials

FC141

The Effect of Application Errors on Acetone-Based Adhesive Bonding

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Aim or Purpose: This study aimed to evaluate the effect of application errors in term of dispensing time and stirring of an acetone-based adhesive, on micro-shear bond strength (μSBS) to dentin.

Materials and Methods: Flat superficial dentin was exposed in 40 human molars. Acetone based adhesive was applied on dentin after one of the tested dispensing time: 1- immediate, 2- after 2-min, 3- after 5-min or 4- after 7-min. In each tested dispensing time, the adhesive was applied either; after no stirring, or after stirring. Flowable resin composite was packed in Tygon tubes on the bonded dentin then tested for μSBS using universal testing machine. Failure mode was determined using stereomicroscope. Voids and areas of phase separation were examined by light microscope. Statistical analysis was carried out using two-way ANOVA.

Results: Results of (μSBS) revealed that for no stirring specimens; the 2 min delayed application showed significantly higher μSBS than other application times while for the stirring specimens; results showed that immediate application was statistical significant higher than other groups. Within each dispensing time, there was a statistical significance between stirring and no stirring at 0-min and 5-min. Mixed failure mode was the most represented and areas of phase separation were seen in five and 7-min dispensing time and in stirred drops, except the drops that were stirred immediately after dispensing.

Conclusion: Delaying the acetone-based adhesive application negatively affects the bond strength to dentin. Stirring of the adhesive drop before immediate application seems to be crucial to improve resin-dentin bond strength.

FC142

SEM Study of New Micro-Posts In Restoration of Pulpless Tooth

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Aim or Purpose: Restoration of pulpless tooth using a material inserted in plastic phase in case of major decay appears to be the best solution to retain a maximum of residual dental tissue. A new restoration concept, using fibro-structured and fasciculated micro-posts, provides a new alternative to current reconstructions techniques. Micro-posts are made of composite and silica fibers. Their flexibility allows them to adapt to all root morphologies. The aim of this study was to experiment the interfaces between micro-posts, bonding composite and dentinal walls.

Materials and Methods: Fifteen teeth extracted for orthodontic or periodontal reasons were endodontically treated and restored with micro-posts, adhesive and composite. The samples were coated, sectioned, metallized, polished to be observed with SEM. For all samples, one cut was made 1 mm below the crown-root limit and another was made 3 mm under the first cut in the apical direction. SEM observations were made at several magnifications (X 35 to X 750) with a voltage of 30 kV.

Results: Scanning electron microscope sections show that the distribution of micro-posts in the canal is random. Chemical and mechanical bond between the micro-posts and the sealing composite is perfect even without adhesive application. The bond between the composite and the root walls shows some debonding spaces, which may be due to the manipulation or more likely to the polymerization contraction of the resin.

Conclusions: Easy to implement clinically and less invasive than with a single standardized post, this new concept allows an excellent anatomical retention of micro-posts.

FC143

Frequency of Crowded Coronary Restorations and Practitioners' Attitudes Towards Failure

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Aim or Purpose: This study aims to assess the place of trodden coronary restorations in the practice of general practitioners and to note the frequency of failures, their causes according to practitioners and attitudes recommended.

Materials and Methods: A descriptive CAP (knowledge, skills and practices) survey was conducted among 109 dentists. They were asked about the type of materials used for trodden coronary restorations, the frequency of these restorations in daily practice, the implementation protocols, their perceptions of a cause of failure of a restoration and the proposed recommendations. The data collected were processed by the Epi-info software version 6.01.

Results: Trodden coronary restorations are performed in 73.40% of cases of coronary rehabilitation of teeth. Dental amalgams are the most used materials at 55%, followed by glass ionomer

cements at 23% and composite resins at 21%. Practitioners believe that there is a failure when there is a defect in the filling due to the fracture of the residual dental material or tissue. The most common manifestations are pain or secondary caries adjacent to the substitute material. Attitudes towards these failures are in 63.50% of cases a new restoration with the same type of material, or the use of another type of material (37%).
Conclusions: A limited duration of the trodden coronary restoration implies untimely preparations during the repair, without forgetting the extra cost generated for the practitioner and the patient. This study shows the interest of the respect of the protocols of implementation of the trodden coronary restorations.

FC144
24-Month Clinical Evaluation of Two Universal Composites In Posterior Teeth
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Aim or Purpose: To compare the clinical behavior of a universal light-curing, ultra-fine particle hybrid composite and a new version of this material in Class I and II cavities after 24 months.
Materials and Methods: Forty patients (21 females, 19 males) with ages ranging between 18–38 years (23.15 ± 5.15) received 80 (13 Cl1 and 67 Cl2) composite resin restorations (Charisma/Charisma Classic – Heraeus Kulzer) in combination with an etch and rinse adhesive system (Gluma 2Bond) under rubber dam isolation. Two experienced operators performed all the restorations according to the manufacturer's instructions. Restorations were evaluated by the other two examiners according to the FDI criteria at baseline and 6, 12, 18 and 24 months. Surface characteristics of one restoration selected randomly was examined under scanning electron microscope (SEM) at each recall. Data were analyzed statistically.
Results: Recall rate was 100%. None of the restorations were failed. Three restorations from Charisma and 4 from Charisma Classic group showed minor surface stainings. Four restorations from Charisma group and 6 from Charisma Classic group showed minor shade deviations. No significant difference was observed between the two restorative materials for any criteria evaluated after 24 months ($p > 0.05$). SEM evaluations were in accordance with the clinical findings.
Conclusions: Both materials exhibited clinically similar and successful performance over the 24-month observation period.

Free Communication Session 37 | 07.09.2018, 13:45 – 14:45 | Cubicle 1

Theme: Prevention and Periodontal Diseases

FC145
Motivational Interview of Patients with Fixed Orthodontic Appliances: Case Series
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Aim or Purpose: The purpose of this case series study is to assess whether the interview (motivational interview with traditional oral hygiene instruction) produces positive changes in the daily routine of oral hygiene.
Materials and Methods: Seven patients at the beginning of the orthodontic treatment with fixed orthodontic appliances and good periodontal health were assigned to receive a Motivational Interviewing (MI) in conjunction with traditional oral hygiene instruction (TOHI), in every appointment with the orthodontist treated at the Universidad Iberoamericana (UNIBE) postgraduate dentistry clinic. Also, simplified oral hygiene index, gingival index, pocket depths, bleeding on probing were assessed at baseline, 3 months and 6 months, after that the main values were obtained and conclusions were made. UNIBE's ethic committee approval was obtained.
Results: The results obtained showed that 2 of 7 patients improved their oral health conditions and the other 5 exhibited no changes as they began the treatment; the main values show that there were no significant changes at baseline and 6 months.
Conclusions: Preliminary data shows that motivational interviewing is feasible tool during orthodontic treatment to reduce periodontal problems and improve oral health condition, assuming that a good motivation and oral hygiene instruction by clinician can improve oral care habits in patient with orthodontics fixed appliances. Controlled studies are needed.

FC146

Toll-Like Receptors In Periodontal Disease – A Future Biomarker

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Aim or Purpose: Genetic variations seem to identify individuals who have an increased risk for periodontal disease (PD), thus, in a case-control study, the association between polymorphisms in *Toll-like receptor 9* gene and PD was verified.
Materials and Methods: A population of 90 mixed-breed dogs was used, following all applicable guidelines for the care and use of animals, and divided into two groups: the case group [n = 40; age (years): 2–8] and the control group [n = 50; age (years): 2–5]. The DNA extraction was performed using blood samples, followed by PCR amplification and sequencing of the amplified fragments. Odds ratio (OR) and 95% confidence intervals were calculated, the logistic regression model was used to adjust for age and weight and a bootstrap analysis was performed to validate the results.
Results: Seven genetic variations were found, but only the rs22882109 and rs22882111 polymorphisms obtained a statistically significant difference [OR (95% CI): 5.36 (1.58–18.17), p = 0.007; and OR (95% CI): 10.06 (1.96–51.57), p = 0.006, respectively]. However, after the bootstrap analysis, only the rs22882111 remained statistically significant [OR (95% CI): 2.31 (1.13–21.70), p = 0.002].
Conclusions: The dog is the most important animal model in PD studies, thus a greater knowledge of PD genomic medicine in this model will allow more accurate investigations in humans. Furthermore, according to our results, the rs22882111 polymorphism could be a good candidate to biomarker in this specie.

Free Communication Session 38 | 07.09.2018, 13:45 – 14:45 | Cubicle 2

Theme: Epidemiology

FC147

Caries Assessment Spectrum In The Cloud: The Data-Mined Severity Score

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Aim or Purpose: To assess oral health of a population by charting patients in the cloud, by automatically calculating their individual severity codes and by automatically generating severity statistics.
Materials and Methods: Previously gathered oral health data on a population of 680 schoolchildren was transferred to electronic odontograms in the cloud. as described in the article "Caries assessment spectrum treatment (CAST): the severity score" in the International Dental Journal (https://doi.org/10.1111/idj.12331), the then applied CAST methodology was used once more to recalculate the severity code per patient, this time on a cloud-based e-charting platform. In turn the platform was used to automatically process severity statistics for the population.
Results: The cloud-based process showed that the recalculated CAST severity codes and reprocessed severity statistics are solid from a number of perspectives. The numerical results are (1) identical, i.e. validated against the results in the cited article, (2) processed instantly with zero latency, (3) entirely paperless.
Conclusions: The demonstrated solidity and speed of the combination of the CAST methodology and cloud-based processing of patient severity codes and population statistics allow public oral health studies to be conducted cheaper, faster and on a larger scale. In turn this will lead to more meaningful public health data being available to oral health policy makers and health providers. In addition, there are strong indications that the process yields more reliable results as the cloud-based odontograms promote stronger calibration of e-charters and therefore yield more reliable health data.

FC148

Oral Health Comparison In Special Schools Using Cloud-Based Charting Tools

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Aim or Purpose: To assess oral health related to caries experience amongst people with disability attending to four institutions in Córdoba, Argentina, using a cloud-based e-charting tool platform.
Material and Methods: Oral health information was gathered from 144 patients, aged 6–49 years attending to 4 special education institutions (A, B, C and D) in Córdoba city, Argentina, during the months of November/December 2017 by 5 calibrated e-

Charters. DMFT and ICDAS criteria were used to assess caries experience. Data was registered using a cloud-based e-charting tool and analyzed using its statistical software.
Results: Prevalence of caries and DMFT mean values were 81% and 5.01 respectively for the four institutions. The comparison between institutions revealed that institution D (n = 26) showed higher caries activity than A (n = 53), B (n = 52) and C (n = 13) although M and F components of the score indicated that participants had received some kind of dental treatment. Higher treatment needs were detected in institutions B and C, where D component of the score was close to the DMFT value. Regarding ICDAS, 88% of the lesions were diagnosed as categories 4 to 6. The e-charting tool generated real-time epidemiological profiles of the people attending to these institutions, allowing immediate feedback to the families involved as well as to the professionals in charge of strategic planning.
Conclusion: Caries experience in people with disability in Córdoba is high irrespective of the institution they attend. Immediate actions may be taken using epidemiological predictors such as real-time descriptive statistics provided by this cloud-based charting platform.

FC149
Oral Health and Associated Factors of Children Aged 4–5 in Salta
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Aim or Purpose: To relate the oral health of children aged 4–5 years with hygienic habits, food, dental consultation and care of parents, who attend two public schools in Salta. Evaluate and determine the prevalence of caries in children according to age, sex and determine the need for dental treatment of children. Establish the association of oral health with risk factors.
Materials and Method: descriptive cross-sectional study, 218 children of 4 and 5 years were evaluated through a buccal examination and questionnaire to mothers. Analysis the descriptive and inferential statistics were used, the X2 test was applied.
Results: From the oral examination it was found that 19% had a healthy mouth 81% had caries, with a ceo-d of 6.01. Caries with an average of 5.05. They require treatment 50% and 20% preventive treatment. Daily sugar consumption 24% of children have 4 moments, 29% between 6 and 7 times, 77% of children use a bottle. 95% brushed their teeth, 18% once 51% twice 27%, three times a day and 4% did not brush their teeth. 91% of children have visited the dentist.
Conclusion: There is a need to implement preventive measures, with early interceptive care to control the development of caries disease and thus keep the mouth healthy, enabling the normal development of the jaw, proper position of the teeth.

FC150
Early Childhood Caries Among Preschool Children in Victoria, Australia
Shalika Hegde[1], Helen Graesser[1], Panagiota Gkolia[2], Rachel Sore[3], John Rogers[4], Deborah Cole[1]
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Aim or Purpose: To determine the prevalence of Early Childhood Caries (ECC) in Victorian preschool children and examine associations between ECC rates and sociodemographic variables.
Materials and Methods: A cross-sectional sample of 1845 three-to-five-year-old children attending 61 preschools was selected by stratified cluster sampling. Calibrated clinicians recorded dental caries using the International Caries Detection and Assessment System (ICDAS II) and classified carries as non-cavitated/early lesions (ICDAS II Codes d^{1-2}) and cavitated lesions (ICDAS II Codes d^{3-6}). A self-administered parental questionnaire captured social, demographic and behavioural data. Multivariate logistic and poisson mixed model analysis was used.
Results: 56.59% (n = 1044) of the children had ECC. Over one third of the children (36.64%) presented exclusively non-cavitated/early lesions, 5.75% presented solely cavitated lesions and 14.20% presented both, cavitated and non-cavitated/early lesions. Parental health care/pensioner card status (Incident Rate Ratio (IRR) = 1.76; 95% CI: 1.57–1.97), non-English speaking background (IRR = 2.09; 95% CI: 1.80–2.43) and Indigenous status (IRR = 1.91; 95% CI: 1.50–2.43) were associated with higher rates of cavitated lesions. Fifty children (2.71%) had received dental treatment under general anaesthetic. Children who consumed soft drinks one-to-three-times per/week had 1.61 times the cavitated lesions (p = 0.000, 95% CI: 1.42–1.82) compared to children who never/rarely consumed soft drinks. Soft drink consumption of once or more per week was associated with parental health care/pensioner card status (OR = 1.73, 95% CI: 1.36–2.18), non-English speaking background (OR = 1.58; 95% CI: 1.11–2.27) and Indigenous status (OR = 1.92; 95% CI: 1.04–3.52).
Conclusions: Prevalence of ECC was high in disadvantaged children. Caries prevention strategies must focus on reducing sugar consumption at individual-and-population-level to improve children's oral health.

Free Communication Session 39 | 07.09.2018, 13:45 – 14:45 | Cubicle 3

Theme: Periodontics

FC151
Periodontal Status of Anabolic Androgenic Steroid Male Users
Joao Paulo Steffens, Thaina Biudes Conforto Costa, Joao Daniel Paganella Chaves, Henrique Meister Valenga, Stephanie Von Stein Cubas Warnavin
Universidade Federal Do Paraná, Curitiba, Brazil

Aim or Purpose: Data from NHANES III suggested that men with higher endogenous testosterone levels were more likely to present

periodontitis than their physiological controls. The objective of this cross-sectional study was to assess the periodontal status of anabolic androgenic steroid (AAS) male users and compare with matched controls for age and physical activity.
Materials and Methods: A total of 30 men (15 AAS users and 15 controls) aged 18+ who reported current use of AAS were selected in gyms. Sociodemographic data, medications used and periodontal parameters – plaque index (PI), gingival bleeding (GB), probing depth (PD), clinical attachment loss (CAL), bleeding on probing (BOP) – were recorded by a single calibrated examiner (kappa ±1 mm=0.97). Periodontitis was defined as sites with PD≥4 mm and CAL>0 mm and BOP+. Periodontal data were analyzed using paired t test or Wilcoxon test.
Results: Age (AAS 30.07 ± 4.4 vs. control 28.1 ± 4.6 years), ethnicity, income and education level were not statistically different between the groups ($p > 0.05$). Sites with periodontitis and pockets (PD≥4 mm) were significantly greater in AAS users (Wilcoxon; $p < 0.001$ and $p < 0.01$, respectively). Although PI and BOP were similar between the groups, GB was significantly increased in AAS users (AAS 12 ± 7% vs. control 8 ± 4%; paired t test $p < 0.05$). Mean CAL was not different between the groups ($p > 0.05$).
Conclusions: We concluded that AAS use is related to deeper pockets and gingival bleeding. This population should be monitored for disease prevention.

FC152
Correct Prognosis In Oral Rehabilitation: Prosthetic or Periodontal Diagnosis?
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Introduction: From time to time, we receive partially toothless patients expecting to recover lost dental pieces with removable partial dentures (RPD). A brief and superficial test can lead us to conclude that is necessary to remove dental pieces which have a negative prosthetic prognosis. However, a thorough and detailed test, particularly a periodontal one, can change the final decision.
Case Description: In 2007, a 63-year-old female patient is introduced, she had lost some teeth due to a periodontal disease. She finished a non-surgical treatment as well as an antibiotic therapy which helped her to be free of a periodontal disease, but with deep consequences. Both maxillas belong to Kennedy class III with extensive toothless openings. Several of the possible pillar pieces show mobility with pockets that vary from 3 to 6 mm of depth. The patient does not present system diseases and she shows an excellent control and maintenance of the dental plaque.
Discussion: Initially, the removal of increased mobility pieces and deep pockets due to a negative prosthetic prognosis was indicated. A second test showed that the periodontal prognosis was regular. According to this, some unconventional prosthesis were made with no retentive or supportive arms, only with dental supports. The remaining teeth have been in mouth for over 10 years.
Conclusion: In this case, the periodontal prognosis prevails over the prosthetic one.

FC153
Comparison Between Cryosurgery and Electrosurgery In Physiologic Gingival Depigmentation
Amr Asker, Mohamed Anees, Jilan Youssef
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Aim or Purpose: The aim of this study is to compare the clinical effectiveness and patient satisfaction between cryosurgery and electrosurgery in physiologic gingival depigmentation.
Materials and Method: I-Patient selection: 10 Patients with physiologic gingival pigmentation will be selected from the outpatients clinic of faculty of dentistry-Mansoura university. Inclusion criteria: Patients with physiological Gingival pigmentation, Age ranged from 18 to 40 years old, Healthy gingival condition. Exclusion criteria: Patients with systemic diseases, Pregnant women, Smokers.
II-Study design: Before undertaking any of the depigmentation procedures, we will take: Complete medical history and dental history and Standard digital photographs will be taken pre-operatively. The anterior sextant will be divided into left and right segments, one segment will be treated randomly by cryosurgery and the other will be treated by electrocautery. The pigmented area will be evaluated and compared pre-operatively and post operatively according to: 1-Dummett-Gupta Oral Pigmentation Index, 2-Hedin melanin index for the extent of pigmented area, 3-Pain VAS (Visual Analogue Scale)
Results: Both techniques treated the pigmentation successfully, no recurrence after 3 months, after 6 months the gingival color was stable except in 2 cases little pigmentation recurred in both techniques. The pain was the same in both techniques.
Conclusion: Cryotherapy with liquid nitrogen and electrocautery techniques were both effective for removal of gingival pigmentation.
Comparing these two treatment modalities, both techniques are acceptable in the treatment of gingival depigmentation and had pleasing appearance 6 months postoperatively, there was no significant difference between both techniques in the treatment of physiologic depigmentation.

FC154
Impact of Tetracycline Gel 2% on Chronic Periodontitis
Seyed Ali Banihashemrad[1], Nahid Nasrabadi[1], Seyed Hamed Banihashemrad[2], Omid Rajabi[3], Narges Ghorbani[4], Seyed Ahmad Banihashemrad[4]
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Aim or Purpose: The aim of this study was to determine the efficacy of 2% tetracycline gel towards improving clinical parameters in patients with chronic periodontitis.
Materials and Methods: 36 patients referred to the Periodontics Department of Mashhad Dental School with slight to moderate

chronic periodontitis were included in this study. Subjects were randomly divided into control and test groups, both of which received oral hygiene education, scaling, and root planning. The test group was treated with 2% tetracycline gel three times, every other day, for 1 week. Clinical parameters including probing pocket depth (PPD), clinical attachment level (CAL), and Gingival index (GI) were measured at baseline and 1 month after treatment.

Results: After 1 month, the mean decrease PPD in the control group was 2.61 ± 0.04 and in the test group was 3.38 ± 1.03 mm. The mean reduction of CAL was 1.27 ± 0.89 mm in the control group and 2.15 ± 1.21 mm in the test group. The mean GI decrease in the control group was 0.88 ± 0.58 and the test group was 0.77 ± 0.54. The decrease in PPD and CAL in the test group was significantly different from the control group ($p \leq 0.5$).

Conclusions: The results of this study showed that 2% tetracycline gel can serve as an adjunctive in the successful treatment of chronic periodontitis.

Free Communication Session 40 | 07.09.2018, 15:00 – 16:00 | Cubicle 1

Theme: Caries Prevention and Pedodontics

FC155

Infant Caries Management Model with An Innovative Combination Therapy Approach

Francisco Ramos-Gomez
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Aim or Purpose: Early Childhood Caries (ECC) continues to be a prevalent disease affecting young children throughout the world and is yet fully preventable. Consequently, the establishment of an Infant Oral Care Programme including a disease prevention management model with establishment of a dental home by age 1 and care pathways based on individual caries risk is highly recommended.

Materials and Methods: An Infant Oral Care Programme aims to increase access to care and improve oral health outcomes through a disease prevention and Caries Management by Risk Assessment (CAMBRA) model in non-traditional medical settings. Moreover, utilizing a combination therapy approach with calcium phosphate fluorides is valuable in preventing and addressing oral health disparities for appropriate and targeted care in young and vulnerable children.

Results: From July-2010 to November-2016, IOCP has served 950 patients aged 0–5 years for a total visit count of 2,572. of the 950 children seen, full data are available on 908 children. of these, 240 cases (26%) have maintained with no decay, 38 cases (22% of all kids with white-spot lesions) maintained at white spot lesions (and possibly have lesions arrested), and 39 cases (10%) were averted, which means that their white-spot lesions were arrested and/or their caries were restored. Only 95 cases (10%) had worsening disease.

Conclusions: This innovative and unparalleled disease management model for age 1 visits represents the future of young children's oral health and dental disease management. An Infant Oral Care Programme sets a new standard of comprehensive, integrated, and evidence-based dental care emphasizing prevention.

FC156

Microinvasive Treatment of Discolored White Spot Lesions with Resin Infiltration

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Introduction: Arrest of white spot lesions is important to prevent progression of caries. This report presents resin infiltration technique to rehabilitate the discolored white spot lesions formed after orthodontic treatment.

Case Description: A 20-year-old male patient who consulted our clinic after completion of his orthodontic treatment, demonstrated discolored white spot lesions with micro-cavities in the cervical region of the teeth #13, #12, #11, #21, #22 and #43. Opaque white lesions were present on his teeth between #36-#46. A two-stage treatment was planned, in which resin infiltration technique followed by restoration of cavities was to be performed. After rubber dam isolation, 15% hydrochloric acid (Icon-Etch, DMG) was applied on the enamel surfaces for 2 min and rinsed with water for 30 s. Ethanol (Icon-Dry, DMG) was applied for 30 s and air dried. Resin infiltrant (Icon Infiltrant, DMG) was applied for 3 min in the first step and 1 min in the second step and polymerized for 40 s after each step. Rubber points and polishing paste were used to polish the surfaces. It was observed that discoloration of the micro-cavities other than #11 were masked after resin infiltration. The tooth #11 was restored with resin composite (Estelite Quick, Tokuyama) after a conservative cavity preparation with a bur.

Discussion: Resin infiltration technique allows a conservative treatment option for white spot lesions. It not only helps to arrest the lesion but also improves the esthetics by modifying optical properties of the enamel.

Conclusion: Resin infiltration technique could be considered as a successful approach for treatment of discolored white spot lesions.

FC157

Effect of Stevia Rebaudiana Mouthwash on Streptococcus Mutans

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Aim or Purpose: The objective of the study was to determine the antibacterial activity in vitro of an oral rinse made from *Stevia rebaudiana* ethanolic extract in different concentrations on *Streptococcus mutans* ATCC 25175.

Materials and Method: The extracts were derived from fresh leaves of *Stevia rebaudiana*, and then they were added along with solvents when preparing the oral rinse in six 70% concentrations and six 30% concentrations of ethanol. The minimum inhibitory

concentration (MIC) was determined by broth and agar dilution method, and the minimum bactericidal concentration (MBC) was determined by using the Kirby-Bauer disc diffusion method. We had the approval of the Research Ethics Committee at the Stomatology Faculty. For statistical purposes ANOVA was used for a completely randomized design as well as Tukey's multiple comparison test.

Results: Statistical analysis allowed to select MIC of 1.07 mg/ml in the oral rinse derived from *Stevia rebaudiana* and containing 70% ethanol, and a 2.14 mg/ml concentration of 30% ethanol ($p > 0.05$), whereas MBC of 75 mg/Ml was selected in the oral rinse with 70% ethanol, which is not statistically significant in 30% ethanol ($p < 0.01$).

Conclusions: Oral rinse derived from *Stevia rebaudiana ethanolic* extract has an antibacterial effect against *Streptococcus mutans* ATCC 25175 and may be useful in preventing tooth decay.

FC158

Conservative Management of Fused and Geminated Permanent Anterior Teeth

Gajanan Kulkarni

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Introduction: Fused or geminated permanent anterior teeth are developmental anomalies that can cause severe malocclusion and esthetic concerns especially in young patients and present significant clinical management challenges.

Case Description: A healthy 8-year-old male presented with the chief complaint of big, ugly, permanent teeth. Clinical examination revealed a maxillary right central incisor (CI) fused with a supernumerary tooth, and a talon's cusp and a large geminated maxillary left CI. Anomalies in both incisors resulted in excessive mesio-distal (MD) widths, and severe malocclusion due to insufficient spaces for the lateral incisors. Radiographs and limited field CBCT revealed the right CI had two canals with an isthmus in the lower coronal region. The left CI had a very large single pulp chamber. Both lateral incisors were positioned palatal to the central incisors.

Discussion: Treatment included reduction of MD widths of the teeth over several months to allow narrowing of the pulp chambers with tertiary dentin formation. Orthodontic treatment was started with a slow palatal expander. After sufficient expansion, the laterals were brought into alignment with edgewise brackets. The fused right CI was surgically split and one portion was removed. The remainder of the incisor was reshaped with composite resin, with no endodontic treatment. The residual spacing was closed orthodontically.

Conclusion / Clinical Significance: This case demonstrates that with extensive planning, and sequential clinical steps that match the age and stage of dental development, problems associated with fused and geminated permanent teeth can be managed conservatively with minimally invasive treatments for an esthetically pleasing result.

Free Communication Session 41 | 07.09.2018, 15:00 – 16:00 | Cubicle 2

Theme: Oral Surgery, Oral Medicine and Oral Immunology

FC159

Follow-Up of Permanent Teeth Eruption with Benign Odontogenic Cyst

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Introduction: Dentigerous cysts are benign odontogenic cysts that are considered to be developmental origin with any unerupted permanent tooth. In this case, the cysts of three patients aged between 6–10 years with different radiographic features were assembled for insight into the effectiveness of minimally invasive treatment technique.

Case Description: The patients were referred to clinics with a complaint of painless facial swelling. Radiographically, the cysts represented a unilocular radiolucent area that is related to the unerupted teeth. The cyst-to- crown relationship showed several radiographic variations due to the dental crowded with the impacted area. The marsupialization approach performed with the extraction of the related deciduous molars and permitted decompression of the cyst. The bone formation was observed to improve spontaneous eruption of impacted teeth step-by-step during several months (9–20 months) of follow-up.

Discussion: Treatment methods of a dentigerous cyst are excision and marsupialization. Marsupialization is a more amenable intervention than excision because there is a risk of recurrence in the excision method. The excision method includes the enucleation of the cyst with the removal of the involved teeth, but the marsupialization provides the preservation for the cyst-associated teeth. The marsupialization also promotes the spontaneous eruption according to the bone formation around the margins the of the cyst. However, the only disadvantage of this technique is that requirement of the multiple visits for regular draining of the cavity.

Conclusion: The marsupialization as a minimally invasive approach might be the best treatment option for the benign odontogenic cyst in children.

FC160

Comparison of Laser and Ozone Treatments on Palatal Wounds

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Aim or Purpose: For the efficient management of palatal wound healing, an optimal treatment approach must have the ability to accelerate healing as well as potent antioxidant and anti-inflammatory properties. Therefore, the aim of this study is to compare the

effects of the adjunctive use of laser and ozone therapy on palatal wound healing.
Materials and Methods: The present study was performed as a prospective, parallel, randomized, controlled, examiner-blind clinical trial. The study population consisted of 36 patients (12 males, 24 females), who required free gingival graft (FGG). Subsequently, all patients were randomly allocated into one of the following three groups: 1) Laser group (n = 12), 2) Ozone group (n = 12) and 3) Control group (n = 12). Epithelization was evaluated by measuring the wound remaining area with using digital image analysis. Assessments of postoperative pain, sensitivity, changing in eating habits and burning sensation were performed by using visual analog scale (VAS) in the postoperative first week and 14th days and 1st month. Two-way repeated measures ANOVA was used for analysis of parameters.
Results: In the postoperative 14th days, statistically significant smaller wounds were observed in the ozone group ($p = 0.034$). The mean VAS score for sensitivity was higher in the control group compared to the ozone group ($p = 0.000$) and laser group ($p = 0.002$) at days 7. However, there was no statistically significant difference between ozone and laser groups in terms of sensitivity ($p = 0.723$).
Conclusions: Ozone therapy could be used as an adjunctive treatment modality that accelerates palatal wound healing after removing FGG.

FC161

Sexually Transmitted Infections with Oral Manifestations

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Introduction: Sexually transmitted infections (STIs) are a set of clinical conditions, which are transmitted between persons through sexual contact. These usually generate manifestations in mouth, so epidemiological studies are necessary to identify the oral lesions that they generate.
Case Description: The study was conducted evaluating a series of cases with the most common oral manifestations of STIs (HPV and Syphilis); through a descriptive cross-sectional study in 70 patients who attended the stomatologic services of the School of Dentistry of Buenos Aires University and Cartagena, the German Hospital in Buenos Aires and the Argentine Circle of Dentistry. Medical history was carried out including an oral examination with VDRL and FTA-ABS tests in patients with suspected Syphilis, and histopathological analysis and PCR in patients with presumed HPV infection.
Discussion: 62.85% HPV + and 37.15% Syphilis +. The serotype mostly found in the 44 cases with HPV was 11 (43.18%). The most frequent elemental lesion was verrucous. of the 100% of patients with syphilis, 69.23% had secondary syphilis and 30.77% had syphilis in primary form; no patients with tertiary syphilis were observed. of the same population, 5 patients presented as HIV-based pathology. The papule was the most common elemental lesion and was found mostly in the lingual margin (57.69%).
Conclusion: STIs have increased their frequency of appearance, which is why it is very important to identify the prevalent oral lesions. on the other hand, it is essential to continue including patients from other services in South America and perform a real epidemiological survey.

FC162

State of Hypercoagulability (Antiphospholipid Syndrome (APS)). Oral Implant Surgery

Alicia B. Prone[1], Héctor E. Bepre-Becerra[1], María V. Arrieta[1], Juan Carlos Ibañez[2], Claudio A. Ibañez[2], Cristian R. Minetti[1], Laura S. Martinez[1], Virginia Borelli[1]
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Aim or Purpose: To analyze both, the osseointegration of the implant and the intra-operative behavior of the hypercoagulability state (Antiphospholipid Syndrome (SAF)) in patients with thromboembolic risk and no interruption of anticoagulation.
Material and Methods: A hundred anti-coagulated patients were observed while undergoing their anti-coagulation checkup on a monthly basis in the Hematology Service. Three of these patients (women ages 50–55) experienced APS (two patients suffered from primary APS and one patient, Secondary APS.) Each patient had a dental implant placement, with an osseotite surface.
In order to evaluate the intra-operative behavior and the hypercoagulability state, we recorded: the presence of intraoperative bleeding (discrete variable: presence, absence), the time it takes for the bleeding wound to clot (continuously variable: measured in seconds -minutes) and the ischaemia status of the tissues (discrete variable: presence and absence). The inserted implants were clinically and radiographically tested to verify the success rate. The research work herein was checked by the Ethics Committee: CIEIS
Results: We can clinically prove and observe the hypercoagulability status (APS) during dental implant placements, without suspending AC. The dental osseointegration was successful.
Conclusion: This research work showed the formation of fibrin thrombus, generalized ischemia in the oral cavity and little to no intra-operative and post-operative bleeding during surgery, with dental implants with an adequate percentage of osseointegration in patients undergoing an uninterrupted treatment with anticoagulant medication. These events were compatible with the hypercoagulability state (APS,) which led to its presumptive detection. The dental implants evolved properly with a successful osseointegration.

Free Communication Session 42 | 07.09.2018, 15:00 – 16:00 | Cubicle 3

Theme: Oral Health and Systemic Health

FC163

Awareness on Relation Between Oral and General Health Among Patients

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Aim or Purpose: The purpose of the study is to investigate the awareness of the patients on the relation between oral and general health associated with oral hygiene habits and systemic diseases.
Materials and Methods: A 21-item surveys were prepared and delivered to 500 patients who were applied to Istanbul University Department of Restorative Dentistry. Surveys consisted of detailed questions in order to specify the sociodemographic values, to evaluate the frequency of oral habits and to examine the existing systemic diseases. All of the surveys were carried out as interviews by one dentist. Fully answered surveys were statistically evaluated using Chi-square tests at $p = 0.05$.
Results: Of the 500 patients aged between 18 and 78, lack of tooth brushing (70.6%) and diet (50.2%) were stated to be related with dental caries. The results on inadequate toothbrushing on caries development were not significantly different in gender and age groups ($p > 0.05$), whereas statistically significant results were observed in educational status. 19% of the patients indicated that oral symptoms did not play an important role in the early diagnosis of general health problems, while 41% stated that it was important and 40% had no idea. Awareness of patients on the relation of general and oral health is statistically significantly different according to age and education status of the patients ($p < 0.001$).
Conclusions: In conclusion, patients had inadequate knowledge on relation of oral and general health. Awareness on oral health being an inseparable part of general health should be populated over patients. Referrals from health professionals to dentists may improve patients to access dental care easily.

FC164

Have Treatments Increased Under General Anesthesia Due To Dental Anxiety?

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Aim or Purpose: The aim of this study was to evaluate dental treatments performed under general anesthesia due to dental anxiety.
Materials and Methods: A total of 54 patients were included in this study, 25 of whom were female (46.3%) and 29 of whom were male (53.7%). Patients were evaluated for systemic health status, mental retardation and dental anxiety.
Results: The age range of the patients was between 2 and 50 and the mean age is 12.33 ± 11.4. When the patients were evaluated for dental anxiety and mental retardation; there were 13 patients (24.1%) of 54 patients with mental retardation and anxiety in the remaining 41 (75.9%) patients. When the patients were assessed for the presence or absence of a systemic problem, 40 patients (74.1%) of the 54 had no systemic problem and 14 (25.9%) had systemic problem.
Conclusions: Dental treatments performed under general anesthesia due to dental anxiety are increasing.

FC165

Laser Treatment For S. Mutans and C. Albicans Infections

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Aim or Purpose: The purpose of this study was to evaluate the effects of Nd:YAG laser irradiation on the in vitro growth of *Candida albicans* and *Streptococcus mutans*.
Materials and Methods: Cultures of *Streptococcus mutans* and *Candida albicans* were exposed to Nd:YAG laser irradiation with the following parameters: group G1: 0.25W, 10 Hz, 15s, 3J and group G2: 1W, 10 Hz, 60s, 59 J. Following Nd:YAG laser irradiation, the quantitative and microscopic analyses of pathogens with Janus Green stain were done to evaluate the effects of laser application on the growth of microorganisms.
Results: The study revealed a statistically significant reduction ($p < 0.0001$) of both C. albicans and S. mutans cultures for both sets of parameters of laser application. The study showed that the response of *C. albicans* and *S. mutans to laser irradiation* was dose and duration dependent. Higher power and longer duration of laser irradiation resulted in the decrease of the cfu/ml value for both *C. albicans* and *S. mutans*. In both cases (lower energy dose irradiation (G1) and higher energy dose irradiation (G2)) the number of pathogens was reduced by 95%.
Conclusions: The results of the study suggest that laser light at specific wavelengths could be a promising novel treatment for *S. mutans* and *C. albicans* infections, such as dental caries, candidiasis and stomatitis protetica. Laser irradiation merits further attention for the many advantages it offers: shorter treatment duration, lower cost of treatment, minimal or no side effects and an alternative to the systemic administration of antibiotics.

FC166

Correlation Functional State Dental and Postural Systems

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Aim or Purpose: To study the mechanism of the regulation postural balance for the patients with compensate functional state of the dental system.
Materials and Methods: 251 people (129 men (51.39%) and 122 women (48.61%)) in the ages of 20 and 60 were complex examined. According to results of cluster analysis, a group of patients with a compensated functional condition comprised 184 patients, including 98 (53.26%) men and 86 (46.74%) women. The bioelectrical activity masseter and temporalis muscles was registered. According to the basic of NORMES 1985, the stabilometry was carried out and parameters of stabilometry were obtained.
Results: The correlation between the indices of the BEA of the muscles and the stabilometric parameters mean that there is a close relationship between the dental and postural systems. According to the peculiarities of the integration (interrelation) of these systems, it can be stated that the dental as a postural sensor has a significant influence on the regulation of the postural balance in the sagittal and frontal planes.
Conclusions: Postural manifestations include the involvement of the dental system in the regulation of the postural balance in the sagittal and frontal plane for patients with compensated functional state. This information about functional state of the dental system is transferred to the centers of regulation of the postural balance. This is the pathogenetically role of the functional state of the dental system in the developing of postural disorders. The compensated functional state of the dental system has a positive influence of the postural balance.

POSTER SESSIONS 31–45

Poster Session 31 | 07.09.2018, 10:00 – 11:00 | Screen 1

Theme: Pedodontics

P139

Dental Retention by the Presence of Supernumerary Teeth: Integral Treatment

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Introduction: The presence of retained supernumerary teeth is one of the causes of alteration in the chronology of tooth eruption and malocclusion and may be linked to genetic and environmental factors. In this report, is presented the sequence of the treatment of a 9-year-old girl treated at the clínica del Círculo Argentino de Odontología.
Case Description: The reason for the consultation was the permanence of the upper primary incisors. The diagnosis by images (TAC) revealed the presence of 4 supernumerary teeth. Surgical psycho-prophylaxis was performed and the primary and supernumerary teeth were extracted. The aesthetic aspect is solved by replacing the pieces artificially while the orthodontic treatment is carried out, until the moment of the dental traction.
Discussion: The surgical treatment allowed releasing the eruption route of 1.1 and 2.1. The orthodontic treatment allowed the eruption of the retained teeth.
Conclusion: The multidisciplinary work allows planning and solving complex problems, intervening each specialty at the opportune moment. The containment of the girl and her parents allowed reducing the anguish generated by the lack of incisors.

P140

Morphea or Localized Scleroderma: Clinical Case Presentation

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Introduction: Morphea is a rare fibrosis disorder that affects the skin and underlying tissue in isolated regions of the body. There is an imbalance between the production and destruction of collagen, which can leave functional and aesthetic sequelae.
Case Description: A 16-year-old, female patient went to the Chair of Pediatric Integral Dentistry. The patient presented with this fibrous disorder on the left side of her face, affecting the temple, the preauricular, mandibular angle, gingival, and jugal mucosa area, and as a result, the position of the dental pieces in that area. Preventive treatment is performed: toothbrushing control, periodontal treatment with 12% chlorhexidine gluconate oral rinse. An orthopedic appliance is designed with an acrylate left vestibular area in order to limit the effect of muscle tension on dental and gingival tissues in a progressive manner. as a result, dental position improvement is observed, as well as healthy gingival tissues and equilibrium of the masticatory function.
Discussion: This case was chosen due to the low incidence of morphea development on the face and head; and how the evolution of this disorder can affect the health, position and function of dental pieces and underlying tissues.
Conclusion: Morphea is a type of scleroderma or fibrous disorder that develops on skin and underlying tissues. When it affects the face and perioral tissue it is important to perform preventive treatment and, if necessary, to make orthopedic appliances to limit the adverse effects of muscle compression on dental pieces and gingival tissue.

P141

Dental Caries and Dietary Habits in Babies

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Aim or Purpose: The aim of this work is to determine the dental status in 0–36-month-old children who went to the Chair of

Pediatric Integral Dentistry – FOUBA's Baby Clinic for their dental care, through spontaneous demand, during the year 2017.
Materials and Methods: This is a descriptive, retrospective cross-sectional study. The target population consists of 45 babies for which a dental history form was made, including a visual-tactile clinical examination. ceod's c component was calculated and dietary and oral hygiene habits were registered. The sample was divided into 4 age groups: 6/12 months, 12/18 months, 18/24 months and 24/36 months. The average of ceod's c component was obtained, as well as the percentage in the variables of dietary and oral hygiene habits.
Results: 62.22% of the population had dental caries. ceod's c component: 3.95 + 0.24. Age groups that were affected by caries: 12–18 months (n = 6) 33.33%, 18–24 months (n = 9) 33.33% and 24–36 months (n = 27) 85.18%. 86.66% of the parents took care of their children's oral hygiene themselves. 57.7% did it after dinner or before going to bed. 82.22% consumed sugary foods or beverages.
Conclusion: In this population, 62% of the kids aged from 0–36 months had dental caries, the age group from 24/36 months was the most affected (85%).

P142
Suction Habits, Lactation and Malocclusion in 3-To-5-Year-Old Children
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Aim or Purpose: To determine the prevalence of malocclusions in 3-5-year-old children and link it with suction habits and the type of breastfeeding.
Materials and Methods: Prospective, descriptive and cross-sectional study. 64 preschool children from the Chair of Pediatric Dentistry, FOUBA were evaluated (2015–2017). It was considered malocclusion: overjet >3 and <1 mm, overbite >3 and <1 mm uni-bilateral and anterior crossbite. Nutritive sucking habits: breastfeeding and feeding bottle. Non-nutritive: thumb-sucking and pacifier. Data were collected from dental history, dental plaster casts and bite registration. Statistical data analysis was performed through percentages with CI at 95% Chi-square and Odds Ratio (OR).
Results: 50% (38.1–61.9) presented malocclusion. 25% (16–36.8) crossbite, 60.9% 1–3 mm overjet, 17.2%= 0 mm, 10.9% > 3 mm, 10.9% negative overjet. 45.3% 1–3 mm overbite, 23.4% > 3 mm, 15.6%= 0 mm, 15.6% open bite. 56.9% (43.3–69.5) with bottle-feeding presented malocclusion. There is a significant association between bottle-feeding and malocclusions ($p < 0.05$; OR: 4.4 [1.2–16.6]), and between breastfeeding and pacifiers ($p = 0.43$).
Conclusion: Half of the kids presented malocclusion: crossbite and overbite being the most frequent. There is significant association between breastfeeding <6 months and the use of pacifiers. Bottle-feeding was presented as a risk factor for malocclusion.

P143
Follow Up of School Patient with Dentoalveolar Trauma
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Introduction: Premature loss of a permanent tooth in early adolescence due to trauma requires intermediate rehabilitation to reestablish esthetics and function, accompanying the growth and development of the dental arches.
Case Description: We herein present the management of the emergency situation and ensuing complications of dentoalveolar trauma due to luxation in a 7-year old patient, with a comprehensive and personalized treatment plan involving placement of a multiple removable space maintainer shaped and adapted with resins.
Discussion: Our results confirm the importance of clinical-radiographic follow-up, as well as the impact of tooth loss due to dentoalveolar trauma on the patient.
Conclusion / Clinical Significance: Dentoalveolar trauma must receive immediate care and clinical and close radiographic follow-up according to severity.

Poster Session 32 | 07.09.2018, 10:00 – 11:00 | Screen 2

Theme: Prevention and Periodontal Diseases

P144
Comparative Study of Plaque Index: Different Educative Materials and Frequency
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Aim or Purpose: The aim of this study was to compare the plaque index after the application of two educational materials in different time intervals.
Materials and Methods: The study was approved by the Ethics Committee of the Universidad Peruana de Ciencias Aplicadas (CEI/ 095-10-16). A hundred students from 10 to 12 years old from a public school were evaluated. The sample was divided into four groups, which received educational interventions on oral health in different periods of time (every 15 or 30 days) and educational material (physical or multimedia) for 3 months. Subsequently, the index of the dental plate was evaluated monthly according to O'Leary plaque index.
Results: The analysis showed statistically significant differences in the four groups when evaluating the plaque index after performing the educational interventions ($p < 0.01$). In the last control, plaque values of 20.2 and 19.4 were found for groups educated every 15 days with physical and multimedia material. In the groups with interventions every 30 days with physical and multimedia material, values of 15.3 and 15.2 were found, respectively, with no significant difference between the latter results.
Conclusions: Better results were obtained in the groups educated every 30 days, regardless of the educational material applied.

Educational interventions in school every 30 days can provide a feasible and almost equally effective alternative as other interventions for the care and improvement of dental hygiene in children.

P145

New Calcium Selective Sensor for Early Diagnosis of Periodontal Disease

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Aim or Purpose: The aim of the present study was to obtain a selective sensor suitable for directly assessing calcium ions (Ca^{2+}) level in the gingival crevicular fluid (GCF).
Materials and Methods: PVC based calcium selective membranes were prepared from the following composition: 32% PVC, 67% plasticizer, 1% calcium ionophore and lipophilic agent. The selective membrane composition was cast directly over one of the two available gates of a microelectronic device and calcium sensor was immobilized inside a 1.5 mm diameter flexible tubing. The obtained devices were checked for surface condition and then they were encapsulated using UV curing polyimide. The second gate was used as Ag/AgCl reference electrode. Before their usage, the selective devices were conditioned for 48 h in 10^{-2} mol/L calcium chloride solution. Preliminary electrochemical measurements, at room temperature, were performed for device calibration and dynamic characteristic determination. Calcium level was measured *ex-vivo* on GCF collected, from 10 healthy and periodontal disease patients, using micro capillary pipette (Bioethics Committee approval #20998/2016) and compared to the spectrophotometer assessment.
Results: The calcium sensor was characterized by a short answer time (43 s) with a liner range values between 4×10^{-5} and 5×10^{-1} mol/L. The *ex-vivo* Ca^{2+} level values measured in the GCF were between 5.65×10^{-3} and 6.82×10^{-3} mol/L, similar to spectrophotometer measurements.
Conclusions: Due to its small dimensions, the obtained calcium sensor is introducing itself as a possible reliable tool for assessing the evolution of periodontal disease based on the direct measurement of calcium level into the periodontal pocket.

P146

Mouthwash Efficacy in Prevention of Periodontal Disease in Orthodontic Patients

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Aim or Purpose: The purpose of study was to evaluate the efficacy of mouthwashes as a secondary hygiene product for periodontal inflammatory conditions prevention in patients with fixed orthodontic appliances.
Materials and Methods: The study included 30 patients, receiving orthodontic treatment using brackets. Written informed consents for participation in a study were obtained. Patients were divided in 2 groups. In group 1 oral hygiene was maintained using basic techniques. In group 2 oral hygiene was maintained using mouthwash solutions with colloidal silver nanoparticles. Oral hygiene level was evaluated using OHI-S, while periodontal tissues condition evaluation was conducted using CPI. To identify periopathogenic flora, gingival sulcus plaque samples were obtained and studied using PCR technique.
Results: Results showed, that patients with fixed orthodontic appliances (brackets) oral hygiene was evaluated as unsatisfactory. Periodontal tissues inflammations were detected and 70% of patients presented Porphyromonas endodontalis, Porphyromonas gingivalis, Aggregatibacter actinomycetemcomitans, Treponema denticola, Prevotella intermedia, Fusobacterium nucleatum, Tannerella forsythia.
Conclusions: The use of mouthwash, containing nanoparticle colloidal silver during individual oral hygiene led to the reduction of inflammatory diseases in the periodontal tissues by 78%. Thus, we can conclude that mouthwash, based on silver nanoparticles is an effective preventive and therapeutic measure in cases of periodontal inflammatory conditions.

P216

Blood Levels of CRP During Maintenance Therapy of Periodontitis

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Aim: The study intends to compare CRP levels and clinical parameters of periodontal status in patients with adult periodontal disease in onset and follow-up examinations during maintenance phase of periodontal therapy.
Material and methods: A random sample of patients aged 34–59 years (n = 48) with periodontitis classified as adult periodontitis based on the onset clinical and x-ray examination was involved in the longitudinal study of the effect of maintenance therapy. During the onset and follow-up examinations the CRP capillary blood levels were measured (QuikRead go CRP + Hb; Orion Diagnostica Oy, Finland) and the content of periodontal pockets were screened for periodontal pathogens (Micro-IDentâ-Plus; Hein Life Science, GmbH, Germany). Clinical parameters used for assessing periodontal status – mean bleeding score, periodontal pocket depth and clinical attachment loss in all periodontally involved teeth. These data were collected I the onset of maintenance therapy and then three times in 6-months intervals. Clinical and laboratory data were mutually compared, and their time related changes tested.
Results: All parameters tended to decline in the course of maintenance therapy but only in bleeding score this trend was statistically significant. CRP levels well correlated with bleeding score in follow-up but not with pocket depth and attachment loss.

Conclusions: Capillary CRP thus seem to reflect well the range and activity of periodontal inflammation while its correlation with parameters of periodontal breakdown were apparent only in advanced cases of disease and in cases of failing maintenance therapy.
Acknowledgement: Charles University Project PROGRES No. Q 29.

Poster Session 33 | 07.09.2018, 10:00 – 11:00 | Screen 3

Theme: Epidemiology

P147
Temporomandibular Disorders in An Adult Population in Northern Norway
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Aim or Purpose: The aim of this present study was to assess the prevalence symptoms and signs indicative of TMD in an adult population in Tromso County in Northern Norway. A further purpose was to analyze possible associations between TMD and certain factors, including socio-demographic and socio-economic factors, dental status, and self-perceived general and oral health.
Materials and Methods: Data were collected from a randomized population (20–79 years). of the 2 909 invited adults, 1 946 (66.8 %) had a complete questionnaire and clinical examination regarding TMD issues. The data was collected through a structured questionnaire and a clinical examination. Questions regarding symptoms of TMD-related pain, such as headache or symptoms from the TMJ were addressed. Clinical measures were based on the protocol described by Helkimo. Chi-square test was used to analyze differences between groups. Test for trend was made by using ANOVA. Logistic regression analysis was performed to investigate differences between presence of TMD-related clinical signs and self-reported symptoms and different background variables.
Results: Higher prevalence of TMD was found among women (12.6%) compared to men (4.7%) ($p < 0.05$). Headache was by far the most common self-reported symptom, women 13.3 and men 5.9 % respectively ($p < 0.05$). There was an association between TMD-related signs and symptoms to poor self-perceived general health.
Conclusions: TMD should be considered as part of a general health problem. It is important that professionals from dentistry collaborate with other disciplines such as medicine and psychology. The importance of a holistic approach is thus underlined.

P148
In Vitro Evaluation of Antimicrobial Activity of Ozone
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Aim or Purpose: The aim of this study was to evaluate the in vitro antimicrobial potential of ozone against *Enterococcus faecalis* and *Streptococcus mutans* strains.
Materials and Methods: Ozone was produced by a custom-made bench top generator. Both ozone gas and ozonized water in different times of exposition were tested against *Enterococcus faecalis* (ATCC 29212) and *Streptococcus mutans* (ATCC 25175) reference strains. The minimum inhibitory concentration (MIC) was determined according to the Clinical & Laboratory Standards Institute (CLSI), with some modifications. Ozonized water was sparged for 30, 60, 120 and 240 s and ozone gas was applied in vitro by a silicon hose for 30, 60, 120 and 240 s as well. Bacterial growth, sterility medium, chlorhexidine and linezolid were used as controls, and the assays were done in triplicate.
Results: Both ozone gas and ozonized water presented activity against the bacteria tested. The activity was proportional to the time of the exposition to the ozone.
Conclusions: Ozone presented antimicrobial activity against both reference strains used, and its potential can be explored against other microorganism and to perform in vivo tests.

P149
Knowledge and Practices Regarding Treatments of Dentists in Mexico
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Aim or Purpose: To identify knowledge regarding prevention and frequency of preventive practices performed by dentists in Mexico.
Materials and Methods: This was a cross-sectional study including dentists in Mexico with current clinical practice. A structured questionnaire was used to recollect data about knowledge and frequency of preventive treatments. Also, data as sex, age, area of clinical practice (public/private), among others traits were gathered.
Results: 236 dentists participated; mean age 36.5(SD 12); 57% female; 47% practice general dentistry; 89% mentioned that dentistry should be focused on prevention instead of threatening; 87% rated their knowledge of prevention as excellent/good and 76% performed preventive treatments always/frequently. Regarding practices (always/frequently): 25% evaluate saliva quality, 69% use sharp explorer to detect caries, 51% promote self-exploration to identify malignant lesions. About knowledge: 57% mention that toothpaste should be used since the first tooth erupts; 54% recognize that alcohol consumption is associated with oral cancer, 54% consider that fissure sealants can be placed even when there is an incipient lesion; 49% mention that fluoride is only recommended for children; 48% believe that quantity and quality of saliva has

an important role in oral health and 54% think that using a sharp explorer when probing surfaces of newly erupted tooth or where there is an initial caries lesion can damage enamel.
Conclusions: Although most of the population believe dentistry should be focused on prevention, preventive treatments are not commonly performed. Exists certain lack of knowledge and there are misconceptions about clinical preventive practices. Actions are needed to improve current knowledge regarding preventive dentistry.

P150
Epidemiological Survey of Caries in Rio de Janeiro West Zone
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Aim or Purpose: An epidemiological caries survey in programmatic area 5.1 covered by Rio de Janeiro Family Health Strategy for 4 years compared with 2010 dmf-t/DMF-T survey before FHS implementation.
Materials and Methods: Research was developed in 2014 and performed in the Programmatic area 5.1 in Rio de Janeiro after Ethics Research Committee of the Municipal Health Secretariat approval, number 32883914900005279. Examinations were performed on 68 individuals aged 5–12, 15–19, 35–44 and 65–74, at their homes using dmf-t/DMF-T index. Treatment need and interviews on perception of oral health were based on National Survey of Oral Health–SB Brazil 2010 methodology using WHO criteria. Data analysis percentages, tabulated in SPSS version 17.0 program, were used in caries-free calculation and dmf-t/DMF-T. Mann-Whitney U test was used to compare DMF-T values in this study and 2010 database. Decay-free was compared using chi-square. Proportions of dmf-t and DMF-T components were compared by *Z* test.
Results: There was a decline of caries-free individuals (*Z*-test). In 2010, 70.6% were caries free and 55.5% in 2014. At 12 years old and in the 15–19 age groups, the filling component has increased, test $Z = 2.01$(p: 0.045); 35–44 years, there was no change, test $Z = 3.18$(p: 0.000). Increased need of treatment was observed from 2010 to 2014 $X^a = 50.25$(p: 0.000), including extractions.
Conclusions: A comparison of two epidemiological surveys in the same area, after four years of FHS implementation, demonstrated worse oral health scenario. This shows the need to adopt the Health Promotion Dental Model over the Surgical Restorative Model, decreasing dmf-t/DMF-T and promoting health.

Poster Session 34 | 07.09.2018, 11:15 – 12:15 | Screen 1

Theme: Public Health

P151
Oral Health Related Locus of Control and Education
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Aim or Purpose: Assess Health related locus of control (HLoC) and its impact on education, among individuals aged 35–44 of Lahore. HLoC refers to people's attribution of their health to personal or environmental factors. Researchers use HLOC construct using three dimensions: Internal: Individuals take full responsibility of their health, Powerful others: individuals rely on powerful others (health professionals, other factors) for their health and Chance: Individuals consider external factors (fate, luck) being responsible for their health.
Materials and Methods: A cross sectional survey was carried out with a randomized sample of 200 in a shopping mall of Lahore, Pakistan over a period of 10 days in October 2017. Both genders aged 30–50 years participated in the survey. The data was collected using a self- administered questionnaire, comprising 12 questions, covering all HLoC domains (Internal, Chance and Powerfully oriented), and, details of the education of the participants (10^{th} grade, 12^{th} grade, Bachelors, Masters and Illiterate). Data entry, frequency distribution and Chi-Square tests of significance were analysed using IBM SPSS version 20.
Results: Significant relationship was seen between Education and domains of health-related Locus of control: Powerfully oriented domain showed fate ($p = 0.001$), good fortune ($p = 0.002$) and illness by accident ($p = 0.003$) determining health whereas External domain such as surroundings ($p = 0.001$) impacted health.
Conclusions: Education level (higher literacy and illiteracy) plays a major role in an individual's decision to improve their Oral health.

P152
Dentoalveolar Anomalies in Children with Sensory Deprivation of Vision
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Aim or Purpose: Children with sensory deprivation of vision are persons with significant visual impairment. Sensory deficiency itself can't have a negative impact on the health or intellectual abilities of the child, but it affects the learning activity, mood and relationships with other children. The aim is to study prevalence of dentoalveolar anomalies in children with sensory deprivation of vision.
Materials and Methods: The study was carried out in specialized educational institutions in Krasnoyarsk for blind and visually impaired children. A total of 238 children aged 3 to 18 were examined. of these: 47 children (19.74%) – temporary bite, 117 (49.15%) – exchangeable bite and 74 people (31.09%) – a permanent bite.
Results: Dentoalveolar anomalies were revealed in 73.1% of the examined. In the temporary bite, 44.68%, in the interchange bite – 76.92%, in a constant bite in 85.13% of the examined. In children with formed permanent bite, the anomalies of the individual teeth were 79.6%, the abnormality of the structure of hard tissues was 30.8%. Violation of the timing of eruption of permanent teeth was observed in 16.7% of cases, violation of the sequence of teething was detected in 3.4% of schoolchildren. Anomalies in the number of teeth were determined in 3.8% of patients. The peculiarities of verbal disturbances are revealed – tongue-tied, incorrect pronunciation of whistling and hissing sounds and some other.

Conclusions: The prevalence of dentoalveolar anomalies in children with sensory deprivation of vision exceeds these indices in conditionally healthy children of the corresponding age groups.

P153

Social Determinants of Health and Risk for Oral Diseases

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Aim or Purpose: To evaluate the correlation between Social Determinants of Health (SDH) and risk for oral diseases of individuals selected for treatment in the dental service of a private parastatal institution in the Brazilian state of São Paulo.
Materials and Methods: From March 2016 to February 2017, 7,710 people aged 16–91 years old were selected for dental treatment, based on a SDH form, whose answers stipulated a score that determined, from the highest to the lowest score, the decreasing order of social vulnerability of these individuals and allowed prioritizing the most vulnerable. In a second stage, all these people underwent clinical evaluation regarding the risk for dental caries and periodontal disease and the need for dental prosthesis. Treatment was initiated by the most severe cases. Pearson's linear correlation coefficient was applied to measure the possible relationship between the variables maximum score, minimum score, mean score and median score, and the number of patients classified as high risk and moderate risk over the study period.
Results: The number of patients classified as high risk showed a strong or very strong positive correlation (at least 0.88) in relation to all variables. The number of patients classified as moderate risk showed a strong positive correlation (at least 0.76) in relation to all variables.
Conclusion: Results suggest that the higher the number of patients classified as high risk and moderate risk for oral diseases, the greater the social vulnerability of the population analyzed under the established criteria, reflecting the impact of SDH.

P154

"Mondfulness 2.0": Promoting Optimal Tooth Brushing Through An Artistic Performance

Allard Medema[1], Yvonne Buunk-Werkhoven[2]
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Aim or Purpose: To emphasize that tooth brushing can be relaxing habit behavior and to improve implicit learning (priming) of optimal tooth brushing with an artistic audio approach called "Mondfulness 2.0".
Materials and Methods: In 2015, during Dutch performing arts festivals, "Mondfulness" was introduced in an artistic installation: a sea container with two washbasins and travel toothbrushes. In the art performance the creative audio-experience included a playful tooth brushing message in which someone is taken by the voice of the artist in a poetic-theatrical way. In 2016, after a professional tailoring and framing of the message by an oral hygienist, the adapted version of the audio-experience, "Mondfulness 2.0" emphasizing that tooth brushing can be a relaxing experience was introduced through a phone number. The artistic "Call Allard" approach included several options, for example a joke, a moment of silence, and even a small talk with the artist himself.
Results: In 2015, it appeared that the experienced artistic performance was highly enthusiastic appreciated by 589 visitors. In 2016 and 2017, the "Mondfulness 2.0"- "Call Allard" approach was provided by social media, e.g., Facebook or dental websites, and also incorporated in prestigious national exhibitions, such as the Dutch Design Week (Eindhoven) and The Museum Night (Amsterdam). 1383 unique callers participated, including respondents for the option "Mondfulness 2.0".
Conclusions: Experience with or participation in "Mondfulness 2.0" may improve public' awareness; it may encourage their home oral self-care. Research to refine the effects of this artistic performance is necessary.

P155

Impact of Socioeconomic Inequality of Parents on Children's Oral Health

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Aim or Purpose: To assess the differences in the socioeconomic status of parents forming inequalities in oral health in children.
Materials and Methods: A clinical oral examination of 100 children aged 12 years who applied for dental care and self-administrated questionnaire survey of parents accompanying children was conducted. The socio-economic status of parents was assessed by level of education, income and occupational social class. The analysis of the data was carried out using the methods of descriptive statistics. To establish the relationship between the investigated parameters, the Pearson correlation coefficient (r) was used. The differences in mean values were analyzed by ANOVA.
Results: The objective indicator of the children's oral health – the number of damaged teeth – was correlated with the level of income (−253; $p = 0.011$) and level of parents' education (−228; $p = 0.022$). The average values of the hygiene index of children differed significantly when compared by level of education and income of parents ($p = 0.009$, $p = 0.007$), respectively. The interrelation between the level of education of parents and their oral health literacy was also revealed ($r = .311$, $p = 0.002$).
Conclusions: Socio-economic inequalities of parents manifest in different ways in the children's oral health. The level of parent's education and their income have a significant impact on the oral health of children. The development of oral health in a child is largely determined by the socioeconomic status of the family.

Poster Session 35 | 07.09.2018, 11:15 – 12:15 | Screen 2

Theme: Periodontics

P156

Alternative for Achieve To Tension-Free Primary Closure in Maxillary Increase

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Aim or Purpose: Determine the clinical effect of a new flap design in the augmentation of defects of the maxillary ridge to achieve the primary tension free closure.

Materials and Methods: 8 patients (4 male and female) who need a procedure to increase the maxillary ridge: 4 for dental implant treatment (hard tissue augmentation) and 4 for fixed prosthesis treatment (soft tissue augmentation). A palatal flap of apical reposition is used to achieve the primary closure of the tension-free wound. They are evaluated from the immediate post-operative to 1 month (after 5 months in hard tissue). We evaluate, displacement of the mucogingival junction, loss of vestibule, tension and tear. For the processing and analysis, descriptive statistics and measures of central tendency were used. For the final comparison of the pre- and post-surgical results, the Student's T test was used for related samples.

Results: It found that there is no significant statistical difference between pre and post treatment ($p = 0.05$), using this new flap proposal. We found that the procedure easier to perform in large edentulous areas and its more complicated in the molar area.

Conclusions: The null hypothesis is accepted, which refers to the fact that this new flap design does not present a difference between pre and post treatment to create a primary closure free of tension. Maintaining the mucogingival junction without alteration, presence of vestibule, without presenting tension or tear of the flap that protects the hard or soft grafts. Allowing that the unwanted effects of the coronal reposition flap do not occur.

P157

Comparative Study of PRA According to Lang & Tonetti and Trombelli Algorithms

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Facultad de Odontología de La Universidad Andrés Bello, Departamento de Periodoncia, Santiago de Chile, Chile

Aim or Purpose: Compare the periodontal risk assessment of two different algorithms, according to Lang & Tonetti and Trombelli, in a given population.

Materials and Methods: Using a data base of periodontal patients between 20 and 80 years old from the clinic of the Periodontics Graduate program at Universidad Andres Bello during 2013 and 2014, 111 periodontal patient's records were selected to calculate the Periodontal Risk Level according to Lang & Tonetti and Trombelli algorithms methods. The exclusion criteria included records with incomplete or absent x-rays data.

Results: Of the 111 cases analyzed, Trombelli algorithm classified 100% of the cases as low risk and Lang and Tonetti classified 4.5% as low risk, 33.3% as medium risk and 62.2% as high risk. It was statistically demonstrated that they are not concordant with each other.

Conclusion: Results obtained revealed a lack of consensus between the two algorithms methods. Lang and Tonetti algorithm has a simpler system of variable registration and only uses 3 categories of periodontal risk, however it tends to overestimate risk. Implications of this could suggest different clinician approaches towards periodontal risk level of patients and consequently prognosis, treatment and monitoring. To avoid such differences, it is recommended to use risk assessments as guidance and in the future generate more universal algorithms.

P158

Photosensitizer PH Used in APDT Influences Periodontal Healing in Rats

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Aim or Purpose: This study histomorphometrically evaluated the influence of the photosensitizer pH used in antimicrobial photodynamic therapy (aPDT) for the treatment of experimental periodontitis (EP).

Materials and Methods: 120 male Wistar rats (Rattus norvegius, albinus) were divided into 4 groups: EP – EP induction and no treatment; SRP – EP induction and scaling and root planning (SRP); aPDT-pH7: EP induction and SRP + aPDT with methylene blue (MB) pH 7.0; aPDT-pH1: EP induction and SRP + aPDT with MB pH 1.0 (Ethics Committee protocol n° 00310-2016). EP was inducted by the placement of a cotton thread around the lower left first molar. Ten animals per group/period were euthanized at 7, 15 an 30 days after treatment. Semi-serial histologic sections were stained with hematoxylin and eosin for histomorphometric analysis. Data were statistically analyzed.

Results: Higher percentages of bone in the furcation region (PBF) were observed in group aPDT-pH1 at 7, 15 and 30 days (66.33%±7.35; 75.05%±2.66; 78.4%±3.65, respectively) when compared with groups EP (27.09%±6.85; 31.33%±7.41; 29.67%±5.68, respectively) and SRP (58.61%±10.46; 57.03%±10.46; 63.24%±5.58, respectively). Group aPDT-pH1 resulted in higher PBF than group aPDT-pH7 at 15 and 30 days. Both groups aPDT-pH7 and aPDT-pH1 showed less inflammation and more advanced periodontal healing than group SRP.

Conclusions: It can be concluded that the use of MB – pH 1 as the photosensitizer in aPDT promoted higher PBF when compared with MB – pH 7.0. Therefore, MB – pH 1.0 is a safe and effective photosensitizing agent in aPDT for the treatment of EP.

P159

Adjunctive Green Tea for The Treatment of Experimental Periodontitis

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Aim or Purpose: The objective of this pre-clinical evaluation was to assess the effects of adjunctive topical green tea extract (GTE) for the treatment of experimental periodontitis (EP), over the expression of IL-1ß, TNF-α and IL-10.
Materials and Methods: One hundred and twelve 3-month-old rats (*Rattus norvegicus, albinus*, Wistar) 250–300 g weight were divided in 4 groups. NEP (sham) (n = 30): simulation of EP; EP (n = 30): EP induction; SRP (n = 30): EP, following scaling and root planning (SRP) and topical irrigation with sodium chloride 0.9% (SS); EP/GT (n = 30): EP following SRP and topical irrigation with GTE. The euthanasia consisted of ten animals per group/period and performed at 14, 22 and 37 days after simulation (sham) of induction (EP, SRP and EP/GT). The collected specimens were fixed in 4% buffered formaldehyde solution and submitted to histological processing and paraffin embedding. Semi-serial sections 4 μm thickness were headed for immunoperoxidase technique for detection of IL-1ß, TNF-α and IL-10.
Results: The group SRP/GT showed lower immunolabeling pattern of IL-1ß and TNF-α, and greater immunolabeling pattern of IL-10 at 22 days when compared with groups EP and SRP.
Conclusions: Within the limits of this animal experimentation, it can be concluded that topical GTE adjuvant to SRP was capable to reduce expression of pro-inflammatory cytokines and increase expression of IL-10, and therefore, control inflammation and to halt experimental periodontitis.

Poster Session 36 | 07.09.2018, 11:15 – 12:15 | Screen 3

Theme: Esthetics

P160

Aesthetical Optimization of Conoid Side Incisives: Case Report

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Introduction: Among the factors that may interfere in the aesthetics of the smile are the dental anomalies, such as the presence of conoid teeth, when the dental crown is cone-shaped, often affecting the upper lateral incisor. An effective solution for this type of disharmony and tooth size is the direct adhesive restorative treatment, characterized by preservation of tooth structure, shorter treatment time, reversibility of treatment and possible addition or decrease of the material, if necessary.
Case Description: A 29 years old female patient attended at the Potiguar University dentistry clinic, complaining about the aesthetics of her smile. After anamnesis and clinical exams, dental deformities were observed in the lateral incisors (12, 22). During the planning the patient was chosen to reanatomization of dental elements 12 and 22 with the use of nanohybrid composite resin E1, DC1 and E2 (SDI) by the direct technique using the silicone guide.
Discussion: A direct composite resin reanatomization technique was used due to the need for preparations, which constitutes an acceptance with the principles of restorative dentistry. It was used nanohybrid resins because they present more cost-benefit for glossy, polishing and clinical longevity.
Conclusion / Clinical Significance: It is concluded that the use of composite resins in esthetic restorations for reanatomization of conoid teeth is a viable and effective esthetic treatment. The evolution of the direct restorative materials gives us the possibility of immediate transformation to the smile, positively influencing the self-esteem and life.

P161

Aesthetic Rehabilitation in Anterior Teeth: Association of Techniques

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Introduction: The harmony of the smile is directly linked to architectural factors of the teeth added to periodontal aspects. Changes in the color and shape of the teeth contribute to the disharmony of the smile. In dentistry, minimally invasive procedures may contribute to orofacial aesthetics. Gingivoplasty, tooth whitening and reanatomization with composites, are efficacious in oral rehabilitation.
Case Description: A female patient, 26-years-old, during the clinical examination was diagnosed with "gingival smile", changes in color and shape in the upper anterior dental elements. In the planning, gingivoplasty was chosen from canine to canine; followed by associative whitening protocol with an office session (hydrogen peroxide 35% – SDI) and home bleaching (carbamide peroxide 22% – SDI). After bleaching, a DB1, E1 and E2 nanohybrid composite (SDI) reanatomization was performed on the teeth 11, 21, 22 and 23.
Discussion: Gingivoplasty was the initial surgical technique of choice to correct disproportion between tooth and gingiva. This surgical procedure has widened the range of possible restorative procedures. The associative technique of home and office whitening was used because of its clinical efficacy and safety. The remodeling with nanohybrid composite was chosen to be minimally invasive and ensure excellent polishing, strength and aesthetics.
Conclusion / Clinical Significance: In the present case, a multidisciplinary approach was used, associating methods and techniques for the harmonization of smile in the facial context. Planning was

essential for clinical success, which allied the therapeutic possibilities with the patient's wishes. The treatment was concluded surpassing the expectations reported by the patient.

P162

Aesthetic Solution in Anterior Teeth with Different Substrates

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Introduction: This study aims to present a clinical case of aesthetic rehabilitation. It has been proposed the use of veneers combined with crowns in lithium disilicate and the application of botulinum toxin type A. This planning made possible an aesthetic, biological, and functional restoration of an effective form for the patient.

Case Description: A 36-year-old female patient showed upper anterior teeth with metal-ceramic crowns and metal cores, dark composite resin facets, darkened endodontically treated teeth, gingival smile, different gingival heights and lack of alignment of the teeth. After anamnesis, clinical, radiographic and photographic examination, with clarification and concordance, it was decided to perform facets in E-max (lithium disilicate) on the teeth 14, 13, 12, 23, 24 and crowns in E- max in the teeth 15, 11, 21, 22. The color difference of the substrates, where we previously had metal post and cores, teeth 15 and 21, and teeth that received fiber post and cores 11, 12 and 22, was the great challenge of the case, thus opting for aesthetic copings capable of mimicking the bottom.

Discussion: The choice of color and materials were essential, for providing conservative procedures and aesthetic excellence. Finally, we restored the height of the lips, using neuromodulators, botulinum toxin type A, giving the patient a harmonious and natural smile

Conclusion / Clinical Significance: The use of thin veneers of E-max, as well as the use of aesthetic copings mimicking the background in the crowns, were of great value for the aesthetic Harmony of the patient, giving predictability in the planning of future cases.

P163

Dental Bleaching Associated with Diastema Closure: Case Report

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Introduction: It can be affirmed that due to the dental dimming, there is a great demand for the whitening of it. This procedure offers the patient a conservative, simple and low-cost treatment to improve facial aesthetics. Another major complaint is the presence of anomalies in the size and shape of the teeth, such as diastema, consisting of space or absence of contact between two or more dental elements.

Case Description: A 28-years-old male patient sought dental care at Potiguar University complaining about the appearance of her smile. After the clinical examination, there was a yellowish coloration in the dental elements and several diastema involving the upper and lower teeth. Subsequently, the possibilities to solve the case were discussed, which resulted in the dental bleaching in the office with bleaching gel (35% hydrogen peroxide – SDI) and homemade (9.5% hydrogen peroxide – SDI), as well as aesthetic remodeling with A1 and B1 nanohybrid composites (SDI).

Discussion: The dental whitening technique was used to unify the dental shades and to achieve a better restorative result. The closure of diastemas was proposed to improve the aesthetics of the patient, using the nanohybrid composites due to the smaller polymerization contractions allied to better postoperative results; guaranteeing a high aesthetic performance and relatively affordable cost.

Conclusion / Clinical Significance: Given the above, it is concluded that the use of dental bleaching, associated with the diastema closure protocol, was effective in reestablishing the aesthetics of the smile, guaranteeing an increase in patient self-esteem and satisfaction.

P164

Aesthetical Anatomy Rehabilitation of Anterior Teeth Treated Endodontically: Case Report

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Introduction: The constant search for aesthetically beautiful smiles has been increasingly involved in the search for treatments that allow the refinement of facial appearance. Teeth with color changes due to intrinsic or extrinsic factors cause big aesthetic discomfort to the patients, cooperate for low self-esteem and become motives for most of the patients' complaints.

Case Description: A 20-year-old female patient sought dental care with a complaint about the aesthetics of the smile. Color changes were observed in the central incisors treated endodontically and anatomical variation of the dental elements. During the planning, it was decided to carry out dental bleaching (hydrogen peroxide 35% – SDI) associated with home care (carbamide peroxide 22% – SDI). After the bleaching protocol, reanatomization with nanohybrid composite DC1 and E1 (SDI) was performed on the teeth 11, 12, 21 and 22.

Discussion: The associative whitening technique was performed because they presented better scientific / clinical results and with that, the uniformity of the dental chrome was provided. At the end of the bleaching process, reanatomization was performed by the direct facets technique with nanohybrid composites DC1 and E1 (SDI) in the elements 22, 21, 11, 12, because they have good mechanical strength, excellent finish, and useful life.

Conclusion / Clinical Significance: The reanatomization was successfully completed, conferring aesthetic and functional gains to

the patient. Patient approval was obtained by restoring self-esteem and, consequently, biopsychosocial trust and health.

Poster Session 37 | 07.09.2018, 12:30 – 13:30 | Screen 1

Theme: Pedodontics

P165

Diagnosis and Treatment of Osteolytic Lesions in Pediatric Dentistry

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Introduction: Cysts are defined as abnormal cavities with fluid or semisolid content, delimited by an epithelial membrane and capsule of connective tissue. They differ from pseudocysts, which are not lined by epithelium. Both are osteolytic lesions.
Case Description: Case 1- A 10-year old patient presenting with pain; clinical examination revealed swelling and inflammation at tooth 7.5 which showed penetrating caries and pathological tooth mobility. Radiographic examination showed a unilocular radiolucent lesion with well-defined borders, tooth resorption of primary tooth and displacement of the corresponding tooth germ. Histopathological diagnosis: Inflammatory cyst. Treatment: Marsupialization. Long term clinical and radiographic follow-up.
Case 2: 13-year old patient. Clinical examination showed swelling that crepitated on palpation, and persistence of tooth 8.5. Radiographic examination revealed a unilocular radiolucent image with well-defined borders, and the lesion involving the permanent tooth. Histopathological diagnosis: Dentigerous cyst. Treatment: decompression. Clinical-radiographic follow up.
Case 3: A 7-year old patient with swelling in the left region of the mandible, onset 2 months prior to consultation. Radiographic examination revealed a radiolucent lesion with ill-defined borders in the apical region of tooth 3.6, with vital pulp. Histopathological diagnosis: Hemorrhagic or traumatic cyst.
Discussion: Several treatment options for the lesions presented here are described in the literature. Considering the age of the patients, a minimally invasive treatment, as is marsupialization, was chosen.
Conclusion: Patient age is also a determining factor when deciding the most suitable treatment for osteolytic lesions in children.

P166

A High Viscosity Glass Ionomer Cement (GIC) in Primary Teeth: 12-Month-Follow-Up

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Aim or Purpose: The aim of this study was to evaluate the ability of GIC to prevent caries lesions in margins of occlusoproximal restorations in primary teeth.
Materials-Methods: 177 primary molar teeth in children who were healthy, 4–7-year-old with score of 2 on Frankl scale, had Class I occlusion with dentin caries on approximal surface that didn't reach the pulp, appropriate for study standards, were included in this study which was approved by parents and Ethics Committee. Active caries lesion on primary molar teeth with clinical-radiological indications were excavated without local anesthesia and rotating devices. A high viscosity glass ionomer cement was placed on it. The restorations were evaluated according to the U.S. Public Health Service's (USPHS) criteria at the end of 1 year. Statistical analyses of the data obtained were analyzed using nonparametric-Wilcoxon test.
Results: The evaluations showed no statistically significant difference at the end of 12 months marginal discoloration, marginal adaptation, anatomic form and secondary caries ($p > 0.05$). The material didn't cause postoperative sensitivity in the applied surfaces, but 10% of restorations weren't successful in terms of retention of isthmus region. Radiographic evaluation didn't reveal any pathological condition including external or internal root resorption, radiolucency in bifurcation region, ectopic eruption of first permanent molar tooth, enlargement in periodontal space.
Conclusions: In this study were based on 12-month-clinical-radiographic evaluation of high viscosity glass ionomer cement applied atraumatic restorative treatment technique. This material can be used in small cavities that do not take pressure directly. However, GIC prevents seconder caries lesions in the margins of occlusoproximal of primary teeth because of fluoride release.

P167

Effect of Radiotherapy on Dental Development

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The effect of radiotherapy on dental development is a late sequel and its severity will depend on the patient's age, dose received and irradiated area. This manifests as: agenesis, hypodontia, short roots, enamel defects, microdontia, premature apical closure.
A patient diagnosed with sclero-nodular Hodgkin lymphoma in mediastinum and bone IV stage at the age of 8, received a chemotherapy treatment and 42 radiotherapy sessions in mediastinum and cervical area, with a cervical cumulative dose of 1080 cgy.
The patient was referred by his oncologist the next year, for dental consultation. Radiographic clinical examination was performed, and septic foci were eliminated by the extraction of primary teeth and inactivation of permanent ones.
The patient returned 6 years later and a new Panoramic X-Ray reflected the consequences of radiotherapy: microdontia of the third molars, premature apical closure of premolar roots, short roots and delayed eruption of the lower second permanent molars. Large cavities were also observed in the lower first permanent molars.
The specific chemo-radiotherapy treatments in pediatric patients result in an increase in their survival. Caries prevention, monitoring the development of the dental germs, and prevention of malocclusions, should be the guide when planning the dental treatment.

Poster Session 38 | 07.09.2018, 12:30 – 13:30 | Screen 2

Theme: Oral Health and Systemic Health

P168

Ultrasonic Axiography in Clinical Oral Diagnosis

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Aim or Purpose: The incidence of TMJ disorders has stimulated dentists to develop better methods to evaluate and treat these affections. TMJ disorders have become a problem for many patients who find only a low amount of pain relief in current treatments

Materials and Methods: A lot of 120 subjects (77 female, 43 male) presented for TMJ disorders, out of these, 70 had objective symptomatology and were included in the study (48 women, 69%; 22 men, 31%; age range: 16–39 years). The patients were clinically analyzed according to the protocol of Bohl C.F. and Knap F.J. The ultrasonographic examination was done using the with which we measured mouth opening capacity, protrusive movements and right and left laterotrusion.

Results: After muscular palpation examining, pain was found at the following sites in our cohort: pterygoideus lateralis muscle (52 patients), temporal muscle (22 patients), pterygoideus medialis muscle (17 patients), masseter muscle (11 patients). 27 patients presented no pain. The mean mouth opening capacity was 46.8 mm. (range: 20.1–61.2 mm). Out of the 70 subjects, 25 presented a normal functioning temporomandibular articulation (36%), 10 had unilateral dysfunction (14.67%) and 7 had bilateral dysfunction (9.33%).

Conclusions: Aside from the clinical examination, ultrasonographic axiography represent a valuable tool for the diagnosis of TMJ disorders, allowing for a modern treatment.

P169

Prevalence of Periodontal Disease in Institutionalized Patients with Neurodegenerative Diseases

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Aim or Purpose: The accumulation of bacterial biofilm in the dental plaque structure predisposes the individual to periodontal diseases (PD) (LOE et al., 1986). PD, on the other hand, has been associated with the pathogenesis of systemic diseases such as pneumonia, cardiopathy, diabetes, among others (KINANE & BOUCHARD, 2008). Individuals with special needs are at particular risk for these systemic diseases (ANDERS & DAVIS, 2010). The Santa Luzia Association houses 107 patients with multiple disabilities. as they did not receive daily oral hygiene, the findings of this study allowed the evaluation of the manifestation of PD in its natural evolution in a population at risk.

Materials and Methods: This research was approved according to the opinion of the ethics committee 1,868,206. The epidemiological survey diagnosed PD evaluating probing depth and clinical attachment level (CAL) in 6 sites per tooth. Searches were carried out in the medical records to identify pathologies, comorbidities, use of medications and a degree of autonomy through the criterion of Braden (BERGSTROM & BRADEN, 2002) used by the nursing team. The software Prism 5 (GraphPad Software Inc., La Jolla, CA, USA) was used for statistical analysis.

Results: Neurodegenerative diseases such as Parkinson's and Alzheimer's were associated with severity of PD. Co-morbidities such as diabetes and hypertension were associated with higher probing depth and CAL means.

Conclusions: Clinical studies are needed to establish the biological plausibility of the association between neurodegenerative diseases and PD.

P170

Ossification of Posterior Atlanto-Occipital Membrane with Craniomandibular Disorders

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Aim or Purpose: To reveal the ossification of Atlanto-occipital membrane using teleroentgenography. To study the mechanism of appearance of this pathology.

Materials and Methods: The presence and type of ossification of Atlanto-occipital membrane was studied in 95 patients (55 selected in accordance with inclusion criteria). with the help of teleroentgenography in the lateral projection, analysis and evaluation of the results was carried out in the program Audaxceph advantage.

Results: The Analysis of x-ray data showed that bone shackle detected in 59% of cases (15% and 44% of complete and partial ossification of the rear Atlanto-occipital ligament, respectively) of the total number of patients. The study revealed a statistically significant relationship between ossification of the posterior atlas-occipital ligament and protrusion of the lower incisors and an increase in the magnitude of the craniocervical angle

Conclusions: The presence of abnormalities in craniomandibular relationships, such as inclination of lower incisors, underdeveloped lower jaw, hyperactivity of masticatory muscles, increased craniocervical angles may be accompanied by a positional displacement of the mandible posteriorly, which causes a compensatory forward position of the head and the formation of adaptive changes in the segments of the spine. These abnormalities lead to ossification of the membrane. Thus, the obtained experimental data allow us to consider the rear heterotopic ossification of the Atlanto-occipital membrane as an acquired defect related to the presence of deviations in the whole system of craniomandibular areas.

Poster Session 39 | 07.09.2018, 12:30 – 13:30 | Screen 3

Theme: Others

P171

Performance of Autoclavable High-Speed Dental Handpieces Made in Taiwan

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Aim or Purpose: We aim to evaluate and compare four types of handpieces under clinical conditions.
Materials and methods: Handpieces were assigned to dentists in a randomized sequence. Dentists used each model for 1 month and subjectively evaluated its performance by completing a questionnaire. The handpieces were cleaned and lubricated according to the manufacturer's instructions and sterilized by steam autoclave following each use. A detailed record was kept for each handpiece, documenting the number of sterilization cycles and specific problems noted. Data were analyzed to demonstrate the comparative operating performance of each model.
Results: The rating of handpiece performance is a complex task, subject to many limitations and caveats as discussed in this report. on the basis of our findings, however, we concluded that all the handpiece models are acceptable for clinical practices.
Conclusions: We also concluded that, with current infection control practices, handpiece made in Taiwan has relative high performance compared with another three models.

P172

The Pink Teeth Phenomenon in Forensic Dentistry

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Aim or Purpose: The color changes suffered by the teeth in certain conditions has been the object of different reports in the scientific literature, classifying them into intrinsic and extrinsic stains, depending on the origin or cause of the change in coloration. Among the intrinsic ones, which are those whose cause or origin resides inside the tooth or dental tissues, a phenomenon called pink tooth or pink teeth has been described, whose manifestations can occur in living subjects although it has deserved special attention in the forensic dentistry, when analyzing its appearance in corpses under circumstances of death violent for drowning or hanging.
Materials and Methods: A study was carried out on 50 teeth in vitro, seeking to reproduce the mechanism that modifies the color of the tooth, using blue ink.
Results: Diffusion through the dentinal canaliculi of the dye used was observed in the entire sample, changing the color of the tooth.
Conclusion: Although the mechanism of production of the phenomenon of the pink tooth is reproducible in vitro, it is necessary to develop new analyzes to arrive at results of greater certainty and correlate them with a probable cause of death in the forensic context.

P173

Botulinum Toxin as a Minimally Invasive Treatment for Gummy Smile

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Introduction: An exposure of the gum upon smiling beyond 2 mm is known as gummy smile (GS) and if often considered unattractive. The etiology of GS is described as: excess vertical maxilla; delayed passive dental eruption; muscles hyperfunctioning upper lip elevators. A new simple treatment for GS is Botulinum toxin type A (BT-A) injection. This case report described this non-invasive technique to decrease GS.
Case Description: A female patient with a gingival display of 4 mm during smile was unsatisfied and seeks for a non-invasive treatment. The patient was subjected to the bilateral therapy injection of 2 UI BT-A (Botox, Allergan) at one point on each side, in the lip elevator muscles. After 14 days of treatment patient presented a reduction of 3 mm in the exposed gingiva during smile, while still promoted smoothness in the facial lines in the nasogenian sulcus.
Discussion: Depending on the etiology of GS, different surgical treatments can be indicated. However, not all patients are candidates to long or invasive treatments. The BT-A can be a simple and non-invasive option of treatment. In this case report, this treatment option leaded to significant improvement in patient smile aesthetics with high satisfaction. In this case, only 2 points of BT-A was applied, confirming a hypothesis in the literature, which described that the increase number of injection points per side does not seem to lead to an improved aesthetic outcome.
Conclusion / Clinical Significance: Injection of BT-A for GS treatment provides an effective and minimally invasive therapy

P174

Do Losartan and Isoproterenol Affect Local RAS in Salivary Glands?

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Aim or Purpose: The aim of this study was to characterize local RAS alterations in major salivary glands of rats taking losartan or isoproterenol, compared to a control group.

Materials and Methods: Parotid, submandibular and sublingual glands were studied in these 3 groups (each, n = 7 Wistar rats – Ethical approval: CEEPA FOB/USP 015/2013). RT-qPCR was used for mRNA analysis (ACE, ACE2, AT1a, AT2, angiotensinogen, MAS); immunohistochemistry for targets localization (renin, ACE, ACE2, AT1, AT2 and MAS); proteomic analysis and SDS-PAGE gel for protein characterization. Data were statistically analyzed using ANOVA test; differences between groups were identified by Bonferroni's post-test ($p < 0.05$).
Results: qPCR – Parotid: isoproterenol diminished mRNA expression of most targets (exception: ACE, AT2); no significant difference between saline and losartan was detected. Sublingual: isoproterenol enhanced MAS mRNA and there was no difference between saline and losartan groups. Submandibular: greater expression of AT2, ACE and AT1a for saline group as compared to losartan and isoproterenol; AGT presented higher expression with isoproterenol treatment. Immunohistochemistry: targets were noticed specifically in ducts, acini and arterioles. Proteomic: AGT was found in parotid saline and losartan-treated pools; tonin was detected in all submandibular samples.
Conclusions: Losartan and isoproterenol evoked specific alterations in local RAS components in rat major salivary glands.

Poster Session 40 | 07.09.2018, 13:45 – 14:45 | Screen 1

Theme: Endodontics

P175
CBCT Scanning of Root Canal System in a Russian Population
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Aim or Purpose: Successful endodontic treatment requires a significant knowledge of root canal anatomy. The aim of this study was to evaluate the root and root canal numbers of permanent teeth in a Russian population using cone-beam computed tomography (CBCT) scanning.
Materials and Methods: 300 CBCT images of subjects were analyzed to study the anatomy of roots and root canal system of each tooth. The collected data were analyzed using IBM SPSS statistics software 22.0 version.
Results: The maxillary incisors and canines had one root with one canal in 100%. Maxillary first and second premolars had one root with two canals in 2.6% and 8.8%, respectively, and two roots with two canals in 91.3% and 73.5%, while mandibular first and second premolars were single rooted with one canal in 89.2% and 90.1%, respectively. Maxillary first and second molar had three separated roots and the prevalence of four canals (2 canals in mesio-buccal root and one canal in each disto-buccal and palatal root) was 59.8% in first molars and 51.5% in second molars. Mandibular first and second molars had two separated roots, and the prevalence of three canal system (2 mesial canals and 1 distal) was more often in both molars with 87.6% and 82.2%, respectively.
Conclusions: The root canal morphology varies greatly among populations and even in different individuals within the same population, thus, using CBCT scanning is an effective technique in investigating the root canal system.

P176
Dentin Demineralization and Fracture Resistance After Endodontic Irrigation Solutions Contact
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Some chemical agents cause alterations in the chemical structure of human dentin and changes the Ca/P ratio. This may affect the mechanical properties of dentin. The aim of this study was to *ex vivo* evaluate the effect of irrigating solutions on calcium and phosphates ions and on fracture dentin resistance. Segments of mandibular premolars roots were employed. Which were kept in contact with solutions for 5 min at 37°C used alone: distilled water (control), 1% NaOCl, 1% citric acid, 17% EDTA, 5% acetic acid and 5% maleic acid and for 2.5 min with each solution used combined (consecutively): 1% citric acid and then 1% NaOCl, 17% EDTA and then 1% NaOCl, 5% acetic acid and then 1% NaOCl, 5% maleic acid and then 1% NaOCl. Calcium ions (atomic absorption spectrophotometry) and phosphate ions (colorimetric method) in the solutions after the contact with the dentin segments were determined and fracture dentin resistance was evaluated (fracture resistance test). Data was analyzed using ANOVA, Tukey test and Pearson correlation tests ($\alpha < 0.05$). All the acid solutions eliminated significant calcium and phosphate ions ($p < 0.05$) but 5% maleic acid used alone or combined with 1% NaOCl was the solution that affected the inorganic dentin components the most while 1% citric acid reduced the fracture dentin the most. Under the presented conditions, there was a strong correlation between calcium and phosphate elimination ($r = 0.97$) but there was no correlation between elimination of calcium ions ($r = -0.01$) and phosphate ions ($r = -0.10$) with fracture dentin resistance.

P177
Comparison of Two Methods of Working Length Determination
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Aim or Purpose: The aims of this study were to determine the accuracy of Raypex5 and Root ZX electronic apex locators in

addition to digital radiographic method in determining the working length of palatal canal of maxillary molars and compare them with stereomicroscopic method as golden standard under the experimental condition.
Materials and Methods: In this in vitro experimental study, 40 first and second maxillary molars, which had no previous root canal therapy, caries, fractures, and resorption were selected. The crown of the teeth was shortened 3 mm with a diamond disk to reach the repeatable reference point. Actual canal length was obtained with a number 15 file (k file) and seeing it under the stereomicroscope in the apex region and slipping half a 0.5 mm of its length. The length of the teeth was determined with 2 apex locators Root ZX and Raypex5 in normal saline and also by digital radiography method
Results: No significant differences were detected between three methods in detection of mean length ($p > 0.05$). The accuracy of Raypex5, Root ZX and digital radiography were 90%, 92.5%, and 95% respectively with considering the difference of ±1 mm from actual length. When considering the difference of ±0.5 mm from actual length, the accuracy of these three methods were 57.5%, 50% and 52.5%, respectively.
Conclusions: The present study showed that all three methods were accurate enough and can be used effectively instead of each other.

P178
Accuracy of Two Apex Locators Using Files with Different Size
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Aim or Purpose: To compare the accuracy of two different electronic apex locator (EAL) using # 15 K file and an apical adjusted file (AAF) employing an in vitro model.
Materials and Methods: 25 single rooted mandibular premolars with mature apices were selected. Access cavities were prepared. To obtain the real working length (RWL) #10 K file was inserted into the canal until the file tip became visible at the apical foramen. The file was measured and from this length 0.5 millimeters were subtracted and recorded as the RWL. The samples were then embedded up in a mold filled with alginate. EAL Propex Pixi and Depex III were used. For electronic measurement, #15 K file and an AAF previously selected for each tooth were connected to both EAL. The root canal lengths obtained were recorded and subjected to statistical analysis.
Results: Wilcoxon test and students-paired t test were performed. The accuracy of Propex Pixi and Depex III within the range of ±0.5 mm from the RWL using # 15K file was in 84% (n = 21), and 88% (n = 22) respectively; using an AAF was in 88% (n = 22) with Propex Pixi and 88%(n = 22) with Depex III. No statistically significant difference was found between both EAL.
Conclusions: Both EAL showed an accurate working length determination using # 15 K file and AAF within the range of ±0.5 mm.

Poster Session 41 | 07.09.2018, 13:45 – 14:45 | Screen 2

Theme: Public Health

P179
Oral Mucosal Lesions in Crack and Cocaine Addicted Men
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Aim or Purpose: The aim of this cross-sectional study was to evaluate the prevalence of oral mucosal lesions (OMLs) and their association with crack/cocaine addiction in men.
Materials and Methods: Clinical oral examination was performed in 161 adult male patients at the School of Dentistry of the Federal University of Bahia, Brazil. Crack/cocaine addiction was determined from the medical records, and all drug-addicted individuals used both crack and cocaine. All participants (40 crack/cocaine-addicted men and 121 non-addicted men) underwent a systematic evaluation of the lips, labial mucosa, commissures, buccal mucosa and sulcus, gingiva and alveolar ridge, tongue, floor of the mouth, and soft and hard palate by a single examiner. Bivariate and regression analyses were conducted to assess for the presence of OMLs and the association of OMLs with crack/cocaine addiction.
Results: OMLs were found in 22 participants with a significantly greater prevalence in the crack/cocaine-addicted group (25% vs. 9.9%; $p = 0.01$). The most prevalent types of lesions in the addicted group were traumatic ulcer and actinic cheilitis (7.5% for each) followed by fistulae associated with a retained dental root (5%). After adjusting for covariates, crack/cocaine addiction was significantly associated with OMLs (OR = 2.87; 95% CI = 1.08–7.67; $p = 0.03$).
Conclusions: The prevalence of OMLs was higher in crack/cocaine-addicted individuals, and the addiction was significantly associated with OMLs. A public health program aimed at the early diagnosis and treatment of OMLs is vital to improving the oral health status of individuals addicted to crack/cocaine.

P180
Point of View of Students on Dental Prevention in Schools
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Aim or Purpose: Epidemiological studies realized in Morocco have shown that oral affections are present through all the examined populations with severe intensity. They represent a public health issue. In order to tackle this issue, the Ministry of Health established in 1990 a National Program for the oral health. This program aims to raise awareness and promote oral health in schools. For our institution, the program offers the opportunity to organize an internship on community prevention for our dental students. The aim of this study is to estimate the perception of this internship by our students

Materials and Methods: We conducted a survey among 5th year students. We used a questionnaire comprising 10 items. It was allocated to all students.
Results: Results have shown that this internship is very interesting and enriching for our dental students (93.9%). 97.3% of students have acquired skill on public health. However, a number of weaknesses were raised
Conclusions: Relevant suggestions were highlighted.

P181
Reasons for Teeth Extraction in São Gonçalo Municipality
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Aim or Purpose: The aim of these study was to investigate the reasons for tooth extractions in the municipality of São Gonçalo, located in the State of Rio de Janeiro.
Materials and Methods: The research was performed after the approval of the ethics committee of the Estadual University of Rio de Janeiro, number 02983412.4.0000.5259. The convenience sample, 68 Unique Health Service (SUS) users, answered a closed questionnaire about reasons of options for tooth extractions at the Medical Service Emergency in the municipality of São Gonçalo, in the year of 2017.
Results: In the sample analyzed, 76% had systemic diseases; 47% had a Dental Unit close to their homes but 80% decided for extraction due pain and a long list to dental appointment; 20% believe it is easier to extract than care; 95% wished to have all their teeth in their mouths.
Conclusions: Although the study population believes in the relevance of maintaining all teeth in the oral cavity, tooth extractions is the preferable treatment due toothache and the difficulty in a book dental appointment as well the lack of material to perform dental treatments, in the Municipality of São Gonçalo.

Poster Session 42 | 07.09.2018, 13:45 – 14:45 | Screen 3

Theme: Dental Erosion and Non-Carious Lesions, Caries

P182
Action of Anti-Hypersensitivity Dentifrice on The Enamel Color and Structure
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Aim or Purpose: To assess the change in color and roughness of the bovine enamel subjected to simulated brushing with dentifrices for dentin hypersensitivity associated or not with whitening agents.
Materials and Methods: 60 bovine incisor test samples were prepared and divided into 6 groups (n = 10), according to the treatment: Control Groups: GCN (water) and GCP (conventional dentifrice) and Test Groups: GT1 (anti-hypersensitivity dentifrice 1), GT2 (anti-hypersensitivity dentifrice 1 whitening), GT3 (anti-hypersensitivity dentifrice 2), GT4 (anti-hypersensitivity dentifrice 2 whitening). During the abrasion test, 100,000 cycles equal to 24 months of simulated brushing were performed, with intervals of 6, 12 and 24 months. The change in color and surface roughness analyses were performed before the simulated brushing and during its intervals. The surface roughness assessment was made in four different directions through the reading of the rugosimeter and the change in color was obtained by spectrophotometry (CIE L*a*b*).
Results: At the end of the 2-year period, there was a decrease in the pigmentation intensity of the specimens and all groups had more polished surfaces. The change in roughness was statistically significant at 6 months in all groups when compared to the GCN.
Conclusions: The anti-hypersensitivity dentifrices, associated or not with whitening agents, were capable of removing surface stains in bovine enamel and caused surface polishing of the enamel.

P183
Minimally Invasive Cavity Removal: Chemical-Mechanical Removal and Mechanical Removal
Marianela Morón Bulchi[1], Marina Del Carmen Alonso[1], Claudia Bonnin[1], Alejandra Rios Martinez[2], Ana Carolina Carranza Astrada[1]
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Introduction: In this day in age, the focus of dental restorations is on the preservation of dental structures, for which alternative methods of cavity removal have been developed. We carried out a review of techniques that partially remove infected tissue for the management of deep lesions of active cavities to provide a scientific basis for their use in indicated cases. Specifically, about the atraumatic restorative technique (ATR) and the chemical-mechanical removal using papain gel (Brix 3000 ©). We present two clinical cases using said techniques.
Case Description: We present two clinical cases, one using ART and the other chemical removal, in patients aged five and seven with temporary and early mixed dentition. Following pre-established steps for the execution of the tasks.
Discussion: The results of this review evidenced that the techniques, which partially remove infected tissue, have a biological basis, stop de evolution of the cavity process allowing remineralisation of the dentin promoting the adequate response of the dentin-pulp complex.
Conclusion: The incorporation of both techniques in everyday clinical labor to remove cavity tissue efficiently is feasible. Its success depends on a correct diagnosis and the strict adhesion to clinical

protocols. Therefore, we invite to ponder the implementation of these techniques searching to preserve dental structure, pulpal vitality and the permanence of the tooth in the mouth, reducing costs and improving oral health conditions and individual quality of life.

P184

Short-Time Exposure Activity of Medicines Prototypes for Caries Arrest

Alexander Butvilovsky

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Aim or Purpose: To study the antimicrobial activity with a short-time exposure of a number of prototypes of medicines for the teeth caries arrest.

Materials and Methods: The objects were 5 prototypes of medicines for the caries arrest containing silver and fluorine (№ 1, 3, 5) and silver, fluorine and iodine (№ 2, 4) as active components. The antimicrobial activity was determined by quantitative suspension method according to the approved methodology at a half-minute exposure using test-control microorganisms Candida albicans ATCC 10231, Lactobacillus ATCC 9595 and Streptococcus mutans. The antimicrobial activity was concerned significant when reduction factor had been equal to 5.0 or more.

Results: All the studied prototypes of medicines have high antistreptococcal activity (RF≥5.0) and widely varying effectiveness relative to lactobacilli (reduction factor from 2.70 to 6.46) with minimal value for prototype №2 (RF = 2.70) and the maximal value for sample №4 (RF = 6.46). The activity of samples № 1, 3–5 relative to lactobacilli exceeds that to streptococci, that is important for dentin caries arrest. All prototypes have high antifungal activity with a minimal reduction factor for sample №1 (RF = 5.15) and maximal for sample №4 (RF = 6.95), so all the prototypes (except №2) demonstrate a low possibility of dysbiotic reactions.

Conclusions: Experimental prototypes №1, 3-5 of medicines for teeth caries arrest have high and fast activity against Streptococcus mutans and Lactobacillus with higher reduction factors values according to lactobacilli, what indicates possibility of their usage for dentin caries arrest.

P185

Antimicrobial Photodynamic Therapy as An Adjunct for Dental Caries Treatment

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Aim or Purpose: Antimicrobial Photodynamic Therapy (aPDT) has recently been studied as a coadjuvant therapy against microorganisms of dental caries. Protocols for conservative caries removal has been used as an alternative method for dental caries treatment. So, this study aimed to evaluate the use of (aPDT) as an adjunct for partial removal of carious tissue (PRCT) of deciduous carious tissue evaluating its efficacy in reducing microorganisms.

Materials and Methods: A clinical and microbiological study was design including children with deciduous molars with active deep caries lesions (DCL). PRCT was performed and remaining dentin was treated with 100 μg/ml methylene blue solution (5 min) and then irradiated with a low power laser emitting red light (InGaAlP – indium gallium aluminum phosphide; λ = 660 nm; 100 mW; 300 J/cm^2; 90 s; 9 J). The colony forming units (CFU) count after PRCT and after PRCT + aPDT/mg of dentin were compared for total microorganisms, including *Candida* spp., the mutans streptococci group, *Streptococcus* spp. and *Lactobacillus* spp. The dentin was classified (color, consistency and humidity).

Results: The microbial reduction varied from 69.88% to 86.29% and was significantly observed for total microorganisms, mutans streptococci, *Streptococcus* spp. and *Lactobacillus* spp ($p < 0.001$). The dentin type did not influence reduction of microorganisms ($p > 0.05$).

Conclusions: The aPDT presents a promising future for clinical use as an adjunct for the reduction of microorganisms in PRCT of DCL in all kinds of dentin.

Poster Session 43 | 07.09.2018, 15:00 – 16:00 | Screen 1

Theme: Prosthodontics

P186

On The Road To Digital Rehabilitation

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A concept of prosthetic rehabilitation, non-invasive, with adhesive techniques, is introduced as a restorative alternative to patients with loss of non-carious tooth structure (erosion, attrition, abrasion). The diagnosis and planning of these cases is supported by digital tools, software for the digital smile design (DSD), assembly in virtual articulator, and computer-guided wax-up designs, and 3D printing. The introduction of these digital tools is marking a path from the physical to the virtual, optimizing the operative times. The patient presented with marked loss of dental structure, loss of the posterior sector and commitment of the previous guide. It began with the DSD through power point platform. The land was transferred and articulated models were made in the Artex articulator, which were transferred to the Map 400 scanner, conserving the intermaxillary relationship. By means of specific software, digital models and DSD were unified, for subsequent 3D printing of the wax-up. The mock-up was performed with bisacrylic resins. with minimal dental preparation and maximum preservation of the dental remnant, splints were made with CAD/CAM systems. The treatment of patients with dental erosion remains a challenge. An innovative approach called "Three Step Technique" has been developed by Dr. Vailati. This technique proposes a structured protocol to achieve complete oral adhesive rehabilitation with minimal preparation of the teeth. The use of

digital tools facilitates and accelerates clinical and laboratory steps.

P187

Multidisciplinary Treatment for Skeletally Class-III Malocclusion: Case Report (2 Cases)

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Introduction: Treatment of skeletal Class III malocclusions with numerous congenitally absent teeth is a difficult process for clinicians to resolve the esthetic and functional requirements. The aim of this case reports was to demonstrate the changes achieved by orthognathic surgery first, orthodontics and prosthodontic rehabilitation.

Case Description: Le Fort-I osteotomy with maxillary advancement were performed on 18 and 22-years old male patients with severe Class-III malocclusion with maxillary retrognathia. After surgery in 15 days, the fixed orthodontic treatment had started with bonding the brackets to both upper and lower teeth. In the subsequent approximately 10 and 11 months, orthodontic stabilization and finishing were performed in both cases. At the end of the fixed orthodontic treatment, deciduous teeth were extracted and implants (Nobel Biocare, Kloten, Switzerland) were placed. Non-Combined fixed prosthesis and implant supported fixed Zirconia bridges were fabricated for aesthetics.

Discussion: The results of the treatment demonstrated considerable changes in both hard and soft tissues. Class-III Malocclusions were eliminated by maxillary advancement surgery first at the beginning of the treatment, which the patients were pleased for esthetic and functional outcomes. Class-I molar and canine relationships with ideal overjet and overbite were achieved by the following orthodontic treatment. Finally, prosthetic rehabilitation provided a balanced occlusion and satisfactory esthetic smile.

Conclusion: Establishment of a functional occlusion and a harmonious facial appearance were achieved with multidisciplinary treatment in the patients. Surgery first approach can be proposed as an effective method for skeletally Class III adult patient if it's available.

P189

Polishing Protocols: Composite, Ceramics and Hybrids Materials

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Introduction: The aim of this study is to evaluate the materials and techniques involved in polishing three different dental restorative materials such as composite resin, dental ceramics (zirconia and lithium disilicate) and hybrid ceramics in dental office.

Description: Dental technicians are well trained in polishing the final restorations weather they are made of dental ceramics, composite resin or hybrid ceramics after they are milled by CAD CAM systems. The outcome of new techniques and materials left behind a lot of dental clinicians which are not aware of different effects of polishing to obtain desirable textures in different restorative materials.

Discussion: Different dental materials with different properties have to receive similar but different polishing protocols, but there is not an only one way or a unified protocol for executing final results.

Conclusion: Dental clinicians must be updated as well as dental technicians in order to properly treat different restorative materials when polishing protocols are carried out.

Poster Session 44 | 07.09.2018, 15:00 – 16:00 | Screen 2

Theme: Orthodontics

P190

Effects of Face Mask and RME on Pharyngeal Airway

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Aim or Purpose: The aim of this study was to evaluate changes in the pharyngeal airway (PA)dimensions of skeletal class-III malocclusion patients using a combination of rapid maxillary expansion (RME) and face masks (FM).

Materials and Method: 15-patients (7-female; 8-male) with Class-III malocclusion related to maxillary retrognathia, anterior and posterior crossbite and maxillar transversal deficiency (mean: 6.3 mm) were applied to banded RME appliances. RME was activated twice a day for 1-week and once a day until the desired expansion was achieved. The RME appliances were left in place during the retention periods of 4-months. Simultaneously, FM was started to use more than 16-h a day during 7-months. After using FM for 4-months with RME, patients were started to fixed orthodontics treatment. Cephalometric radiographs obtained before RME(T0) and after the end of using FM(T1) were evaluated. The dentofacial, craniocervical and oropharyngeal measurements including the narrowest distances in nasopharynx, velopharynx, oropharynx and hypopharynx were measured. Dolphin Imaging software (11.9 Premium, Italy) was used for the evaluation of all measurements. The differences between T0 and T1 were evaluated by paired sample t-test.

Results: A remarkable improvement of the facial aesthetic, Class-I molar and canine relation, acceptable overjet and overbite were obtained after RME and FM treatment. The increases in SNA and ANB angles were statistically significant in accordance with a mean 4.6 mm protraction of the maxilla. The increases in nasopharynx and velopharynx measurements were observed also significant in patients whose underwent combined RME and FM treatment.

Conclusion: Combined use of RME and FM has an impressive effect on maxillary advancement and increasing the dimensions of PA.

P191

Effects of Removable Appliance and Face Mask on Pharyngeal Airway

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Aim or Purpose: The aim of this study was to evaluate the changes in pharyngeal airway(PA)dimension of skeletal Class-III malocclusion patients using a combination of removable appliance(RA)with 3-way expansion screws and face masks(FM).
Materials and Method: The cephalometric radiographs obtained before RA applying (T0) and after the end of using FM (T1) of 12-patients (8-female, 4-male; aged: 9.3 years) with Class-III malocclusion related to retrognathic maxilla were evaluated. All patients with anterior crossbite and maxillar transversal deficiency (mean: 4 mm) were applied to RA and simultaneously, FM was started to use more than 16-h a day during 8-months. The screw activated once in a 5-days for 5-months until the desired expansion was achieved. Dolphin Imaging software (11.9 Premium, Italy) was used for the evaluation of the craniofacial and PA measurements. The dentofacial, craniocervical and oropharyngeal measurements including the narrowest distance in nasopharynx, velopharynx, oropharynx and hypopharynx were measured. The differences between T0 and T1 were evaluated by paired sample t-test.
Results: There was a dramatic improvement of facial aesthetic and functional requirements. After treatment, anterior and posterior crossbites were eliminated, a significant dentoalveolar change was obtained related to the protrusion of maxillar dentoalveolar region. The increases in SNA, ANB angles were statistically significant in accordance with a mean 3.8 mm protraction of the maxilla. The increases in upper PA dimensions were observed significantly.
Conclusion: Combined use of RA and FM has an effect to the maxillary advancement, marked improvement of the facial aesthetic and increasing the upper PA. This combination system can be used to correct the skeletal discrepancy in Class-III malocclusion with retrognathic maxilla in growing patient.

P192

Containment Requirement Depending on Biotype, Bad Occlusion And/Or Growing

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Aim or Purpose: The purpose of this study is to analyze if containment after treatment depends on the biotype, bad occlusion and/or growing.

Materials and Methods: Patients after treatment were analyzed and divided into different groups: A) Different biotypes: 1- Brachycephalic 2- Mesaticephalic 3- Dolichocephalic. B) Different types of bad occlusion: 1- Class I. 2- Class II 1st. Division. 3- Class II 2nd. Division. 4- Class III. C) Growing: 1- with remanent growing. 2- without remanent growing. Some patients with containment and without it were treated in each group.
According to this, three different non-parametrical test groups were formed with two blocks each one an analysis graph of each variable.
Data was analyzed under chi-square association tests, with a software called Soft Inc STATISTICA version VI (www.statsoft.com)
Results: According to collected data, biotype and bad occlusion are independent with containment indication.
Otherwise, the growing factor totally depends on containment.
Conclusion: From this study, neither biotype nor bad occlusion do not determine orthodontic containment indication.
On the other hand, if remanent growing is present, containment is necessary and more important.
Patients under growing age, need more containment time in their orthodontic treatments, independently on biotype and/or bad occlusion.

P193

Relationship Between Size of Mandibular Branch and Mandibular Bases Angle

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Aim or Purpose: The purpose of this study based on clinical experience is the analysis of the relationship between the size of the mandibular branch and Interbasal Angle B in brachycephalic, mesocephalic and dolichocephalic biotypes in order to discover in a single radiographic shot the signs that make the difference in the early detection of the type of facial and mandibular growth for the implementation of therapeutic possibilities.
Materials and Methods: A statistical analysis of cephalograms of Bjork and Schwartz of brachycephalic, mesocephalic and dolichocephalic patients of any race, both sexes, older than 18 years old measuring the size of the mandibular branch (Bjork) and Interbasal Angle B(Schwartz) were collected.
Results: According to the collected data there is an inversely proportional relationship between the size of the mandibular branch and Interbasal Angle B (Vertical relationship of the mandibular bases) in dolichocephalic and brachycephalic.
Conclusions: From this study it is possible to relate: Patients with posterior rotational growth (dolicho according to Ricketts) with a short branch and increased Angle B, predicting an unfavorable development for self-correction. Patients with anterior rotational growth (brachy according to Ricketts) with a long branch and Angle B decreased, generally favorable for the treatment. Therefore, it would be interesting to recognize it at early ages so as to encourage the right therapeutic in each case.

P194

Adult Treatment of Skeletal Class III with TADs

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Introduction: An adult female in her 40's came looking for treatment of her skeletal class III. She rejected orthognathic surgery
Case Description: This patient had all her teeth, presented a skeletal Class III with a −5° ANB and had a negative overjet and a negative overbite.
She had a constricted maxilla with complete cross-bite. Both canines and molars were in class III of 7 mm. Both arches presented crowding. The treatment began with 12 mm expansion in the maxilla with a dental mucous supported device. The lower third molars were removed and replaced with two 8 x 1.6 mm TADs. Anchored in TADs all lower lower dentition was distalized to class I molar and canine relation. After that all the other parameters like crowding, overjet and overbite were corrected. In the end of the treatment the smile became consonant.
Discussion: Having into account that the patient had rejected any kind of orthognathic surgery, the maxillary expansion was successful as well as the lower arch distalization. Maxillary expansion in adults usually is surgically done. Our option had some risks but we were able to manage them. The extraction of third molars was discussed with the patient, because the other option was the removal of the first lower premolars.
Conclusion / Clinical Significance: TADs are a valuable option in the distalization of the lower arch.

Poster Session 45 | 07.09.2018, 15:00 – 16:00 | Screen 3

Theme: Implantology

P195

Guided Bone Regeneration of Heterologous Graft Avoiding Autologous Grafting

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Introduction: The bone resorption of the maxilla in the anterior sector overcoming the logical measures for its implant rehabilitation, requires the realization of a guided bone regeneration.
Case Description: Anterior edentulous patient in the incisor area, presents very severe reabsorption in the palatal foramen sense and not in height, this means that the placement of implants for future rehabilitation is not allowed. For its treatment, a porcine heterologous osseous graft is made in block, fastened with fixation screws covered with platelet-rich plasma together with granular porcine bone tissue and covered by reabsorbable collagen membrane.
Discussion: The objective of the case is the increase in the width of the osseous tissue, reaching the desired measurements for the subsequent placement of implants, avoiding performing a second surgery that allows autologous grafting. In this way, it was possible to decrease surgical times and a better post operator of the patient.
Conclusion / Clinical Significance: Undoubtedly, autologous grafts have better reception in the area to be treated, but in this case, in which heterologous graft was chosen, the operative times and postoperative comfort of the patient have been prioritized.

P196

Presence of Metallic Components in Peri-Implant Fluid and Inflammation

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Aim or Purpose: To measure the Peri-implant Crevicular Fluid (PCF) composition in patients with implants and different prosthetic materials of known chemical composition: zirconia, noble metals and chromium nickel. To establish a correlation among PCF compositions and the prosthesis.
Materials and Methods: Complete medical history was made. Patients gave consent to participate in the survey, and the project was approved by FO-UNC Bioethics Committee No. 22 I. Fourteen PCF samples were collected with microcapillaries. The concentration of metals in PCF was determined by spectrochemical analysis using the X-ray fluorescence technique in the synchrotron facility of the National Synchrotron Light Laboratory in Campinas, Brazil. Statistical calculations were performed with the Wilcoxon test for independent samples.
Results: PCF corresponding to prosthetic components made with nickel chromium showed concentrations of NI, Cu and Zn in inflamed sites higher than in healthy ones ($p = 0.001$, 0.0007, 0.0002 respectively). For the prostheses made with noble metals, similar conditions were found for Ni Cu and Zn ($p = 0.03$, 0.01, 0.003 respectively) and statistically significant values were found for vanadium. Titanium was statistically significant ($p = 0.03$) for the zirconia prostheses.
Conclusion: Apparently, no similar studies have been reported in the literature. Although these findings showed the presence of different trace elements in the different prosthetic materials, more exhaustive analysis is necessary to obtain conclusions with a clinical projection.

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Alveolar Ridge Preservation Using a Novel Titanium Seal

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Introduction: This case report highlights the use of a novel in situ titanium seal, non-resorbable membrane composed of a thin layer of titanium, for alveolar ridge preservation.
Case Description: A 50-year-old female patient was referred by her general dentist for extraction of the mandibular right left molar and rehabilitation of the site with a dental implant. The

nonrestorable tooth was "atraumatically" extracted without raising a flap, and the socket was immediately covered with a titanium seal. The site was left uncovered without obtaining primary closure, in order to heal by secondary intention, only in 14 days the titanium was removed. After 12 weeks, the architecture of the ridge was preserved, and clinical observation revealed excellent soft tissue healing without loss of attached gingiva and good bone quality At reentry for placement of the implant, and primary implant stability was measured by final seating torque.
Discussion: The membrane aims to exclude epithelial and connective cells, providing formation and stabilization of the clot allowing tissue formation bone
Conclusion / Clinical Significance: The implant was successfully loaded 12 weeks after placement. Clinical and radiological follow-up examination at 1 year revealed stable and successful results regarding biological, functional, and esthetic parameters.

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Infection Internal of The Implants? New Concept of Disease: Endoimplantiasis
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Aim or Purpose: To verify the presence of infection or inflammation internal between the implant platform and the prosthetic connection, in the microgap region.
Materials and Methods: Were performed periapical radiography in ten clinical cases with implants. Hematoxylin and Eosin and Immunohistochemistry stain was used to investigate the inflammatory infiltrates in the microgap region. Reactions using anti CD 20, anti CD3, anti CD 45 antigen. The suggested nomenclature was based on the Standardized Nomenclature of Parasitic Diseases (SNOPAD).
Results: Positive labeling in all samples for CD3, CD20 and CD45 of chronic inflammatory infiltrate shows the mixed nature of inflammatory cells. It was found that the inflammatory cells found were predominantly T-lymphocytes, as evidenced by their CD3 positivity and they were found to be distributed mainly on the lamina propria that underlies the implant cover. All samples were positive for the presence of microorganisms.
Conclusions: The presence of an inflammatory response leads one to believe that we are facing an infection and not a simple contamination. Clinically the presence of a chronic inflammation found around the implants may justify bone loss around the implant, early loss of implant fistulas and microfistulas. We recommend the terms endoimplantiasis or endoimplantosis as nomenclature for this new hypothetical disease.

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Evaluation The Five Cement Reverse Torque in Dental Implants
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Aim or Purpose: Verify the reversibility of screwing of a prosthesis on a screwed / cemented implant, for this we verified in vitro reverse torque for the removal of the cemented prosthetic screw as 5 cements for internal implant use.
Material and Methods: We used 30 implants (Biomet / PYBranemark) fixed in the gypsum models and 30 metaloceramic prostheses, which were divided in 6 groups, all the prosthetic screws (Biomet / PYBranemark) were submitted to the initial torque of 32 Newtons of force. In 7 days, the reverse torque was measured. Group (0) no cement, Group (1) Cement based on temporary propolis, Group (2) Cement based on propolis definitive, Group (3) Cement based on zinc oxide eugenol and temporary chlorhexidine, Group (4) Cement the base oxide of eugenol zinc and definitive chlorhexidine Group (5) Cement based on definitive eugenol zinc oxide.
Results: There was no statistical difference between groups. In groups 2, 4 and 5 there were higher scores of reverse torque in relation to the groups 0,1,3.
Conclusions: The cements tested did not interfere in the reversibility of the prosthetic screw tightening at the tested intervals.