Thursday, 6 September 2018

WDC 2018 Abstract Book

FREE COMMUNICATION SESSIONS 13–27

and POSTER SESSIONS 16–30

FREE COMMUNICATION SESSIONS 13–27

Free Communication Session 13 | 06.09.2018, 10:00–11:00 | Cubicle 1

Theme: Epidemiology

FC049

Insecure Attentions in Dentistry in a Public Teaching-Service Institution, Colombia

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Aim or Purpose: To characterize epidemiologically the *Insecure Attentions in Dentistry* (IAD) according to different variables, in a public institution forming human resources in oral health in Medellín (Colombia).

Materials and Methods: A longitudinal and prospective study was conducted by means of the surveillance of the IAD reports in The Faculty of Dentistry of the University of Antioquia during 2015-2017. by the study purposes, a Google.docs instrument was designed (available upon request). We describe sociodemographic and clinical variables related to the IAD. Chi square tests were carried out in order to identify statistical differences. Ethical approval was obtained for the institution.

Results: During this period (2015-2017, 33 months), 541 IAD was reported. 65% of all reports were submitted in 2015. The highest frequencies of IAD occurred during the months of April-July 2015, August-September 2016 and August-September 2017. The most frequency of this IAD occurred in the child's clinic (N = 456; 84.3%). Regarding adverse events, they were reported more frequently by administrative staff, by women, by personnel >34 years, in postgraduate studies, in adult clinics, in female patients and in people aged 19 to 44 years. There were significant differences ($p < 0.05$) between the different types of IAD and the sociodemographic variables considered in the analysis and according to the period of occurrence of these attentions and the type of clinic ($p < 0.0001$).

Conclusions: There were differences in the frequency of AIO according to sociodemographic and clinic characteristics. The results show the need to continue working towards the consolidation of Monitoring and Epidemiological Surveillance Systems.

FC050

Risk Genotoxic by Use of Radiation in Oral Health

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Aim or Purpose: The aim of this study was to quantify the risk in EOP in the dental area (endodontics and prosthodontics) by use ionizing radiation chronically. There is a scientific disagreement about the amount of radiation used in the radiodiagnosis and it´s received in practice by the occupational exposure in the personal dental.

Material and Methods: Design, a comparative study (for in both groupsE:Ẽ) was carried out by one year ago, the sample was n = 80 subjects. The committee extern of CONCYTEG evaluated this project and financial (government instanced, with expert in the theme). The information was collected by occupational clinical history, time of use radiation/day/week, age, sex, and after we used biomonitoring by radiation (The biological risk of exposure to radiation is measured using the conventional unit rem or the SI unit sievert (Sv)), and biomarkers by DNA damage was assessed by use of the comet assay (alkaline single-cell gel electrophoresis), number of films taken/day/week.

Results: The average age was 19.6 years for Ẽ and for E was 50 years old. The radiation emission in the calibrated equipment was 1.578(Sv), the risk in E: Ẽ was 2:1. The migration of DNA in exposed subjects was significantly correlated with increasing years of occupational exposure that ranged from 4 years to 17 years, and migration was 19.4 μ to 66.4 μ. (chi 2, $P < 0.05$). (controlling for smoking and alcoholism negative).

Conclusion: This study found: the radiation ionization when added to occupational exposure, involves serious cell damage. and have important risks.

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FC051

Oral Health Outcomes for Maori Children in Tairawhiti, New Zealand

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Aim or Purpose: For several decades there was a progressive increase in improvements in oral health nationally. In the early 2000s it became apparent that these improvements were beginning to slow and even reverse in some parts of New Zealand. Inequalities became obvious between Māori, rural and low socioeconomic groups. The implementation of the Good Oral Health for All, For Life strategy was started in 2009 in Tairāwhiti and a study into dental caries rates for five-year olds revealed that while the five year old population group had improved oral health outcomes between the years 2009 and 2014, the inequalities increased between Māori and non-Māori for rate of dental caries. The current study on twelve-year olds is to understand if the inequalities have decreased.

Materials and Methods: A retrospective audit of dental caries data from the previous School Dental Service, now Community Oral Health Service (COHS) treating the Tairāwhiti region was analyzed for the two time periods 2009 and 2014.

Results: When comparing DMFT data for the 12-year-old population for the years 2009 and 2014, the disease trend shows a decline in the DMFT rate. In 2009, the overall DMFT was recorded at 0.96 and this reduced to 0.91 in 2014.

Conclusions: It can be concluded that the rate of dental caries reduced for twelve-year-old children when compared to the five-year old children between the years 2009 and 2014. The inequality gap also closed for the Māori population and children living in lower socioeconomic areas.

FC052

Oral-Dental Health Status of Kindergarten Children in Turkey

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Aim or Purpose: In Turkey pre-school education is provided by either private or governmental schools. Some municipalities may support kindergartens economically. Mobile kindergarten is a project which was supported by municipality to serve for 3-5-year-old children of lower income families. In this study effect of socioeconomic level to dental caries and oral health status were investigated among 3-5-year-old pre-school children by comparing private and municipal kindergartens in İstanbul.

Materials and Methods: Totally 290 children were assessed in present study. After taking ethical approval mobile kindergarten children (n = 166) and private kindergartens children (n = 124) were invited to dentistry faculty for oral–dental examination in 2016. A questionnaire was prepared to provide participating children's demographic information. Two calibrated dentists performed for clinical examinations of children. Caries experience was recorded with dmft index. Tooth staining, malocclusions such as cross-bite, anterior –crowding, open-bite and existence of permanent first molar were also recorded. This is a descriptive study. Statistical analyses were done by using SPSS 22.0 programme.

Results: While almost half of private kindergarten children (46.3%)had no caries, only 18.6% of mobile kindergarten children had no caries. dmft scores statistically significantly higher in mobile group (4.72) than private group (2.19) ($p < 0,05$). Gender had no effect on caries experience and malocclusion prevalence had no difference between groups (0.9%).

Conclusions: Dental caries was prevalent among 3-5-year-old kindergarten children, and most of the decayed teeth were untreated. Although caries prevalence of the children may be related to socio-economic background, malocclusions not.

Free Communication Session 14 | 06.09.2018, 10:00–11:00 | Cubicle 2

Theme: Pedodontics

FC053

Parental Satisfaction After Children's Dental Rehabilitation Under General Anesthesia

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Aim or Purpose: Dental treatment under general anesthesia is sometimes needed in case of patients with special needs, uncooperative or young children. The aim of this study was to assess the parental satisfaction and oral hygiene compliance after dental rehabilitation for their children under general anesthesia.

Materials and Methods: Records of all patients with full dental rehabilitation under general anesthesia by the same operator at Pediatric Dentistry Department for one year were retrieved from archive. Patients were called for follow-up and to participate in the study. Different treatment modalities for primary and permanent teeth were recorded as pulp therapy (pulpotomy or pulpectomy), stainless steel crowns, preveneered stainless steel crowns, zirconium crowns, composite restorations, amalgam restorations, pits and fissure sealants, extractions and space maintainers. Questionnaire was completed by parents recording their satisfaction regarding dental rehabilitation under general anesthesia and their compliance with oral hygiene measures. Statistical analysis was performed. Number, frequency and percentages for different treatment modalities were calculated. Percentage of parental satisfaction and oral hygiene compliance was assessed.

Results: A number of 150 children records were retrieved from archive. Most of the parents were satisfied with the dental rehabilitation under general anesthesia and stated that children were able to eat, smile with no pain and thus it affected their general health. Oral hygiene compliance was not satisfactory.

Conclusions: Dental rehabilitation under general anesthesia for children affects their quality of life. Oral hygiene instructions should be provided both orally and written for better compliance after general anesthesia and in follow-up visits.

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FC054

Hard Tissue Formation in Pulpotomized Primary Teeth with MCM-48, MCM-48/Hydroxy-Apatite

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Aim or Purpose: Pulpotomy is one of the most common treatments in pediatric dentistry. In spite of comprehensive research toward the proper medicament for pulpotomy, the ideal material has not been found yet. The aim of this study is to introduce two novel nanomaterials for pulpotomy in primary teeth and assessment their pulp tissue reactions and hard tissue formation ability in dogs.

Materials and Methods: 48 primary teeth in four Iranian hybrid female dogs with age 6-8 weeks, have been divided into four groups by simple randomization technique. Radiography was taken before treatment. Cervical pulpotomy was done under general anesthesia, pulp were covered by one of these materials: MCM-48 (Mobile Crystalline Material), MCM-48/Hydroxy-Apatite (HA), Mineral Trioxide Aggregate, Gutta Percha (as positive and negative control respectively) and filled with IRM and amalgam. After 6-8 weeks, teeth were extracted, and responses were evaluated histologically.

Data were analyzed by SPSS version 22 and statistical tests including: Kruskal-Wallis, Fisher's Exact Test, Spearman's correlation coefficient, Mann-whitney.

Results: There was no significant difference between four groups in severity ($p = 0.53$), extent of inflammation($p = 0.72$), necrosis ($p = 0.361$), severity($p = 0.52$), extent of edema ($p = 0.06$) and connective tissue formation($p = 0.03$). Frequency of parameters including, bone formation($p = 0.012$), extend of connective tissue formation($p = 0.047$), severity ($p = 0.02$) & extend($p = 0.01$) of congestion were significantly different. There was no bone formation in Gutta Perca group and the type of bone formation between other three groups showed no significant difference. ($p = 0.320$).

Conclusions: This study demonstrated that, MCM-48 and MCM-48/HA can be suitable alternative medicaments in pulpotomy for primary teeth due to ability of hard tissue formation.

FC055

Oxygen Saturation and Pulse Rate During Pediatric Midazolam Sedation

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Aim or Purpose: We aimed to examine if changes in oxygen saturation and pulse rate of pediatric patients during conscious sedation with midazolam and nitrous oxide are associated with child's behavior, midazolam dose, the type and duration of the treatment and demographic parameters.

Materials and Methods: This study was a retrospective chart review of consecutive pediatric patients, aged 2.5-12.5 years, who had undergone conscious sedation for dental treatment with oral midazolam (with or without nitrous oxide) between January 2011 and September 2015 at the Department of Pediatric Dentistry of Tel Aviv University. Oral midazolam was administered according to the patients' weight, either at 0.4 mg/kg, 0.5 mg/kg or at a maximum dose of 10 mg. In all cases pulse rate and oxygen saturation were monitored every 15 minutes during treatment.

Results: 147 sedation sessions (82 of females and 65 of males) were included in the study. Sedation was successful in 80% of cases. Children with poor behavior scores had statistically significant different mean saturation levels, albeit within normal range, during the treatment ($p < 0.012$) as well as a clinically significant higher mean pulse rate ($p = 0.0001$), compared to children with good or excellent behavior scores. Treatment duration, the type of dental procedure or the patients' weight were not correlated with the change in oxygen saturation or pulse rate during the treatment.

Conclusions: Poor behavior of pediatric patients does not affect oxygen saturation, but it increases the pulse rate of children under sedation with midazolam and nitrous-oxide.

FC056

Retrospective Study of Oro-Facial Infection in Saudi Children

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Aim or Purpose: To determine the distribution and management of oro-facial infection in children attending one of the major hospitals in Jeddah city, Saudi Arabia over a period of 12 months.

Materials and Methods: Data for the study were obtained through clinical records from children aged 2 to 14 years old who presented for treatment of orofacial infection at the emergency dental department of the military hospital in Jeddah city during a 12-months period.

Results: 94 patients (33 females and 61 males) with oro-facial infection visited the hospital during the period of the study. The most common odontogenic infection was found to be dental caries (88%) in these children. The primary posterior teeth (84%) were considered to be a major source of infection. One of the most commonly affected teeth was the primary first molar (34%), followed by the primary second molar (31%). Six children were hospitalized, out of which 4 of them stayed less than 4 days in the hospital, thus indicating a short length of hospital stay. The most common treatment was antibiotics as 93% received a type of antibiotics.

Conclusions: The most common cause of odontogenic infection was dental caries which has been treated with antibiotic prescription and dental procedures. with correct diagnosis, antibiotic treatment and appropriate timing for surgical or dental interventions, rapid resolution of the infection is expected.

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Free Communication Session 15 | 06.09.2018, 10:00–11:00 | Cubicle 3

Theme: Oral Surgery

FC057

Study the Influence of Sound Vibration in Vitro

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Aim or Purpose: This research aims to evaluate the in vitro influence of the force of sonic vibration in cultures of human osteoblastic cells.
Material and Methods: The ultrasound device was used to apply wrist forces to accelerate tooth movement and bone remodeling. It is similar to a retainer provided by a small motor in the holder of a simple dental shaper used in dental offices whose frequency is slightly low, up to 2 Hz. The cell remained in an incubator at 37 ° C in a humid atmosphere, comprising 95% of air and 5% carbon dioxide. The growth medium was replaced every 2-3 days and the progress of the cells in culture will be evaluated by phase microscopy with cultures grown under polyethylene (plastic), which will serve as control. The cells were submitted to the following procedures: cell division experiments, growth and viability, as results presented statistically relevant differences, the group of cells stimulated by the sonic apparatus a viability similar to the control group and with the accompaniment a higher growth, with the elevation of interleukin 1 and 17 levels when compared to the control group, in the 7, 14 and 21-day measurements.
Results: The application of the sonic force is an alternative for the stimulation of bone growth.

FC058

Applications of Botulinum Toxin in Dentistry

Roman Smucler[1], Janka Jencova[2], Andrej Jenca[2]
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Aim or Purpose: We use today botulinum toxin A and B mostly in the aesthetic medicine, but many other specialists use it as well, incl. Dentistry. We can study some papers experimenting with new indications very frequently. The use of botulinum toxin in the Dentistry is a relatively new option with little or no pre-gradual training. This presentation aims to summarise current knowledge in this emerging field and compare it with our clinical data from studies which we provide the last 20 years.
Materials and Methods: A search of MEDLINE, EMBASE, bibliographies of published systematic reviews was performed. We provided 500 000 treatments in the last 20 years over, mostly in the aesthetics but we analysed ten indications specific for dental and head and neck surgery with groups of 3260 consecutive patients.
Results: We have very few randomised studies to make final guidelines in many indications, but our subjective and objective finding is showing promising results. Especially personal feelings of patients are very significant. It is an interesting coincidence with recent studies about the influence of botulinum toxin on human psychology.
Conclusions: Botulinum toxin offers new exciting treatment possibilities. Botulinum toxin should be part of undergraduate and postgraduate teaching.

FC059

Preoperative Radiation Effect on Wound healing in Oral Surgery

Stefan Schultze-Mosgau
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Aim or Purpose: The effect of preoperative radio-or radiochemotherapy on wound healing disorders following oral surgery is reported in a contradictory way. Although there is a lot of knowledge on radiation induced wound healing disorders from animal models there are no investigations on human patients so far.
Our prospective study aimed at clarifying the effect of radiotherapy on clinically apparent on oral surgery and on correlating them with radiation induced extracellular matrix (ECM) remodeling.
Materials and Methods: Healing of 114 oral surgery procedures was monitored in a prospective study and correlated with different anamnestic features, like diabetes and radio-or radiochemotherapy using multivariate regression. During the operation connective tissue biopsies were harvested from the mucosal tissue and analyzed for Transforming Growth Factor (TGF) 1-expression by means of western blotting as well as Tissue Inhibitor of Matrix-Metallo-Proteinase (TIMP)-1 and Matrix-Metallo-Proteinase (MMP)-1 by immunohistochemistry and histomorphometry.
Results: History of radio-or radiochemotherapy was the only factor significantly ($p = 0.032$) predicting free flap complications. Radiotherapy resulted in a significant increase in TGF-1 ($p = 0.021$) and TIMP-1-expression ($p = 0.024$), while MMP-1-expression was not significantly altered.
Conclusions: Radiotherapy alters ECM organization prior to surgery and is a predictor for wound healing disorders. This alteration impacts significantly on the wound healing following oral surgery in the preirradiated field.

FC060

Single Puncture Arthrocentesis in Unilateral Temporomandibular Joint Disorders

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Terna Dental College, Department of Oral & Maxillofacial Surgery, Navi Mumbai, India

Aim or Purpose: The aim of our study was to evaluate the short-term efficacy of the single puncture arthrocentesis technique.
Materials and Methods: 16 patients (10 female & 6 male, age group: 30 to 50 years) & were included in the study. Two 18

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gauge bended needles joined with silver soldering to create a Y shape with bevel facing outwards were used for the procedure. Patients were evaluated for maximal mouth opening, lateral excursion, pain at rest and pain during function(VAS). The average follow-up period was 8 weeks.
Results: In 13 of our patients, an average follow up of 2 months, showed marked improvement in mouth opening and joint function with significant reduction in pain.
Conclusions: In our experience the single puncture arthrocentesis technique was found to be very effective in the short term for treatment of unilateral temporomandibular joint disorders. The cost effectiveness of it being an outpatient procedure performed under local anaesthesia and the idea of just a single puncture made this technique more acceptable to the patients.

Free Communication Session 16 | 06.09.2018, 11:15–12:15 | Cubicle 1

Themes: Prosthodontics & Implantology

FC061
Fabrication of a Bar-Supported Overdenture without Dismounting the Bar
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Introduction: This clinical report presents the fabrication of a bar-supported mandibular overdenture of a 76-year-old female patient referred to İstanbul University Department of Prosthodontics for renewal of A 10-year-old overdenture supported by 2 implants and bar attachment. Since the bar-system was clinically acceptable and the renewing of the bar attachment needs a procedure requiring extra time and cost, a repair technique by retaining bar in the mouth and just renewing the overdenture was planned.
Case Description: Clinical examination revealed that cemented bar-supra-structure was clinically acceptable thus without dismounting the bar, mandibular impression was made using a customized acrylic tray with polyether impression material. Before casting the model, the space inside the impression that corresponded to the bar supra-structure was poured with an acrylic based material. After this step, dental stone was poured to the impression and a hybrid cast made of acrylic and dental stone was obtained. At finishing, the overdenture and bar-mounted on the combined model using a soft-relining material was applied.
Discussion: The recent literature exhibits a high success rate for mandibular overdentures. Despite this, overdentures need maintenance and renew. The renewing of the bar-supported overdentures often requires bar replacement. But this procedure could be more costly and time consuming. if the bar is clinically acceptable, only fabrication of the overdenture may be preferred without renewing the bar.
Conclusion: This method of without dismounting the bar helps the patient to use the existing overdenture as an intermediate prosthesis until the delivery of the new overdenture.

FC062
Evaluating the Approach of Dentists to Precision Attachments
Gülsüm Ceylan[1], Şebnem Sarıoğlu Kurt[2]
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Aim or Purpose: The purpose of this study was to evaluate the dental professions approaches about oral rehabilitation of partially edentulous patients' treatment alternatives with removable partial dentures.
Materials and Methods: In our study we asked 250 dentists who are working in private dental clinics, university hospitals, public clinics and public hospitals in İstanbul and Corlu. We asked 15 questions about precision attachment types, precision attachment choosing reason, advantages and disadvantages, technical methods, factors about dental technicians' abilities, impression materials and impression techniques and complications.
Results: According to the results; the most preferred precision attachment types are extracoronal rigid (%35) and extracoronal resilient (%30) attachments. The cost of precision attachments does not affect dentists choices (%55) and esthetic factors are the most effective reason choosing the precision attachments (%91). Complications about the precision attachments are creating negative effects (%65) for dentists.
Conclusions: Dentists and dental technicians ability and cooperation are important factors about survival and success of removable prosthesis with precision attachments. This study could include more dentists and it could be more comprehensive if include dental technicians too.

FC063
Success of Restoring Depends on Right Treatment Planning?
Asha Samant
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Introduction: Patients requiring Prosthodontic Treatment presents with complex challenging problems and the dentists are often confronted with situations that preclude many options of managed care. Partially edentulous patients are frequently most challenging restorative patients in clinical practice. There is a myriad of treatment alternatives based upon number and location of remaining teeth, esthetic, and function. on the other hand, comprehensive diagnosis and astute treatment planning will provide the opportunity to deliver restorations of the highest quality and attain the goals of esthetic function and comfort. The problem restorative care then in fact becomes a pleasure for the patient, rendering enhanced quality of life.
Conclusion/Clinical Significance: 1. Will present complex cases, with problems of management. Several treatment options to advocate and implement for the optimum results will be discussed. 2. Pre-treatment management to train and educate the patient for final care will be shown for the better outcomes. 3. Final manage care of some finished cases will be presented. 4. Some failures resulting of inadequate treatment planning will be shown.

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FC125

Comparison of Tilted Implant Concepts with 3D Finite Element Analysis

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Aim: The aim of the study was to compare the stress in tilted implant concepts with variable diameters and numbers in the atrophic mandible using 3-dimensional finite element analysis.
Material and Methods: Four groups were studied. Group 1, 2, 3 included two distally tilted and two vertical titanium-zirconium implants with three different diameters (3.3, 4.1, 4.8 mm, respectively) and 10 mm in length. Group 4 consisted of posteriorly two short implants (4.1 mm in diameter, 4 mm in length) added to the Group 2. Bilateral oblique forces of 200 N were applied to the buccal cusp of first molar teeth with 45-degree angle to the long axis. Maximum and minimum principal stresses in the bone and the von Mises stresses of the implants were evaluated using Algor Fempro software.
Results: We observed that distally tilted implants showed higher von Mises stress values than vertical implants in all groups. Increasing diameters of the implants reduced the von Mises and minimum principal stresses in both implants' positions. In the presence of posteriorly short implants in Group 4, the von Mises stress values for both vertical and tilted implants were almost halved when compared to Group 2.
Conclusions: All in all, the stress values did not exceed the bone and implant resistance limits for all groups. The lowest stress values for tilted and vertical implants were obtained from the 4th model with short implant. Hence, we conclude that combining distal short implants with vertical and tilted ones decreases the cantilever effect.

Free Communication Session 17 | 06.09.2018, 11:15–12:15 | Cubicle 2

Theme: Public Health

FC064

Municipal Schools Free of Caries

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The Health Promotion and Disease Prevention programs in Public Health entities have been used for some time. The Health Direction of the Munic. of S.M. de Tucumán develops from 2011 to date a program of oral health aimed at children in schools and gardens, including restoration (PRAT). The goal is to decrease the incidence and prevalence of the disease to reach a population free of decay. Strategic alliances were made with private companies, dental institutions and with the Faculty of Dentistry (U.N.T.) Work is carried out on the school premises, including 1,500 children between 3 and 12 years old; lectures are given to parents, courses to teachers and professional health agents and students of the final mandatory practice (P.R.A.T). The attention is with four hands in classroom technique and conditioning. Teaching of technique of brushing. Index taking (C.P.O.D., c.e.o.d.), Application of fluorides, technique P.R.A.T. in the necessary and possible cases; referral to reference centers when appropriate. A dental sheet is made. The data is collected and recorded in spreadsheets designed for that purpose. The results represented in graphs. A sample taken from 558 students in 5 months reveals that the index c.e.o.d. of the gardens (low risk) are substantially lower than the primary schools. We found an increase in teeth without decay (P.R.A.T.). Oral Health programs that include minimally invasive techniques (PRAT) are effective and feasible to perform in school settings with optimal results. and that preventive and promotional actions should be reinforced with the school years.

FC065

Health as a Collective Construction. Unlearning To Learn. Challenges Involved

José Luis Rondini
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Aim or Purpose: - Build a more humane society that values and respects the dignity and rights, only in that environment can flourish a thousand forms of health. - Rethink a way of "building health" contemplating the needs and territorial realities that invite us to think, question, recreate, transform and transform ourselves. - Rebuild our reference scheme, find, generate new plots, links that support us, sustain, and help us to build collective projects to plan the hope with others.
Materials and Methods: Methods of strategic planning, popular education and affective networks. The participation and assumption of management and coordination of activities roles implies sustained processes of empowerment of the community and the institutions.
Conclusions: Our institutions and communities have learned a lot about how to work in difficult contexts. as complexity can only be successful with comprehensive, creative and innovative responses, the adverse has been, in many cases, a cradle of innovation and creativity. Explore on the associative form of health promotion initiatives, refers to a relevant strategy to offer collective responses to problems that have a social origin, considering the most profound causes, the determinants and not only the most superficial manifestations. as time goes, this is revealed as the only way to be effective in the search for solutions and to promote social cohesion within the communities.

FC066

The Four Legs of Good Table

Nilda Estela Bustos
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Introduction: The close relationship of the Infant - Family - Education - Health areas in primary health care is complex and difficult, but

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worth the commitment. The persevering and active participation of the involved actors, to the benefit of the current health state, not only the oral health of the minor, but his overall health in the future.

Purpose: This study is intended to show the results obtained from the Promotion, Prevention and Education measures to infant's oral health, with a strong relationship of health - education - family for his benefit. Different data were analyzed for this purpose, over the condition of oral health in the population studied from the total sample of 1238 children between 2 to 5 years of age. In 16 municipal institutions. The following data collection was analyzed: oral pathologies in maternal and pre-kinder rooms, social protection, origin of drinking water and its tenor of fluoride in each institution and peripheral area. A map was made indicating the location of each institution, source of drinking water and its tenor of fluorine (water well or home network), and finally the prevalence and incidence of caries (ceo-d). The results obtained of this evaluation show the importance of promoting oral health prevention measures and the communication to other decision-making levels to produce epidemiological changes in the current and future state of the population health.

Conclusion: So that measures are sustainable it is important the continuous and persistent action of the 4 participating actors: Infant-Family-Education-Health.

FC067

Importance of Maternal and Infantile Health Community and University

Ildefonso Ishikawa

Asociacion Argentina de Odontologia Para Niños, Asociacion Odontologica Argentina, Sociedad Odontologica Argentina Para Bebes, Argentina

Aim or Purpose: The maternal and child clinic is important for the application of preventive and diagnostic measures that dentistry must carry out. The socio-economic cultural reality influences the dental situation, in order to carry out the personalized Clinical Care Program of the Patient (P.A.C).

Materials and Methods: Recognize the management of the clinical condition of the pregnant woman, according to the cycle of her pregnancy and the risk of serious periodontal and socioeconomic risk. Implement an atraumatic and painless dental clinic with minimal invasion. Contribute to the training of professionals capable of diagnosing, preventing and controlling problems related to the oral health of children in the early childhood (0 to 3 years).

Results: Training for the management of the baby in the dental clinic.

Conclusions: Philosophy of Preventive Education and/or Prevention with Education.

Free Communication Session 18 | 06.09.2018, 11:15–12:15 | Cubicle 3

FC068

Apical- Periapical Healing in Endodontics. Controls 9 To 33 Years

Alberto Joaquín Poladian

Circulo Argentino de Odontología, Buenos Aires, Argentina

Introduction: The objective of all endodontic preparation is to eliminate the great number of germs, debris, organic remains and decomposed material from the root canal. This work presents clinical cases of root canal preparation as wide as possible that its radicular structure allowed, remote controls were carried out ranging from 9 to 33 years;

Description: This sequence of Endodontics performed by the author is presented, preparing the largest and best widening possible. In a single operative session, an attempt was made to reach the apical constriction without making differences in preparation levels with the pulpal diagnosis, irrigating with 2.5% sodium hypochlorite and finally with calcium hydroxide water, edta was used, but not intraoperative antiseptic medication. The obturation was made with gutta-percha cones by means of multiple cones lateral condensation technique with cement sealer based on zinc oxide and eugenol.

Discussion: The important endodontic preparations reduce the germs in the root canals, allow the arrival of irrigating solutions to the apical zone, their action in the dentinal tubules and in the secondary and lateral accessory channels favoring and simplifying the filling of the root canals and allowing greater and better compaction of the gutta-percha, cold or thermoplastic.

Conclusion: The main objective of all endodontic preparation is to achieve the mayor elimination of detritus, organic debris, decomposed material and germs of the root canal.

In these radiographic sequences of remote control, from 9 to 33 years, the different stages of the healing and repair process of the apical and periapical can be verified.

FC069

Management of a Traumatic Dental Injury in A Young Patient.

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Facultad de Odontología de La Universidad de Córdoba Departamento de Rehabilitacíon, Córdoba, Argentina

Introduction: Traumatic injuries may affect the pulp and periodontium. To achieve stable clinical outcome a correct treatment plan is needed. A 10-year-old boy presented with complain of buccal swelling and a sinus tract facial to tooth #31 due to a traumatic injury a year before. Clinically tooth #31 presented mobility, change in colour, and fistula. Thermal test was negative on 31-32. Radiographically a large periapical lesion.

Treatment: Dressing with calcium hydroxide in the two elements, antibiotic mediation and dental splinting. After a dressing session the sinus tract disappeared and the root treatment was completed. The patient was recalled for 1 year follow up and the sinus tract came back in tooth #31. The use of cone-beam computed

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tomography (CBCT) was carried out and a surgical removal of the apical lesion around tooth 31 was made. The root end was filled with MTA cement 4-5 mm into the apical part of the canal. At the 1-year postsurgical follow up, the tooth remained asymptomatic, and using the CBCT volumetric program, bony healing could be demonstrated.
Discussion: Endodontic therapy is indicated for cases of traumatic injury in a tooth associated with pulp necrosis, the use of Ca(OH) was recommended and should be applied 3-4 weeks prior to root canal filling, after and endodontic failed the use of modern endodontic surgical techniques resulted in 78.5% healed and healing teeth with a recall period of 1-2 years.
Conclusion: Injured teeth may have a chance to remain functional by performing the endodontic treatment complemented with apical surgery.

FC070
Antibacterial Efficacy of Herbal Extract with and without Laser
Promila Verma
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Aim or Purpose: The aim of the study is to compare and evaluate the effects of herbal extracts with and without laser activation with that of 3% sodium hypochlorite.
Materials and Methods: 40 human extracted single rooted teeth were decoronated and biomechanically prepared. E. faecalis was cultured and inoculated in Brain Heart Infusion medium. After sterilization, 5 teeth were kept as negative control while the rest were inoculated with E. faecalis and incubated for 21 days. The samples were then randomly divided into 7 experimental groups (according to irrigant) of 5 samples each. Group 1- normal saline (positive control), Group 2- 3% NaOCl with laser activation, Group 3- 3% NaOCl without laser activation, Group 4- triphala with laser activation, Group 5- triphala without laser activation, Group 6- curcumin with laser activation, Group 7- curcumin without laser activation. Quantitative assessment of the antibacterial efficacy was done by counting the colony forming units (CFUs) of viable E. faecalis on agar plates. 2 teeth from each group were subjected for qualitative observation under confocal laser scanning microscopy.
Results: NaOCl with the Er: YAG laser group showed the highest antimicrobial activity with least CFU (5 ± 3.56). No colonies were inoculated in the negative control. The mean CFUs of NaOCl group (60.61 ± 14.23) and triphala group (64 ± 12.49) was almost same whereas curcumin was 78 ± 21.52. Er: YAG laser activation showed better results irrespective of the 3 irrigants used.
Conclusions: Herbal irrigant might prove advantageous considering the several undesirable characteristics of NaOCl.

FC071
Treatment of Immature Teeth with Open Apex Using PRF Scaffold
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Introduction: To check the efficacy of platelet rich fibrin (PRF) as a scaffold in promoting regeneration in immature permanent tooth with open apex.
Case Description: Regenerative endodontic procedure was performed in two immature permanent teeth. After access opening and establishing the patency of the canal, rubber dam isolation was done. In first visit 20 ml of 3% NaOCl irrigation was done and final irrigation was done with 17% EDTA. In second case 20 ml of 2% Chlorhexidine was used additionally as it was a re treatment case. After irrigation, canals were dried and a layer of bonding agent was applied to the internal wall of canal followed by insertion of triple antibiotic paste consisting of Ciprofloxacin, metronidazole and minocycline, in a paste like consistency obtained after mixing the TAP in saline in a concentration of 1gm/ml. In the second visit, TAP was removed by irrigation with 20 ml of 3% NaOCl and final irrigation with 17% EDTA. Canals were dried and PRF was inserted in the canal with the help of pluggers followed by placement of 4 mm of MTA below CEJ. The orifice were restored with light cured composite resin restoration.
Discussion: Follow up radiograph revealed increase in root dentin thickness and root length with closure of apex in case 1 whereas increase in root dentin thickness and closure of apex with no lengthening was seen in case 2.
Conclusion: On the basis of follow up radiographs and clinical evaluation, PRF proved to be a successful scaffold for regenerative endodontic procedure.

Free Communication Session 19 | 06.09.2018, 12:30–13:30 | Cubicle 1

Theme: Gerodontology and Prosthodontics

FC072
Edentulism and Prosthetic Needs of Elderly Population in Georgia
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Aim or Purpose: Older population is increasing worldwide and in Georgia too. Statistically significant data proves the relationship between oral health, general health and quality of life. The aim of the study was to assess the prevalence of edentulism and needs of prosthetic treatment of elderly (65 +) population in Georgia.
Materials and Methods: The study was conducted in all nine regions of Georgia and in the capital, Tbilisi. 843 elderly people were examined including 582 women and 261 men. Age groups were divided as the following: 65-74, 75-84, 85 and more. The assessment of edentulism and needs of prosthetic treatment was based on WHO recommendation.

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Results: The difference between age groups and gender was observed. Full edentulism 30,2% in female, 35,2% in male, and 23,6%, 34,6%, 50,9% in the age groups consequently as above-mentioned. Partial edentulism was 69,8% in female, 64,8% in male and 76,4%, 65,4%, 49,1% in the age groups, consequently as above-mentioned. Needs of prosthetic treatment was 85,2% in female and 92,3% in male, 81,8%, 91,8%, 92,5% in the age groups, consequently as above-mentioned.
Conclusions: The study confirmed that edentulism and needs of prosthetic treatment represent an actual problem in Georgia and need caring out serious preventive measures to improve oral health and oral health related quality of life of older population.

FC073

Nurse Knows Best; or Does She? Assessing Nurses' Oral-Health Knowledge

Kadambari Rawal
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Aim or Purpose: To evaluate the current knowledge and trends in routine oral hygiene care provided by nursing staff to dependent elderly living in residential care communities.
Materials and Methods: A survey was administered to twenty percent of the nursing staff of a long-term care facility that houses 520 older adults to understand what steps were being followed to provide regular oral hygiene to the older adults living at the facility. The survey was anonymous and blinded, once collected, a statistical analysis was conducted.
Results: The results were disappointing to such an extent that it forced the author to create a customized and standardized oral health education program that was then instituted across the facility to include all floors, units and shifts of nursing staff. The program also lead to enhanced e-communication between the dental Office and the nursing staff.
Conclusions: There is an increased need to educate and hold nursing staff responsible for the oral health and hence the overall health of dependent older adults residing in long term care communities. The program instituted empowered the nurses to better care for their patients -it can be a model program that can be easily reproduced at other institutions.

FC074

Prosthodontic Rehabilitation of Ectodermal Dysplasia Syndrome

Mohamed Abdel Kader, Mostafa Mostafa
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Introduction: Ectodermal dysplasias (ED) are a heterogeneous group of inheritable disorders caused by impaired development of epidermal derivatives and are characterized by a primary defect in nails, hair, sweat glands & teeth (abnormal or absent). Dental pathology in ED markedly affects the quality of life of the patients and poses a major psychological burden on their families.
Case Description: Congenital absence of teeth affects the growth of the mandibular bone, leading to a deficient alveolar bone in both height and width. as a result, the vertical dimension of the lower face is reduced, the vermilion border disappears, existing teeth are malformed, the oral mucosa becomes dry, and the lips become prominent which leads to a typical old-age appearance of the face. Affected young children with anodontia not only suffer from difficulties in eating and speaking but can also feel that they look different from their contemporaries.
Discussion: Prosthodontic rehabilitation of the ED patient requires clinical knowledge of growth and development, behavior management, pedodontics, prosthodontics, orthodontics and oral surgery. The treatment of such patients would comprise a complete denture, removable partial denture, overdenture or a combination of the above. The condition is important to dentists as it affects the teeth resulting in hypodontia or anodontia, dentist plays an important role in the rehabilitation of the patients, dramatically helping them to eat, speak and look properly, encouraging their psychological condition.
Conclusion/Clinical Significance: Early prosthodontic rehabilitation could be of great help in terms of function and self-confidence.

FC075

Retention of Mandibular Complete Denture with Different Adhesives

Ahmed Esmat, Eman Mostafa
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Aim or Purpose: Evaluation of the effect of three types of denture adhesives on retention of mandibular complete denture in diabetic patients.
Materials and Methods: An in vivo clinical study is made of thirty male completely edentulous patients with low well rounded mandibular ridges; with age group (50-70) years were selected. All patients were controlled diabetic type 2. New complete dentures were constructed for them. The universal testing machine was used to measure forces required to dislodge the denture. Retention of mandibular complete denture was measured without adhesive and with the use of three types of denture adhesives after adaptation period one month. Paste type (Fittydent) and two cream types (Protefix and Corega) were used. The average record after 15 minutes, 1 hour and 2 hours were recorded.
Results: Fittydent adhesive paste was more effective in improving the retention than Protefix and Corega adhesives cream Thereby, denture adhesives improve patient satisfaction.
Conclusions: This study revealed that denture adhesives increase retention of complete denture.

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Free Communication Session 20 | 06.09.2018, 12:30–13:30 | Cubicle 2

Theme: Oral Pathology

FC076

Histoplasmosis in the Oral Cavity

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Histoplasmosis is a deeply endemic mycosis present in the watershed of Rio de la Plata which is caused by the fungus "Histoplasma capsulatum". This fungus enters the organism by inhalation and it lies dormant within the host body. The disease may then arise through immune dysfunctions and it can have an acute, chronic, or disseminated form. The acute disseminated form is the most common in the case of HIV positive patients; in turn, the chronic disseminated form is the one usually affecting non-HIV patients. Risk factors: consumption of tobacco and/or alcohol. This disease is considered a typical HIV marker. This study will examine cases with their anatomopathological and clinical diagnose, their evolution and treatment.

FC077

Relationship Between Dysplastic Changes and Clinical Stages of Denture Stomatitis

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Aim or Purpose: With the aim of studying the relationship between the clinical stages of Denture Stomatitis and the atypical changes in the epithelium 115 biopsies were studied.
Materials and Methods: Samples were fixed in 10% formalin and processed by paraffin inclusion technique; sections measuring 4-6 microns were stained with Hematoxylin and Eosin and PAS. Microscopic evaluation was performed considering the type of keratinization, epithelial thickness and epithelial dysplasia. Epithelial dysplasia was graded according to its intensity as: mild, moderate and severe, taking into account the epithelial layers involvement with atypical changes. The presence of chronic inflammatory cells in subepithelial connective tissue was also evaluated. The data were analyzed with the Chi-square statistic. The results with dependence between the variables were analyzed with a linear test to adjust the model.
Results: Parakeratinization was found in 74 (64%) cases, epithelial thickness in 28 (24%) and epithelial dysplasia in 85 (74%). The chronic inflammatory reaction was a constant finding among the patients studied. It was found a relationship between dysplasia and intraepithelial inflammatory cell infiltrate ($P < 0.05$). Irregular stratification of epithelium, drop-shaped rete pegs and hyperplasia of the basal-cell layer were the most frequent changes. A remarkable linear dependence was observed between dysplasia and clinical stage ($P < 0.05$). Ductal metaplastic changes were identified in 49 cases.
Conclusions: Epithelial dysplasia is the step preceding the formation of squamous cell carcinoma in lesions. Taking into account these results we must consider its potential premalignant condition. A accuracy clinical and histopathological study is recommended before beginning the prosthetics rehabilitation.

FC078

Adenomatoid Odontogenic Tumor: Unusual Case Report

Doris Ballesteros Castañeda
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Introduction: The adenomatoid odontogenic tumor is an unusual odontogenic tumor that represents 2% - 5% of all odontogenic tumors. This tumor is observed in young females and it has a tendency to occur in the anterior maxillar region. Most adenomatoid odontogenic tumors are relatively small, although a few large lesions have been reported. Radiograph is similar to other oral lesions with unilocular radiolucency that involves the crown of an unerupted tooth, but histopathologic features is determinant for a diagnosis.
Case Report: A 43-year-old female presented increase of volume at the mucous membrane of maxillar tuberosity. The legion of 1.5 cm, was, no indurated, ulcerated, one-year evolution, no history of facial trauma or infectious processes associated to the involved area. Radiographic revealed an osteolytic lesion in the area of the right tuberosity, with maxillary sinus affectation. An osseous scintigraphy it was ordered and the report was, unique maxillar legion without other osseous legions. Histopathologic features of incisional biopsy was adenomatoid odontogenic tumor. A final surgical procedure and nasal antrostomy was completed with no further complications.
Discussion: In this case can be considered that some radiographic images could be confused with aggressive tumors. For this reason, the patient had a scintigraphy, although the result was benign, they were considered very good results.
Conclusion: Treatment and prognosis the adenomatoid odontogenic tumor is benign, because it has a well-defined capsule and this condition allows it enucleation. This tumor must be considered as a differential diagnosis in odontogenic tumors and other lesions.

FC079

Clinical Presentation and Management of Craniofacial Dysostoses: Two Case Reports

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Introduction: Craniofacial dysostosis is a familial form of craniosynostosis which involves the cranial vault, cranial base and midfacial skeletal structures. It is as a result of genetic mutation and is associated with syndromes such as Crouzon, Carpenters, Apert, Saethre-Chotzen and Pfeiffer. Calvarial deformities such as craniosynostosis, acromegaly, brachycephaly and facial anomalies

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such as exophthalmos and ocular hypertelorism are among the clinical manifestations of craniofacial dysostosis.
Case Description: Three-week-old infant presented with a history of convulsion and difficulty in feeding since birth. Examination revealed microencephaly, hyperoculartelorism, exophthalmos, obliteration of the nasal septum with upper midline cleft and midface cleft. Clinical impression of Crouzon syndrome was made but the diagnosis was inconclusive due to lack of genetic testing facilities. One-week old infant presented with difficulty in feeding and hearing. Examination revealed dolichofacial growth, shallow orbits, hyperoculartelorism, obliteration of nasal bridge with small, malpositioned ears. Clinical impression of Carpenters syndrome was made. However, diagnosis was inconclusive due to lack of genetic testing facilities. The child was referred for specialized care.
Discussion: Craniofacial dysostosis is a debilitating genetic condition. Due to lack of awareness, those affected face stigma and discrimination resulting in increase in morbidity and mortality rates. Its management has proven a challenge in low resource setups due to inadequacy of genetic testing facilities and trained personnel.
Conclusion/Clinical Significance: Despite efforts in early diagnosis, morbidity and mortality rates of craniofacial dysostoses are markedly high. Lack of genetic testing facilities, lack of trained personnel and limited genetic research is a major setback.

Free Communication Session 21 | 06.09.2018, 12:30–13:30 | Cubicle 3

Theme: Implantology

FC080
New Argentine Bone Graft of Porous Nanocrystalline Beta Tricalcium Phosphate
Miguel Angel Garcés Villalá[1], Alicia Malberti[2], Dolly Granados[3], Víctor Galván Josa[2], Piedad Nieves de Aza Moya[4], José Luis Calvo Guirado[4]
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Advances in biomaterials and surgical techniques have contributed to improving and increasing the application of dental implants to rehabilitate edentulous patients. This requires a sufficient volume of bone tissue in the receptor site, as it is sometimes not suitable and must be restored with grafts. This work comprises the synthesis of a new biomaterial of ceramic bone graft beta tricalcium phosphate (βTCP) argentino and the realization of a study compared with a commercial βTCP imported to our country, to evaluate their aptitude as a bone substitute. We obtained a βTCP argentino by a new low-cost method from a chemical reaction based on calcium phosphate emulsions with glycolic acid as a pore forming. The materials were characterized by SEM, EDS, XRD and in addition porosity, specific surface area and compression resistance were evaluated. The βTCP argentino reached the chemical and structural characteristics, a high purity of ceramic phase (97%), the mechanical properties and bioactivity required by the legislation in force. To evaluate the bone response of both bioceramics critical size defects created in tibia of New Zealand rabbits were filled and unfilled defects were left as controls. The animals were slaughtered at 30, 60 and 90 days after the creation of the defects. Digital radiographic monitoring and histological and histomorphometric studies were performed. The results showed that the two grafts used were biocompatible. However, the Argentine βTCP showed a more rapid and complete resorption, with lesser amount of biomaterial remnants and abundant bone cells in relation to the commercial βTCP.

FC081
Alveolar Preservation Prior To Implant Insertion: Case Series
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Introduction: Autogenous bone is the gold standard in bone grafts, but it is not always indicated. Allogeneic grafting is a good alternative. In addition, there are different substitutes, with osteoinduction and osteoconduction properties. There is still a lack of evidence of which product is best within each category. The use of membranes has proven to be key to ensuring that soft tissues dose not invade the graft, which translates into greater available bone.
Case Description: Clinical evaluation and Cone Beam of 5 patients with extraction indication were evaluated. Width and height were recorded at different points to compare in the future. Atraumatic extractions and guided bone regeneration (GBR) with particulate human bone (Puros ® mixed, Zimmer ®), hydrated only with physiological saline, and collagen membrane (Biomend Extend®, Zimmer) was planned. After 4 months, new cone beam was requested and the same measurements were taken.
Discussion: Osteogenic property of human bone is a key factor for these grafts over the bone substitutes. To allow bone remodeling, is essential the time and that the grafted area is not exposed or subjected to any forces. The role of the membrane is important; it must remain stable for a sufficient time to prevent the invasion of soft tissue cells.
Conclusion/Clinical Significance: Human particulate bone and slow resorption membrane allowed to gain and/or successfully preserve the alveolus after exodontia. These results ensure and facilitate successes in the implant insertion phase.

FC082
Stem Cell Homing and Alveolar Bone Regeneration
Wolf-Dieter Grimm[1], Nikolai Didenko[2], Tilman Fritsch[3], Bernhard Giesenhagen[4]
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Aim or Purpose: The therapies to regenerate periimplant bone tissues have attracted lots of attention these years. Neural crest-

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related stem cells (NCSCs), a group of cells containing heterogeneous stem/progenitor cells, are capable of homing to injured tissues and participating in periimplant bone regeneration. The amplification of autologous NCSCs potential in homing for self-repair/regeneration, therefore, might be considered as an alternative therapy except for traditional cell transplantation. However, the knowledge of the NCSCs homing and participation in bone regeneration is still known little. Cell homing has been regarded as a process of exit of hematopoietic stem cells from blood vessels by transendothelization and subsequent migration. Here we broadly define cell homing as active recruitment of endogenous cells, including stem/progenitor cells, into an anatomic compartment.
Materials and Methods: Here, we present a histological study for delivering homing factors to the site of implant placement by incorporation to allogen bone substitute as stem cell carrier material. We further show therapeutic strategies focusing on the stimulation of endogenous cells to support periimplant bone repair.
Results: NCSCs were found to aggregate in the periimplant niches and emerge in newly-formed bones or fibers. Some of them also co-expressed markers of fibroblasts or osteoblasts. These results indicated that NCSCs might contribute to the formation of new fibers and periimplant bone tissue during periimplant bone regeneration.
Conclusions: In conclusion, we speculated that autologous NCSCs were capable of negotiating into the surgical sites created by implant placement and participating in periimplant bone tissue repair.

FC083
Implant Surgery in Patients with Continued Anticoagulant or Antithrombotic Therapy
Michael Andreas Ermer, Philipp Mende, Sebastian Grunert, Katja Nelson, Johannes Angermair, Tobias Fretwurst
University Medical Center Freiburg, Department of Oral and Maxillofacial Surgery, Freiburg, Germany

Aim or Purpose: The use of oral anticoagulation is common in the ageing patient population with increasing incidence of cardiovascular diseases. Recommendations on the peri-operative anticoagulation management are available for routine dental surgical procedures. Concerning dental implant therapy, there is a paucity of clinical studies investigating the risk of bleeding in this "high-risk" population.
Materials and Method: Monocentric, retrospective, clinical-controlled study approved by the local ethics committee (No. 458/17). Inclusion criteria were placement of at least one dental implant in adult patients between June 1st, 2014 and December 31st, 2017. Anticoagulant or antithrombotic therapy was not interrupted or modified, and patients were compared to the healthy control group using Fisher's exact test.
Results: 287 patients were included in this study, receiving 525 implants altogether. 26 (9.1%) received anticoagulant therapy, 28 (9.8%) antithrombotic therapy. Treatment requiring postoperative bleeding occurred overall in 3 cases, extensive hematomas in 6 cases. All adverse events were controlled with local hemostatic measures. Overall failure-rate of implants was 7.2%. Fisher's exact test showed no significant difference between groups in bleeding complications ($p = 0.742$) or failure rates ($p = 0.532$).
Conclusions: Our results support that elective dental implant surgery can be performed safely in patients receiving antithromboembolic medications when taking the necessary precautions. Anticoagulant or antithrombotic therapy should not be interrupted or modified for these surgical procedures. Bleeding complications can successfully be treated with local measures.

Free Communication Session 22 | 06.09.2018, 13:45–14:45 | Cubicle 1

Theme: Oral Surgery

FC084
Management of a Panfacial Trauma Pregnant Patient-The Team Approach
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Introduction: Once the pregnant patient is identified, not only does the oral and maxillofacial surgeon have to consider 2 patients, but also understand the multiple anatomic and physiologic changes that occur during pregnancy and how to appropriately treat this subgroup of the population. The early establishment of a multidisciplinary team of individuals is imperative.
Case Description and Discussion: We describe the management of a 20-year-old pregnant patient who was brutally assaulted by an axe and the subsequent management of the patient with a multidisciplinary team of specialists.
Conclusion/Clinical Significance: The case report depicts the ghastly extent to which near and dear ones can subject a loved one to trauma and that even though the physical scars may heal with time but the mental scars may be permanent.

FC085
Platelet Rich Plasma: Sinus Lifting Pilot Study Case Report
Luca Barbera
Luca Barbera Oral Surgery Srl., Monza, Italy

Introduction: Platelet-rich plasma technology (PRP) is increasingly being used in different fields of regenerative medicine and tissue engineering, to improve tissue healing and minimize post-surgery complications like fibrosis, inflammation, and pain. This technology is based on the preparation and use of plasma enriched in platelets/leucocytes obtained from a patient's blood sample. Substantially PRP function by promoting the formation of a fibrin mesh and by releasing growth factors following Platelets Adhesion, Aggregation Activation and Degranulation. The benefit of PRP has been supported by in vitro and animal studies which suggest a positive influence on the migration and proliferation of a number of cell types. Results encourages use in Oral Surgery Procedure like sinus lift augmentation technique.

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Case Description: We started investigating PRF application with a pilot study. We perform a Sinus lift procedure using I-PRF and A-PRF associated with bovine xenograft. After a six months healing time we checked new bone formation with cbct control and insert in regenerated bone a couple of implants. Finally, we restored teeth after implants integration.
Discussion: Recovery from both step of surgery was prompt and painless. Biomaterial well integrated in sinus cavity and healed bone (new formation) allows implants positioning and prosthetic restoration.
Conclusion/Clinical Significance: Results suggest us that Platelet-rich plasma could represents a new approach to make easier and safer Oral surgery proceedings. Furthermore, we must codify high-efficiency protocols, well standardized and easily/universally repeatable. Second, we must compare procedure performed with/without PRP technology to definitively demonstrate utility in all day practice procedures.

FC086

Current Management of Partial Duplication of the Face (Diprosopus)

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Introduction: Diprosopus is a term derived from the Greek *di* – "two" and *prósopon* – "face" and is applied to a phenotypic spectrum of craniofacial duplication.
Case Description: A 1-month-old female patient, the first child of a healthy mother who reported no complications during pregnancy or the natural delivery, presented to the Facial Cleft Deformity Clinic at the University of Pretoria. The infant had a complete unilateral cleft lip with extension to involve the alveolus and palate. A mucosal band spanning the cleft mid-palatally, was noted to connect with the vomer to the lesser side of the cleft. An associated mass, measuring 60 × 40x30 mm was noted to be attached to the nasal vomer and the mucosal band. The mass was skin-covered with overlying hair.
Discussion: The management of these disorders remains a surgical challenge in the quest for cosmetic and functional rehabilitation. We document a case of a female infant who presented to facial cleft deformity clinic at University of Pretoria with a unilateral cleft lip, alveolus and palate; as well as duplication of the maxilla and mandible.
Conclusion: A rare craniofacial developmental anomaly manifesting with duplication of a single facial structure at one end of a spectrum to entire face duplication at the other. Surgical approach and outcome is detailed in this report.

FC087

Lasers in Minimally Invasive Dental Medicine

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Introduction: Dental and surgical lasers have proven their effectiveness in the last decade as being one of the most precise and secure therapeutic maneuver that can minimize the risks and complications in oral and dental surgery.
Case Description: The negative prosthetic fields need to be optimized by using the regenerative tissue techniques. In these situations, classical surgical techniques have some limitations compared to the laser-assisted techniques. Our researches were performed on study groups (80 patients) and control groups (80 patients) and aimed to compare the evolution of the clinical postoperative parameters of patients treated by laser minimal invasive dental procedures and scalpel (control group).
Discussion: The dental lasers used to perform the pro prosthetic and pro implant surgical procedures were 940 nm diode laser (gingivectomy), 2780 nm Er,Cr:YSGG (frenectomy), 2940 nm Er:YAG (bone regenerative techniques). The investigated clinical parameters were as follows: VAS indices (pain intensity), patients' discomfort prevalence, healing time. The postoperative evolution was recorded after 24 hours, 3 days, 7 days and it was compared with baseline. The reduced postoperative pain, less discomfort and accelerated healing time by minimally invasive approach are factors that recommend Er,Cr:YSGG lasers for frenectomy in the pre-prosthetic stage.
Conclusion: The reduced postoperative pain, less discomfort and accelerated healing time by minimally invasive approach recommend laser-assisted surgical procedures for the improvement of the prosthetic field in the pro prosthetic and pro implant stage.

Free Communication Session 23 | 06.09.2018, 13:45–14:45 | Cubicle 2

Theme: Materials

FC088

Effects of Polishing Methods on Physical Properties of Nanohybrid Composites

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Aim or Purpose: The aim of this *in vitro* study was to investigate the effects of different polishing methods on microhardness and color changes of different resin restorative materials.
Materials and Methods: Nanohybrid composite and ormocer materials were used. 80-disc shaped samples were prepared (n = 10). Each group (except control groups) were polished using three different polishing methods: silicone polishers, flexible polishing discs with aluminium oxide coating and diamond impregnated silicone polishers. After polishing procedure, initial microhardness and color values were carried out. Then, all of the specimens were

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subjected to thermocycling (10000 cycles between 5°C and 55°C). After thermocycling, final microhardness and color change values were also calculated. Data were analyzed with repeated measures of ANOVA, two-way ANOVA and Bonferroni tests ($p < 0,001$).
Results: For nanohybrid composite the highest microhardness value was obtained with diamond impregnated silicone polishers; the lowest value was obtained with silicone polishers ($p < 0,001$). Although polishing the nanohybrid composite with a silicon polisher showed the lowest microhardness value, this polishing method caused less color change ($p < 0,001$). The highest color change values were determined when the nanohybrid ormocers were polished with silicone polishers ($p < 0,001$).
Conclusions: It can be concluded that for both of the composites, the use of diamond impregnated silicone polishers resulted with more color stable restorations. Also, it can be remarked to the clinicians that, silicone polishers may cause color change while polishing universal nanohybrid ormocers.

FC089
Effect of Surface Conditioning on Adhesion To Dentin Replacement Materials
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Aim or Purpose: This study evaluated the shear bond strength (SBS) of self-etch adhesive, etch-and-rinse adhesive and air-abrasion effect to adhesion of resin to Mineral Trioxide Aggregates (MTA) and Biodentine.
Materials and Methods: Cylindrical holes (3 mm in diameter, 2 mm in height) in Teflon blocks (N = 180) were prepared and filled with either Biodentine, Proroot MTA or experimental MTA (n = 60 per group), according to the manufacturers' instructions. The specimens were stored at 37°C at 100% humidity for 72 hours and divided into four subgroups (n = 15 per subgroup) according to the applied surface conditioning prior to composite restoration (Filtek Z250). Clearfil SE bond (CSE), Adper Singlebond2 (SB2) and air-abrasion with silica coated alumina (SCA) (30 micron) was applied on the surface of the materials. Control group received no treatment on the surface. The SBS test was carried out in a Universal Testing Machine (1 mm/min). Data (MPa) were statistically analyzed using 2-way ANOVA and Tukey's tests (alpha=0.05).
Results: Biodentine-SCA group (3.96 ± 1.2) showed significantly the highest SBS values compared to other groups (1.36 ± 0.50-2.43 ± 1.06)($p < 0.05$). There were no significant differences between control-CSE and CSE-SCA subgroups in each material group ($p > 0.05$). There was also no significant difference between the same subgroups of the experimental MTA and Proroot MTA ($p > 0.05$) whilst significant difference was only in SCA and control subgroups between Biodentine and the experimental MTA group ($p < 0.05$). No adhesive failures were observed among the groups but either mixed or cohesive.
Conclusions: Air abrasion with 30-micron silica coated alumina particles increased the adhesion of resin composite to dentin replacement materials.

FC090
The Effect of Chlorhexidine/Ethanol on Bond Strength of Universal Adhesives
Zeynep Buket Kaynar, Mağrur Kazak, Nazmiye Dönmez, Evrim Eligüzeloğlu Dalkılıç, Burcu Oğlakçı
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Aim or Purpose: To evaluate the effect of dentin bond strength of two different universal bonding agents applying additional chlorhexidine/ethanol under *in vitro* conditions.
Materials and Methods: 24 teeth were used in this study. Study was approved by Ethics Committee. Standard Class I cavities ($4 \times 3x3$ mm) were prepared, then divided into six groups: Group I; Universal bonding I was applied without any treatment. Group II; 2% chlorhexidine was applied, before the application of universal bond I. Group III; 100% ethanol was applied, before the application of universal bond I. Group IV; Universal bond II was applied without any treatment. Group V; 2% chlorhexidine was applied, before the application of universal bond II. Group VI; 100% ethanol was applied, before the application of universal bond II. Following bonding steps, teeth were restored with a nano-hybrid resin composite then subjected to thermo-cycling (10000 cycles, 5-55 C°). All teeth were exposed to 50000 cycles of loading in a chewing simulator. Fifteen sticks from each group were obtained using a cutting machine. Sticks were subjected to a micro tensile bond strength. After procedures, fractured surfaces were observed under a stereomicroscope and scanning electron microscope (SEM) to determine mode of failure. Data were submitted to Kruskal Wallis test. Significance level was set at 5%.
Results: While the lowest bond strength value was obtained in group II (9. 76), the highest bond strength value was determined in group IV (20. 57). There were no statistically significant differences between all groups ($p > 0. 05$).
Conclusions: It can be pointed in the clinical practice that; additional chlorhexidine or ethanol treatment may not influence directly on the bond strength of universal adhesives when they are applied with self-etch procedures.

FC091
Premolars' Cuspal Deflection Restored Using Bulk-Fill Materials with/without Liner
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Aim or Purpose: To compare cuspal deflection of four different bulk-fill materials with and without a resin modified glass ionomer

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cement (RMGIC) liner for large mesio-occluso-distal(MOD) cavity restoration *in vitro*.

Materials and Methods: 80 extracted sound human upper premolar teeth were used. This study was approved by Ethics Committee. Teeth were divided into eight groups(n = 10). Reference points on buccal and palatal cusp tips were acid-etched and flowable composite resins bonded to the surfaces. Standardized MOD cavities were prepared for each tooth. The distance between cusp tips was measured before and after the cavity preparations with a digital micrometer. then teeth were restored with different bulk-fill composite resins (high viscosity, low viscosity, sonic-activated, dual-cured bioactive) with or without RMGIC liner by using an universal adhesive system in selective etch mode. Cuspal deflection was measured at 5 min, 24 h, 1 and 2 weeks after the completion of restorations. Data were statistically analyzed by two-way ANOVA, Bonferroni, Kruskal Wallis and Mann Whitney U tests($p \leq 0.05$).

Results: When tested groups without liner compared to each other, at 2 weeks measurements, low viscosity material showed significantly highest mean cuspal deflection (0.378 ± 0.384 mm) ($p = 0.01$). Except the dual-cured bioactive material with liner, significantly the greatest mean cuspal deflection of all groups with or without liner were observed after 24 h. When a liner was used in low viscosity material group, cuspal deflection decreased significantly ($p = 0.05$).

Conclusions: The results of this study suggest that in clinic practice the use of intermediate flowable layer especially under low viscosity bulk-fill composite resin restoration could reduce the cuspal strain.

Free Communication Session 24 | 06.09.2018, 13:45–14:45 | Cubicle 3

Theme: Periodontics

FC092

Emerging Multidisciplinary Therapeutic Approach for Managing a Fused Maxillary Incisor

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Introduction: Fusion and gemination in the permanent dentition pose a clinical rehabilitation challenge. This report documents endodontic, periodontal and orthodontic management of a maxillary central incisor fused to a supernumerary in a young male.

Case Description: In 2013, a 12-year old male presented to the dental clinic of the faculty of dentistry, Alexandria University complaining of poor esthetics. Clinical examination revealed macrodontia of tooth #21 with malocclusion of class II division I. Periapical digital radiographs and cone beam computed tomography showed fusion of the tooth with a supernumerary one. Teeth appeared to have a common pulp chamber with communicating fins. Following endodontic management using mineral trioxide aggregate as a monoblock filling, the supernumerary tooth was surgically resected along its length and extracted. The resulting socket was filled with 70S/30C bioactive glass mixed with Emdogain (Straumann, Germany). The resected crown surface was restored. Orthodontic treatment started after one year of surgery and was concluded in two years with the patient remaining in retention for one year. Follow-up was continued yearly for 4 years post-surgically.

Discussion: After 4 years, the tooth remained functional with no mobility in spite of the presence of some attachment loss and development of a periodontal pocket due to discovery of retained apical segment of the resected tooth. However, the patient had no complaints and clinically, occlusion was restored, and the patient was satisfied with the final esthetic outcome.

Conclusion/Clinical Significance: Fusion cases require precise diagnosis and treatment planning along with multidisciplinary regenerative approaches to retain the permanent tooth.

FC093

The Relationship between Osteoporosis and Periodontitis

SeyedAhmad Banihashem Rad[1], Seyed Ali Bani Hashemrad[2], Mohammad Reza Hatef[3], Nader Karimi Teymoori[1], Seyedhamed Bani Hashem Rad[3], Davood Aghasizadeh Sharbaf[2]
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Aim or Purpose: Osteoporosis is a systemic skeletal disease characterized by low bone mass and micro architectural deterioration of bone tissue. Osteoporosis could also affect the jawbones which would result in bone loss. Periodontitis may be one of the alterations. The aim of this study was to evaluate prevalence of periodontal diseases in osteoporosis patients at Imam Reza hospital.

Materials and Methods: In this study 65 patients, 92.3% female and 7.7% male, were studied. they were divided to three groups based on the result of bone densitometry test (DXA). There were 17 patients in Osteopenia group, 20 patients in Osteoporosis and 28 people in healthy(control) group. Tooth loss, fillings and periodontal parameters such as probing pocket depth (PPD), plaque index (PI) and bleeding on probing (BOP) were evaluated.

Results: The members of three study groups had similar mean and distribution in their age and gender. Densitometry in control group showed the most PPD and this difference was statistically significant ($P < 0.05$). There was no significant difference in three groups in terms of PI. Osteoporosis patients had significantly more BOP than control group. There was no significant difference in terms of tooth loss in three groups($P < 0.18$). The control group had significantly more fillings than osteopenia and osteoporosis patients($P < 0.05$).

Conclusions: According the results of this study association between osteoporosis and periodontitis is possible but further prospective and more sensitive studies are required for solid conclusions.

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FC094

Comprehensive Treatment of Chronic Periodontitis and Occlusal Trauma

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Introduction: Periodontitis with occlusal trauma often causes bite collapse and malocclusion. Ideally, treatment aims at regeneration of lost periodontal tissues and functional and esthetic restoration of dentition.

Case Description: This case report describes an interdisciplinary approach to chronic periodontitis and occlusal trauma in a 39-year-old male patient (First visit: January 2008). After initial periodontal therapy, periodontal lesions were treated by regenerative therapy using enamel matrix derivative. After the healing of the periodontal tissue, orthodontic treatment based on an edgewise technique was applied. Three osseointegrated implants were then inserted to lost dentition. Supportive Periodontal Therapy has carried out since completion of active periodontal treatment in June 2014. The mean probing depth (PD) and the number of sites with a PD of more than 4 mm were decreased from 4.0 mm and 107 sites (33.9%) and maintained 1.9 mm and one site (1.3%) in January 2018, 10 years after the first visit, respectively.

Discussion: The outcome of this case demonstrates the resolution of periodontal tissue destruction and malocclusion, with gains in the clinical attachment levels and a successful esthetic and functional final result.

Conclusion/Clinical Significance: This interdisciplinary approach yielded a favorable outcome in the treatment of chronic periodontitis. A long-term management of inflammatory and occlusion should be continued.

FC095

Reimplantation: 6 Month and 12 Month Follow-Up

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Aim or Purpose: In this study, we aimed to preserve hopeless anterior incisor teeth with severe periodontal destruction by reimplantation method and follow-up the clinical results.

Materials and Method: Patient selection was held carefully. Patients who were eager to keep their so-called hopeless teeth were enrolled in the study. Full-mouth SRP in one session was performed and oral hygiene instructions were explained carefully. Patients were recalled 1 week later. Patients with full-mouth plaque score less than %10 were included in the study. 17 incisor teeth in 6 patients with severe periodontal destruction were included in the study. Before periodontal surgical intervention, root canal treatments were performed. After LA, compromised teeth were extracted atraumatically. Granulation tissues were removed. Root surfaces of extracted teeth were cleaned from debris. Sockets were irrigated. Teeth were replaced into sockets. Provisional splints were placed. Occlusal contacts were eliminated. Periodontal packing was placed. Antibiotics and analgesics were prescribed. Patients were recalled 1 week later. Healings were uneventful. Patients were controlled 1 month, 6 months and 12 months later.

Results: All reimplanted teeth were periodontally healthy at first month and sixth months and twelfth months. No pocket formation, no gingival bleeding, no suppuration was observed. Panoramic radiographic evaluation revealed bone apposition.

Conclusion: Intentional reimplantation could be a good treatment alternative on patients who are motivated to keep their periodontally destructed teeth. Patient selection must be performed carefully. Patients with perfect oral hygiene are good candidates for this treatment.

Free Communication Session 25 | 06.09.2018, 15:00–16:15 | Cubicle 1

Theme: Endodontics

FC096

Top-Cited Articles in Regenerative Endodontics

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Aim or Purpose: Citation analysis in bibliometrics aids in identifying the trends in research and innovation based on the number of citations received by relevant scientific publications. The aim of this citation analysis was to identify and analyze the 100 top-cited articles related to regenerative endodontics.

Materials and Methods: The ISI Web of Science data base was searched with search terms and permutations of "pulp regeneration" OR "regenerative endodontics" OR "endodontic regeneration" OR "pulp revascularization", from 1991 onwards, by two independent reviewers. Number of citations, year and journal of publication, authors, institute and country of origin, type and field of study were noted.

Results: The top-cited article was cited 309 times, with the Journal of Endodontics having published 66 of the top-cited articles in regenerative endodontics. The United States of America was where 51 first authors were affiliated, and among the institutes of the USA, the University of Texas Health Science Center had the highest number (8) of research publications. The most number of top-cited articles were published between 2011 and 2014. Significant collaboration was seen between the various authors of the selected articles. The most frequent study design observed was in-vitro experiments (29%), with protocols or procedures being the focus in 33% of all selected studies.

Conclusions: The current research trends in regenerative endodontics were determined based on this citation analysis. This can provide information regarding the available scientific data with the most impact as well as pave way for future innovative research in regenerative endodontics.

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FC097

Treatment by Regeneration of Tissues in Apical Lesions

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Aim or Purpose: Treatment by regeneration of tissues in apical lesions, through the root canal and the fistulous tract.
Material and Methods: It is an almost universal conviction that the success of endodontics is based on three main factors: cleanliness, conformation or design and three-dimensional obturation of the root canals. The development of bioactive, bioerodible, bioabsorbable and bioresorbable biomaterials supports a new endodontic model based on repair by regeneration of the tissues that make up the alveolar bone and the insertion system. The knowledge of the biology and the immune inflammatory response of the periradicular apex tissues, allow us to perform a therapeutic action in them, tending to the elimination of the infection and repair by regeneration of the affected tissues, through the root canal or the path fistulous.
Conclusion: Clinical and imaging controlled clinical cases will be shown.

FC098

Antimicrobial Efficacy of Silver Nanoparticles against *E. Faecalis*: An Ex-Vivo Study

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Aim or Purpose: The aim of the present Ex- Vivo study was to check the antimicrobial efficacy of silver nanoparticles with and without different antimicrobials against *E. faecalis*.
Materials and Methods: 126 recently extracted single rooted human teeth were contaminated with *E. faecalis*. The teeth were randomly divided into 5 experimental (n = 21) and 1 control group (n = 21). Each subgroup was then exposed to different antimicrobials namely Calcium hydroxide (group 1), 2% Chlorhexidine (CHX) (group 2), Silver nanoparticles (SNP) (group 3), SNP with Ca(OH)2 (group 4), SNP with 2% CHX (group 5) and saline as control group (group 6). Cultures were made from each group after 24 hours, 7 day and 14 day and colony forming units were counted. The Kruskal-Wallis test was used to compare the study parameters among the groups at 24 hours, 7 days and 14 days.
Results: Significant difference was found in the antimicrobial efficacy of different intracanal medicaments against *E. faecalis* after 24 hours, 7 days and 14 days. 2% CHX was found to be most effective medicament at 24 hours, 7 days and 14 days against *E. faecalis*. Combination of SNP with 2% CHX and Ca(OH)2 and SNP alone ranked second in their antimicrobial efficacy against *E. faecalis* at 24 hours, 7 days and 14 days respectively.
Conclusions: 2% CHX was more effective as intracanal medicament against *E. faecalis* biofilm in both short and long-term duration i.e. at 24 hours, 7 days and 14 days.

FC099

Destructive Chronic Periodontitis Treatment with Copper-Calcium Hydroxide and Diode Laser

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Aim or Purpose: To evaluate the effectiveness of two treatment methods of chronic periodontitis with apical destruction with copper-calcium hydroxide and diode laser.
Materials and Methods: Endodontic treatment of 40 patients, aged 18-65, was divided into two groups. The first group of 22 patients were treated with copper-calcium hydroxide, while the second group of 18 patients were treated with diode laser. There were treated 76 canals with chronic periodontitis with periapical destruction, in monoradicular and multiradicular teeth with impassable and passable canals. The diagnosis was based on patient complaints, objective, subjective and radiographic data. The mechanical preparation of root canals was done according to the "Crown-down" technique with manual and rotary instruments, with abundant irrigation 3% sodium hypochlorite in combination with EDTA. The first group was treated with copper-calcium hydroxide in 2 sessions at the interval of 7 days through electrophoresis. At the second group was applied the diode laser for 30 seconds on each canal. The second session took place in one-week interval. Canals were finally closed with AH+ endodontic paste.
Results: During radiological examination of the periapical tissue condition after 3-6 months, after the root canals treatment with copper-calcium hydroxide and diode laser, a regeneration of destroyed apical structures was observed. Full regeneration was observed in 90% of copper-calcium hydroxide treated cases and 10% partial regeneration. Whereas, in the treated diode laser canals, was observed 80% complete regeneration and 20% partial regeneration.
Conclusions: Treatment of destructive forms of apical chronic periodontitis with copper-calcium hydroxide stimulated the bone structure regeneration around apical region in a short time compared to diode laser treatment. Copper-calcium hydroxide is more effective than diode laser in the treatment of curved root canals with apical destruction.

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FC100

Iodometric Dosage of Sodium Hypochlorite Used for Endodontic Irrigation

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Aim or Purpose: Sodium hypochlorite (NaOCl) is currently the gold standard for endodontic irrigation. The objective of this study was to identify the NaOCl solutions used as root canal irrigant and the concentrations of preparations made in dental offices.
Materials and Methods: The different types of NaOCl solutions used in 102 dental practices were identified. 24 samples stored differently according to dental practice (refrigerator, ambient temperature) were analyzed by iodometric assay. Three measurements were taken per day for 14 days on each sample. Statistical analyses were performed by SPSS software version 22 under Windows (SPSS Inc., Chicago, IL, USA).
Results: Sodium hypochlorite sold in supermarkets was used in 72.5% of dental practices. The dosages revealed retrogradations of the stock solutions, but stability of the solutions prepared during the 14 days. A NaOCl solution stabilized at 0.5% active chlorine and available in pharmacies was mainly used in private dental offices. The dilution methods corresponded to working solutions between 0.4% and 0.5% active chlorine.
Conclusions: This study shows the value of using stabilized NaOCl solutions specifically designed for endodontic irrigation. It thus aims to make dentists aware of the use of this type of solution in terms of pharmacotherapeutic vigilance.

Free Communication Session 26 | 06.09.2018, 15:00–16:15 | Cubicle 2

Theme: Materials

FC101

Bonding of a Multi-Mode Adhesive To Different Enamel Prism Orientations

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Aim or Purpose: This study was carried out to investigate the microshear bond strength (μSBS) of multi-mode adhesive (MMA) to different regions and prism orientations of enamel.
Materials and Methods: Enamel substrates (n = 80) were categorized into two main groups (n = 40) according to the enamel regions tested; either cuspal or midcoronal enamel. Each region was then prepared either in axial or tangential sections (n = 20). then enamel specimens were bonded with MMA either in self-etch (SE) or etch-and-rinse (ER) adhesion protocol (n = 10). Nanofilled flowable composite was used to prepare μSBS specimens. μSBS was assessed using universal testing machine. Resin-enamel interface was assessed under environmental scanning electron microscope. Statistical analysis was carried out using three-way ANOVA test.
Results: Results of the μSBS testing revealed no statistically significant difference between mean μSBS value of enamel regions tested, while bonding using MMA to tangentially sectioned enamel recorded a statistically significant ($p \leq 0.001$) higher mean μSBS value than bonding to axially sectioned enamel, also ER adhesion protocol recorded a statistically significant higher ($p \leq 0.001$) mean μSBS value compared to bonding using the SE adhesion protocol. In all specimens the hybrid layer was clearly detected with intimate adaptation between the adhesive resin and enamel, ER specimens showed clear resin microtags, while SE specimens did not show resin microtags except in the case of the axially sectioned cuspal enamel.
Conclusions: The bond strengths of the MMA is influenced by the direction of enamel rods. Application of MMA in ER adhesion protocol improves the resin-enamel bond strength.

FC102

Evaluation of Physical Properties of Composite-Resins with Different Filler-Particle Size

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Aim or Purpose: To compare the weight, volume, surface roughness and top/bottom surface hardness ratio of composite resins having different filler particles.
Materials and Methods: After 5 syringes of 5 microfilled, 10 microhybrid, 3 nanofilled and 6 nanohybrid composite resins were weighed, they were transferred into scaled plastic tubes and their volumes were measured. Twelve disc-shaped (2 mm high × 8 mm diameter) specimens from each group were fabricated. Surface roughness and top and bottom surface microhardness of all specimens were measured. then top/bottom surface hardness ratio was calculated. Data were analyzed using Kruskal-Wallis, Welch ANOVA and Wilcoxon tests (α=0.05).
Results: The highest measured weight values were obtained with microfilled composites followed by nanohybrid, microhybrid and nanofilled composites ($p = 0.043$). The measured volumes were as: microfilled>microhybrid>nanofilled>nanohybrid. The highest roughness values were measured in microfilled composites and followed by nanofilled, microhybrid and nanohybrid composites. Vickers hardness of top and bottom surfaces values were as; nanohybrid, nanofilled, microhybrid and microfilled. The highest top/bottom hardness ratio was observed in nanofilled composites followed by microfilled, nanohybrid and microhybrid composites. Pair-wise comparison showed differences between nanohybrid and nanofilled composite groups but it was not significant ($p > 0.05$).

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Conclusions: Weight and volume of the tested materials were generally different from the manufacturers' statements. Composite resins with different filler particle size showed differences in physical properties.

FC103

Clinical Performance of a Glass-Hybrid Restorative in Extended-Size Class-II Cavities

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Aim or Purpose: To evaluate the clinical performance of a glass hybrid restorative compared to a resin composite in the restoration of large and deep Class-II cavities after 24 months.
Materials and Methods: A total of 108 extended size (the width of the proximal box not interfering with the peak of the cusps and the proximal box in occlusion) Class-II lesions in 37 patients were either restored with a glass hybrid restorative, or with a micro-hybrid resin composite in combination with selective etching by two experienced operators according to the manufacturer's instructions. Two independent examiners evaluated the restorations at baseline, 6-month, 1- and 24-month recall according to the modified US Public Health Service Criteria. Negative replicas at each recall were observed under scanning electron microscopy-(SEM) to evaluate surface characteristics. Data were analyzed statistically.
Results: After 24 months, 90 restorations were evaluated in 32 patients (recall rate: 86.5%). Four glass hybrid restorations were missing; 3 were due to bulk and 1 was due to proximal fracture at 12 months. Only 6 restorations were scored as bravo also at baseline, 6-, 12-, 18-, and 24-month recalls for color ($p > 0.05$). No significant differences were observed between the two restorative materials for the other criteria evaluated ($p > 0.05$). SEM observations exhibited successful surface and marginal adaptation characteristics for both restorative materials at 24 months control.
Conclusion: Although glass hybrid restorations showed negligible failures in retention rate and color, both restorative materials exhibited successful performances for the restoration of large Class-II cavities after 24 months.

FC104

Premolar Cuspal Deflection Restored with Dual-Cure Composites Using Different Power-Irradiances

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Aim or Purpose: To evaluate the cuspal deflection of premolars restored with dual-cure composites using different power irradiance light curing units.
Materials and Method: 60 extracted sound human upper premolar teeth were used. This study was approved by Ethics Committee. Teeth were divided into 6 groups (n:10). Reference points on buccal and palatal cusp tips were acid-etched and flowable composites resins were applied then cured on the surfaces. Standardized MOD cavities were prepared for each tooth. Distance between cusp tips was measured before and after cavity preparations with a digital micrometer. Then teeth were restored with two different dual-cure composite resins (nanofilled dual-cure composite restorative and bioactive dual-cure restorative material) using an universal adhesive system in a selective etch mode with different power irradiance light curing units (LCU) (LCU1:1000, LCU2:1100 and LCU3:1400 mW/cm²).Cuspal deflection was measured at 5 min, 24 h, 1 and 2 weeks after the completion of restorations. Data were statistically analyzed by two-way Anova, Bonferroni, Kruskal Wallis, Mann Whitney U tests ($p < 0,05$).
Results: When the light curing units were compared to each other, no significant difference was determined for bioactive dual-cure restorative material ($p > 0,05$) but there was a statistically significant difference at 2 weeks for nanofilled dual-cure composite material ($p < 0,014$).Nano-filled dual-cure composite material cured with LCU3 showed the highest cuspal deflection. When the materials were compared to each other, nano-filled dual-cure composite showed the highest cuspal deflection in every different power irradiance at 5 min measurement($p < 0,05$).
Conclusions: In the clinical practice it can be advised that, due to high cuspal deflection, nano-filled dual-cure composite should not be cured with a high-power irradiance light curing unit.

FC105

Fluoride Release and Recharge/Uptake Abilities of a Restorative Glass Ionomer

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Aim or Purpose: The aim of this in vitro study was to assess the fluoride release of three restorative glass ionomers (GIs) and their recharge abilities after application of a fluoride varnish.
Materials and Methods: Ten disc-shaped (8 mm-diameter × 2 mm-height) specimens were fabricated from Riva Self Cure HV [R]/SDI, EQUIA [E]/GC, EQUIA Forte [EF]/GC according to the manufacturers' recommendations. Each disc was analyzed for fluoride concentration using a combination fluoride ion-selective electrode connected to an ion analyzer during the first week and initial cumulative fluoride release for 1-, 3-, 5-, 6- and 7-week. then a fluoride varnish was applied to the GIs tested, and cumulative fluoride release (after uptake) was remeasured after 1 and 3 weeks (μg/dl/mm²). Data were analyzed statistically (α=0.05) (SPSS version 2.0).
Results: All of the tested GIs showed the highest amounts of fluoride release on days 1 and 2. E exhibited the highest fluoride release on the first four days($p < 0.05$) however; EF was able to

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release similar amounts of fluoride as much as E on the remaining days of the first week($p > 0.05$). R released the lowest amount of fluoride during the first week. E showed the highest cumulative fluoride release for all evaluation periods, followed by EF and R before application of the fluoride varnish respectively($p < 0.05$). The highest amount of cumulative fluoride was released by EF 1- and 3-week after the application of fluoride varnish($p < 0.05$).
Conclusions: E showed the highest initial fluoride release, whereas EF exhibited greater fluoride recharge capacity than the other two GIs.

Free Communication Session 27 | 06.09.2018, 15:00–16:15 | Cubicle 3

Theme: Orthodontics and Interceptive Orthodontics

FC106
Maxillary Molar Distalization Using Indirect Anchorage with Mini-Implants
Karen Prieto
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Mini-implants as indirect anchorage are indicated to distalize the upper molars in Class II malocclusions. However, to finish a successful treatment it is also necessary to consider the insertion area and the design of the mechanics to be used. The objective of this study was to analyze efficiency of indirect anchorage of two techniques during the distalization of upper molars. In Case 1 (bilateral Class II) mini-implant was inserted 2 mm near midpalatal suture, a metallic ligature was attached to the mini-implant and a transpalatal arch fixed to the first premolars. In Case 2 (Unilateral Class II) was inserted in buccal area between the second premolar and first molar and attached with metallic ligature to the canine. In both cases nickel titanium springs were used between molars and premolars. Case 2 was successfully corrected to Class I, although with intrusion and mesialization of the canine. In Case 1 only left quadrant was corrected, however protrusion of anterior sector was observed. The anchorage lost in Case 1 is related to flexibility of the transpalatal arch and to the attachment to mini-implant. It is recommended to use a more rigid arch attached with composite to the mini-implant. In Case 2 the force generated by metallic ligature was more vertical causing anchorage lost. The force generated by springs was heavy on anterior sector, it is recommended to use only one spring between first molar and first premolars. Indirect anchorage is an effective tool that allows achieves better results, however must be complemented by the complete design of mechanics.

FC107
Technology in Brackets and Arches. Impact on Treatment Plans
Maria Eugenia Mateu
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Introduction: In the last thirty years, the orthodontics that until the 70s was artisanal and with few changes, received the great impact of Dr. Andrews' STRAIGHT ARCH. Although it was a pleasant surprise for the Orthodontists, the treatment plans did not vary too much with respect to other techniques.
Description: Clinical cases treated with conventional techniques and last generation brackets are compared.
Discussion: The new technologies allow a greater expansion of the jaws, decreasing the amount of extractions, allowing sagittal, vertical, transverse movements of the teeth and skeletal compensations in a faster and physiological way.
Conclusions: The manufacture of new brackets and preformed elastic arches, as well as the possibility of directly scanning the patient's teeth and placing an appropriate appliance to their needs, make orthodontics the great star of dentistry, changing paradigms that seemed to have no end.

FC108
Accelerated Space Closure in Clinical Orthodontics
Daniel Segovia
Departamento de Posgrado de Ortodoncia, Facultad de Odontología, Universidad Nacional de Cuyo, Mendoza, Argentina

Introduction: Orthodontic treatment with extractions takes about one year more than one without extractions. Surgical, physical and biomechanical maneuvers have been developed to minimize it. A case is reported with a biomechanical maneuver for reduce orthodontic treatment time.
Description of the case: The orthodontic examination reveals a 19 years old female patient with good health status, convex facial profile, dolichocephalic biotype, vertical skeletal excess, Class II skeletal relationship and unilateral Class II molar relationship. Fixed orthodontic treatment and extraction of 1.4 are indicated with accelerated space closure. It consists in beginning with the phase of space closure instead of align and level stage, and then it is continued by aligning, leveling and finalization stages.
Discussion: Beginning by closing the extraction space decreases the treatment time by taking advantage of the regional acceleratory phenomenon (RAP) of dental extraction surgery. The RAP accelerates dental movement of the stage that consumes more time instead of being wasted during the alignment and leveling stage. It also prevents alveolar bone reabsorption after extraction that hinders dental movement in the space closure stage in a conventional treatment. It avoids performing extra surgeries, placing special devices or accessories that increase the economic and biological cost.
Conclusion: The described biomechanical maneuver for orthodontic treatment time reduction, has the advantage of reducing risks and saving resources. Although there are randomized clinical trials about this relevant topic, more homogeneous studies are necessary to carry out a Systematic Review and obtain more reliable information.

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FC109

Implant as an Orthodontic and Prosthetic Anchor

Marta Leonor Rugani
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Description: The combination of Implantology clinical proceedings and Orthodontics has rendered satisfactory biological, functional and aesthetic results.
Aim or Purpose: This study was aimed at assessing the performance and behaviour of endosseous implants with a microtextured surface, obtained by means of a double acid etching; chlorhydric and sulphuric at a certain temperature, against orthodontic forces first as an anchorage and later as abutments for the definitive prosthesis.
Materials and Methods: The sample consisted of 38 patients, men and women between 22 and 64 years partially edentulous. A total of 93 implants were inserted; Titanium implants with a microporous surface obtained by means of a double acid etched at a certain temperature. After a biological integration period, four months for the maxilla and three months for the mandibula, the implants to be charged with orthodontic forces. The implants used as anchorage with the orthodontic elements included were submitted to 100-200 g sliding. The implants stability was measured by a Resonance Frequency Analyser (OSSTELLR) The implants remained firm, without movement, acted like "absolute anchorage" and served as support for the prosthetic substitution of missing teeth, during and after orthodontic treatment. In the 100% of the cases, the same implants were used as abutments for the definitive crowns.
Results: The Resonance Frequency analysis scored significant difference ($p \leq 0,03$) between the initial ISQ values (66) and the last ones (68).
Conclusions: These findings proved that, these implants when submitted to orthodontic forces, neither nor effect the osseointegration they have already obtained.

FC110

Interceptive Orthodontics - Why, When and the Final Outcome

Reena Khullar
University of California Los Angeles School of Dentistry, Section of Orthodontics, Los Angeles, USA

Aim or Purpose: Interceptive orthodontics, when started in a timely manner, can result in positive skeletal and dental changes in vertical, transverse and antero-posterior dimensions.
Materials and Methods: Interceptive orthodontic treatment was performed in multiple patients for different reasons: anterior/posterior crossbite, deepbite/openbite, functional shift, Class II/III skeletal growth pattern, and severe crowding of upper and lower arches. Appliances such as expanders, trans-palatal arches, and lower lingual holding arches were used. Selective bonding of upper and lower permanent incisors was done. Pre-treatment and post-treatment records (panoramic x-ray, cephalometric x-ray, study models, and photos) were taken, and the changes assessed.
Results: Pre-treatment and post-treatment cephalometric analysis showed the final cephalometric measurements within normal limits. Correction of discrepancies, such as anterior crossbite, resulted in improvement of dental function and restoration of periodontal structures. Space management lead to correction of crowding in the dental arches.
Conclusions: Timely orthodontic intervention resulted in correction of the discrepancy in all three planes: vertical, transverse and antero-posterior. The importance of diagnosis and treatment planning is of great importance, so that orthodontic treatment can be started before completion of growth.

POSTER SESSIONS 16–30

Poster Session 16 | 06.09.2018, 10:00–11:00 | Screen 1

Theme: Oral Surgery

P072

Odontogenic Keratocyst Treatment and Following Up – A Case Report

Mehmet Yaltırık, Cevat Tuğrul Turgut, Meltem Koray
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Introduction: The odontogenic keratocyst OKC is a cystic lesion which is classified as a developmental cyst derived from the lamina. OKC is known with rapid growth and invade the adjacent tissues. The distribution between sexes varies from male to female ratio of 1. 6:1. OKCs may occur in any part of the jaws with the majority occurring in the mandible-the angle of the mandible, ramus. The OKC involves approximately 11% of cysts in the jaws and it may be associated with an impacted third molar.
Case Description: We report a case 65 -year old man who had diabetes came with a swelling on the right mandible to İstanbul University Department of Maxillofacial Surgery. Patient sent to us with panoramic radiography. We took tomography to see the borders of cyst. We've seen radiolucency at the right side of mandibula from second premolar tooth to mid ramus, firstly we took biopsy and drained. After period of drainage 15 months cyst were enucleated. 3 months later implant supported fix prothesis were done.
Discussion: OKCs are thought to be derived from the lamina, traumatic implantation or down growth of the basal cell layer of the surface epithelium or reduced enamel epithelium. Rare examples of these cysts arising from the temporomandibular joint have been reported. Mandibular cysts can cross the midline, maxillary cysts may involve the sinus the nose. The cyst removed after drainage period and implant therapy adapted the area.
Conclusion/Clinical Significance: The aim of this study was to show a 65-year-old patient who had cyst that treated enucleation that performed after marsupialization, followed up, implant treatment.

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P073

Customized 3D-Allogenic Bone Blocks in Bone Defect Augmentation.

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Introduction: Dental recessions of the lower incisor teeth are a frequent therapeutic problem. When planning an orthodontic treatment, a special issue that requires a different diagnostic and therapeutic approach is bone deficiency in the anterior region of the jaw in the labio-lingual aspect, when the dentition is present. The objective is to present a clinical case and to introduce a customized allogeneic freeze-dried bone allograft (FDBA) block for its use in Guided Bone Regeneration (GBR) procedures prior to orthodontic treatment where the formation of gingival recession due to tooth movement is unavoidable.
Case Description: Authors present a clinical case where customized 3D allogeneic bone block was used. Based on a clinical case authors give a detailed description of bone block planning a preparation method based on CBCT. Authors therefore describe a surgical technique that is used to place and fix a graft. An orthodontic treatment protocol for patients undergoing GBR procedure is presented.
Discussion: Special attention needs to be paid to bone deficiencies in the form of fenestration and bone dehiscence when orthodontic treatment is considered since these are considered to be one of the risk factors for gingival recession development. In patients who already have dehiscence and fenestrations before the beginning of orthodontic this condition may deteriorate, leading to an intensification or emergence of a gum recession.
Conclusion/Clinical Significance: A new promising method of bone defect treatment using 3D customized bone blocks is presented.

P074

Two Different Ridge Preservation Technique in Anterior Maxilla: Case Series

Ahu Uraz, Deniz Çetiner, Janset Şengül
Gazi University, Faculty of Dentistry, Department of Periodontology, Turkey

Aim or Purpose: The dimensional changes may occur in anterior maxilla following tooth extraction and the preservation of bone volume might be necessary for success of implant therapy in terms of esthetics and functions. This case series was aimed to analyze outcome of two different augmentation technique both horizontal and vertical dimensions by clinical and tomographic analysis.
Materials and Methods: Ten patients, aged 22 to 45, failing at least two maxillary incisors and required implant placement were enrolled to study. The patients were allocated into two group; 1) Group A(n = 5):were treated with cortico-cancellous bone mix+TSV gel, and 2)Group B(n = 5):were treated with cortico-cancellous bone mix+L-PRF. The following parameters were assessed: plaque index, gingival index, papal index, bleeding on probing, probing depth and clinical attachment level. The width of keratinized tissue, gingival thickness, biotypes, recession depth and width were recorded. The horizontal and vertical ridge dimensions (RD) were determined using a modified digital caliper and an acrylic stent, respectively. Also radiographic analyses were performed with CBCT. All measurements were performed at baseline and 6 months.
Results: In Group A, one operation site was prematurely exposed (within 4 to 6 weeks). The horizontal dimension in Group A increased from 4.6 ± 0.54 mm to 9.6 ± 0.89 mm, a difference of 5 mm. This difference was 4.6 mm in Group B. The vertical change was a gain of 6 mm and 5.8 mm, respectively. The width of keratinized tissue was significantly higher in both group at 6th months following surgery.
Conclusions: Both ridge preservation technique improved ridge height and width dimensions. Horizontal and vertical RD may be more suitable for implant placement, especially in areas where loss of ridge height would compromise the esthetic result.

P075

Diode Laser's Applications in Mucosal Surgery

Sofia Haitami, Nacer Khazana, Ihsane Ben Yahya
Casablanca University Dental Faculty, Department of Oral Surgery and Oral Medicine, Casablanca, Morocco

Introduction: lasers have revolutionized our practice. Among these lasers, the diodes, whose wavelength is between 810 and 1064 nm, represent a good choice in soft tissue surgery because of its high absorption by hemoglobin and melanin. This work aims to examine the indications of use of the laser diode in mucosal surgery through clinical cases.
Case Report: The first case is that of a 24-year-old patient with a nodular formation of 0.5 cm diameter pedicled on the dorsal surface of the tongue. The second case is a 50-year-old, edentulous patient who presented with an epulis fissuratum at the anterior crest of the mandible in relation to a poorly adapted prosthesis. In both cases, the excision was performed with a diode laser with a very small amount of anesthesia. The diodes are also indicated for the frenotomy. This indication will be illustrated by 2 cases: a labial frenotomy and a lingual frenotomy.
Discussion: The use of the diode laser in mucosal surgery offers many advantages over the scalpel. Indeed, the amount of anesthetic used is less and the bleeding is absent during surgical procedures which provides additional comfort to the patient and the practitioner.
Conclusion: The laser is a therapeutic tool, whose good use and the respect of the indications and the procoles makes it possible to offer to our patients optimal treatment.

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P076

Pain-Relief Tactics on Mandibular Angular Fractures Early Postoperative Period

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Aim or Purpose: Optimization of the postoperative pain-relief through catheter-local irrigation of the Mandible fracture-line with solution of non-steroid antiinflammatory remedies.
Materials and Methods: 53 patients in age 17-46, having an operative intervention on Mandible angular fracture. During the operative treatment under the General Anesthesia in first group of patients (27) put a catheter to the fractured site and use local wound irrigation with non-steroid antiinflammatory remedies. Second group of patients (26) got traditional pain-relief treatment. For pain level estimation a visual-analog scale was used. Periodicity of estimation of intensity of pain made 4-8 hours during 48 hours. A recommended valid for one occasion dose of introduction was 8 mgs. Thus, a patient could skip next introduction in absence of pain. Authenticity of distinctions of averages of the compared groups was determined on the criterion of Student.
Results: Distinctions were considered reliable ($p<0,005$), the decreasing of pain level was marked in both groups, but during the first 24 hours of postoperative period a more painful was marked in the group of traditional analgesia. on supervisions middle intensity of pain is educed for the patients of the compared group, making $3,95 \pm 0,2$ point. While in a basic group - $2,96 \pm 0,35$ point.
Conclusions: This methodology provides the effective and safe anaesthetizing in an early postoperative period, allows to decrease a requirement in opioid- analgesics, that can bring additional benefits in patients' recovery and early rehabilitation.

Poster Session 17 | 06.09.2018, 10:00–11:00 | Screen 2

Theme: Orthodontics

P077

Cephal Behavior According To Bad Occlusion

Marcela Rao, Adriana Siancha Iantorno, Ana Maria Ramón de Blanco
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Introduction: Postural problems begin in most cases, in childhood, therefore during growth and altered postural attitude compromises the cephalic balance and jaw position causing possible malocclusion.
Aim or Purpose: It is to present the correlation between the skull and cervical angle skeletal pattern in a child population.
Material and Methods: 70 patients were evaluated with teleradiography cephalometric profile tests Ricketts skeletal pattern with class l, ll and III (Field ll craniomandibular relationship, Factor 7 convexity) and cephalogram Rocabado, using the craniovertebral angle. Result: Both sex and skeletal pattern are significant, and their interaction is not. In turn, age is not significant.
Conclusion: In the present study it was found that there is a statistically significant relationship between the cervical cranial angle and the skeletal pattern.

P078

Importance of PONT Index for Diagnosis and Orthodontic Treatment

Nora Dos Reis, Cristina Mengide, Patricia Lamónica, Rosa Iza, María Mateu
Facultad de Odontología de La Universidad de Buenos Aires, Departamento de Ortodoncia, Buenos Aires, Argentina

Aim or Purpose: This work focuses on determining how the Pont index is not only important for the determination of the diameter and shape of the arch, but also to demonstrate how the MBT philosophy leads to an improvement in the result of this index.
Materials and Methods: The study that was carried out is a cross-sectional, descriptive and comparative study with respect to the formula of the Pont index. Twenty patients were chosen at random, assisted in the postgraduate specialization course in Orthodontics and Orthopedics of the Faculty of Dentistry of the UBA, treated with MBT philosophy, between 2013 and 2015. The Pont Index was taken on pretreatment models and post-treatment, the simple average of the values obtained and the simple average of improvements in the group measured in the interpremolar and molar sectors were performed.
Results: The premolar sector improved in 88% of the cases and 22% in the molar sector.
Conclusion: From the results analyzed according to the Pont index, it emerges that in the group of patients measured and treated with the MBT philosophy, improvements are observed in the transverse diameters, the difference being more significant in the Premolar sector.

P079

Chromatic Evaluation Between Central Incisor and Canine with Lateral Loss

Rosa Maria Iza, Nora Dos Reis, Cristina Mengide, María Patricia Lamónica, Stella M. Martinez de Tomaszeuski
Universidad de Moron, Departamento de Ortodoncia,CAO, Moron, Buenos Aires

Aim or Purpose: To determine if, in cases of agenesis or loss of the upper lateral incisor, the upper canines can occupy that position and be chromatically aesthetic with the upper central incisors.
Materials and Methods: 45 patients of both sexes, between 15 and 30 years, were taken at random. The canines and the upper central incisors had to be erupted, without any enamel disorders or reconstructions. Photos were taken with a Lumix GH2 camera, 60 cm focus, with normalized daylight lamps and at a distance of

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10 cm from the lens. The color of the teeth was taken with the VITA classical A1 - D4 guide. The color most compatible with the upper canine and the central incisor was chosen. The sample was placed 1 cm from each tooth and the photo was taken. To choose the evaluation form, it was observed that in the VITA classical color guide, the colors are grouped by chromatic value, hue-saturation value, brightness value from light to dark.
Results: 67% were non-aesthetic while only 33% showed to be of the same chromatic group.
Conclusion: The aesthetic is affected by the color difference between the upper canine and the central incisor. In the "Aesthetic" range, 8 cases were seen where the canine was located naturally in the upper lateral position, giving positive results, in this range there is no significant difference between the different samples.

P080
Valuation the Torque of the Upper Incisors in Aesthetic Smile
María Patricia Lamónica, Rosa María Iza, Nora Dos Reis, Cristina Mengide, Stella Maris Martinez de Tomaszeuski
Universidad de Moron - Circulo Argentino de Odontologia, Moron, Argentina

Aim or Purpose: Check if at the outcome of the orthodontic treatment, patients who present the parameters of an aesthetic smile, have a 90° angle between the tangent to the vestibular face of the upper central incisor plane and the Frankfort plane.
Materials and Methods: It was analyzed the outcome photos of 200 patients of both sexes, taken at random, who completed the orthodontic treatment. In the outcome photos, patients had to show smiles with complete exposure of the upper central incisor clinical crowns up to 3 mm of attached gingiva, incisal edges of upper incisors and canines resting on the upper border of the lower lip, and little or none buccal corridors. Three calibrated professionals plotted on the profile radiographs of the selected patients, the Frankfort plane and the tangent to the vestibular face of the upper central incisors plane and measured the lower left angle.
Results: The average was 92° and the medium was 90°.
Conclusions: When evaluating the torque of the upper central incisors (tangent to the vestibular face plane) a 90 ° angle is formed with the Frankfort plane (Eastham) in aesthetic smiles.

P081
Molar Inclusion in Adults-Light Forces and Self-Raised Brackets
Cristina Mengide, Maria Patricia Lamonica, Rosa Maria Iza, Nora Dos Reis, Stella M Martinez de Tomaszeusky
Universidad de Moron, Departamento de Ortodoncia.CAO, Moron, Argentina

Introduction: Molar inclusions in adult patients, are difficult to resolve. This case uses light forces to solve inclusion, stimulate bone regeneration, correct skeletal and dental class III, and also anterior open bite.
Case Description: Female patient of 20 years, skeletal and dental class III, anterior open bite and inclusion of the first left permanent molar. It was decided not to perform the extraction of the included piece due to bone involvement. Orthodontic treatment was performed with passive self-ligating brackets and light forces. The occlusal face of the molar was released. A gripping element made of .016 ss wire for the use of vertical elastics was placed on it. Rx controls were performed to observe the formation of bone in the slow extrusion path of the molar. Once the vestibular face is exposed, the corresponding tube is cemented continuing with the mechanics of light forces, using class III elastic and vertical control to close the anterior open bite.
Discussion: Given the possibility that when piece 26 was extracted a bone lesion would remain, and it would make the subsequent insertion of an implant impossible, it was resolved to work orthodontically with light forces to extrude this molar and achieve bone regeneration.
Conclusion: Working with light forces and passive self-ligating systems, it is possible to locate dental pieces in inclusion in adults and improve the bone level of said pieces while correcting Class III and the anterior open bite.

Poster Session 18 | 06.09.2018, 10:00–11:00 | Screen 3

Theme: Materials, Epidemiology

P082
Surface Roughness of Bulk Fill Resins Using Three Polishing Systems
Manuel Antonio Bedón Rojas
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Aim or Purpose: The objective of the study was to evaluate the surface roughness of a Bulk Fill resin with nanoparticles submitted to three polishing systems in prefabricated sample bodies.
Material and Methods: Prospective longitudinal and in vitro experimental study, in which it was constituted by 30 bodies of Bulk Fill resin sample. They were classified into three study groups: group J, group P and group S. The surface roughness of each sample body was evaluated 4 times with the RUGOSÍMETRO SJ-201P, Mitutoyo; obtaining a total average roughness and the measurements were made in two moments (pre-polishing system and post polishing system). For the analysis of the data, statistical software SPSS v.22 was used, evaluating the polishing efficiency of the different systems, through descriptive and inferential analysis techniques, with the use of T-Student to evaluate differences in means of the different samples and the ANOVA test with significance level $p < 0.05$.
Results: No significant difference was found ($p > 0,05$) in the surface roughness obtained between the polishing systems. It was observed that the P system generated a greater difference in roughness between both moments.
Conclusions: It could be concluded that using the polishing system of the same manufacturer of the Bulk Fill resin can generate better results in the reduction of the surface roughness in the restorations with Bulk Fill resin.

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P083

Biopolymeric Coatings for Improving Biocompatibility of Titanium Alloy Dental Implants

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Aim or Purpose: The aim of this study is to obtain and characterize titanium alloy coated with antimicrobial collagen microcapsules in order to enhance their biocompatibility and microbiological properties.
Materials and Methods: Ti_6Al_4V disks samples with 18 mm diameter and a thickness of 0.7 mm were sandblasted with Al_2O_3 powder with the mean size of particles of 29, 45, 110 and 250 μm to confer different roughness for each sample. The solution for the coating was biologic hydroxyapatite sol derived from [$Ca(NO_3)_2$,$4H_2O$] and P_2O_5 dissolved in ethylene glycol with a Ca:P molar ratio 1.67. The HAp-titanium alloy samples were then immersed in antimicrobial collagen microcapsules solution (1, 5 and 10%) for 3 times, dried at 35°C. The samples coated with biologic hydroxyapatite and collagen microcapsules were characterized by SEM/EDAX, X-ray and contact angle. The biocompatibility tests were performed on human osteoblast-like cells.
Results: By correlating SEM/EDAX and X-ray analyses of coated implants the best roughness was obtained for the samples sandblasted with Al_2O_3 of 250 μm and coated with biological hydroxyapatite and collagen microcapsules. The contact angles showed that all samples coated with antimicrobial collagen microcapsules are more hydrophilic thus creating a good environment for osteoblast-like cells' growth.
Conclusions: The improved hydrophilicity of the Ti_6Al_4V coated with biological hydroxyapatite and antimicrobial collagen microcapsules through different mechanical treatment surface with Al_2O_3 powder proved to be biocompatible with osteoblast-like cells, this process being a good protocol for surface treatment of dental implants.

P084

Physical Properties of a Denture Base Acrylic Resin after Disinfection

Jacqueline de Oliveira Zoccolotti, Camilla Olga Tasso, Maria Isabel Amaya Arbeláez, Isadora Ferreira Malavolta, Janaina Habib Jorge
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Aim or Purpose: Denture stomatitis triggered by *Candida* species requires better preventive measures. This study evaluated the physical properties of a denture base acrylic resin after immersion in antiseptic soaps. Denture stomatitis triggered by *Candida* species requires better preventive measures. This study evaluated the physical properties of a denture base acrylic resin after immersion in antiseptic soaps.
Materials and Methods: First, minimum inhibitory concentrations (MIC), for Candida albicans, were determined for each soap. Acrylic resin specimens were prepared and storage in distinct solutions during 0, 7, 14, 21, 28 days. The solutions were: DW: distilled water at 37°C (control group); DS: cycles of daily immersion in Dettol soap for 8 hours at room temperature, followed by in distilled water for 16 hours at 37°C; PS: cycles of daily immersion in Protex soap, as described for the previous group; LS: cycles of daily immersion in Lifebuoy soap, as described for group DS. The parameters evaluated at each time points were: surface roughness and hardness.
Results: Regarding the roughness, there was no statistically significant difference ($p > 0.05$) between the groups. Lifebuoy decreased resin hardness regardless of storage time ($p = 0.003$). After 21 and 28 days of storage, there was an increase in hardness values, regardless of the type of soap. All soaps did not change surface roughness, hardness (except Lifebuoy).
Conclusions: Therefore, immersion in two antiseptic soaps (Protex and Dettol) may be a cheap and easy procedure to prevent denture stomatitis.

P085

Biological Properties of Acrylic Resin after Immersion in Disinfectant Soaps

Camilla Olga Tasso, Jacqueline de Oliveira Zoccolotti, Maria Isabel Amaya Arbeláez, Isadora Ferreira Malavolta, Janaina Habib Jorge
Faculdade de Odontologia de Araraquara, UNESP, Departamento de Materiais Odontológicos E Prótese, Araraquara, Brazil

Aim or Purpose: The objective of this study was to evaluate the biological properties of an acrylic resin for denture base after immersion in liquid disinfectant soaps.
Materials and Methods: Minimum inhibitory concentrations (MIC) for *Candida albicans* were determined for each soap. Acrylic resin specimens were prepared and stored in solutions separated by 0, 7, 14, 21, 28 days. The solutions were: DW: distilled water at 37 ° C (control group); DS: daily immersion cycles in Dettol detergent for 8 hours at room temperature, followed by distilled water for 16 hours at 37 ° C; PS: daily immersion cycles in Protex soap, as described for the previous group; LS: daily cycles of immersion in the Lifebuoy soap, as described for the DS group. The reduction of the *Candida albicans* biofilm formed on the surface of samples immersed for 8 hours (overnight) in the solutions was also evaluated. The parameters evaluated at each moment were: the counting tests of colony forming units and cell viability.
Results: The results showed that the type of soap had a statistically significant effect ($p > 0.05$) on the capacity of the biofilm formation in the adhesion phase, but after 24 hours, no difference was found between solutions or between the times. The reduction of the biofilm on the acrylic resin samples after 8 hours of immersion there was a statistically significant difference ($p = 0.014$) between the groups.

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Conclusions: Immersion in antiseptic soaps may be a cheap and easy procedure to prevent denture stomatitis.

P010

Frequency of Mouthguards in the Different Sports in Tucuman

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Aim or Purpose: In sports practice, it is necessary to apply preventive measures oriented to reducing the impact of traumatic injuries. Mouthguards reduce the incidence and severity of trauma, ADA and ASD recommends its use. To know the use of mouth guards in athletes in the province of Tucuman, Argentine.

Materials and Method: A survey was conducted on mountain bikers, rugbiers, hockey players, football players, among other athletes, to find out whether they use mouth guards; type (I, II, III, IV); frequency of trauma in general and buccal.

Results: 203 athletes with an average age of 26,23 (±8.28) were surveyed, 78% were male. Athletes of several sports were observed, 88% only practiced only 4 sports, mountain biking, rugby, football and hockey. Only 28.57% of responders used mouth guards, type I 15,51%, type II 79,31%, 5,17% used type III and none used type IV. No football player (23%) or biker (32%) used mouthguards. The use of mouth guards is more frequent among male athletes (28% in men y 4% in women) (Fisher exact test: value $p < 0.0001$). 45.32% of the athletes reported having suffered trauma during their activities and 7,38% were oral trauma.

Conclusion: This work demonstrated the low frequency of use of type III oral protector in sports practice. We must promote the use of the appropriate mouthguards in the different sports associations in Tucuman.

Poster Session 19 | 06.09.2018, 11:15–12:15 | Screen 1

Theme: Oral Medicine

P086

Oral Microbiome Study (Balance of the Oral Microbiota)

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Aim or Purpose: The aim of this study was to stablish the presence of bacterial, fungal and non-habitual cell morphotypes in patients with presumptive clinical diagnosis of oral mycosis. This method includes the morphological study of the oral microbiota, as well as the inflammatory reaction. The guidelines of the Procedures Manual of the Vaginal Content Balance of the Argentine Sexual and Reproductive Health Program were used, which includes the analysis of the content through the cultivation and fresh, with Gram and de Giemsa stains, in order to integrate the exploration of the entire biological panorama.

Materials and Methods: A descriptive, transversal and correlational study was carried out. All patients underwent a medical-dental clinical history including a complete stomatologic examination and signed informed consent. Patients of both sexes older than 18 years who presented stomatological lesions compatible with oral mycosis, such as hyperplasias of filiform papillae, lingual depapillations and buccal burning syndrome were included.

Results: Of the 153 patients studied (n = 153), 21% were male and 79% female, with an average age of 50.8 years. Finding positive for candida 90.84%, being the subtypes albicans 52.28%, krusei 40.52%, tropicalis 1.3% and without identification 5.9%. Regarding the clinical lesions observed, the most frequent was hyperplasia of filiform papillae, followed by atrophy, vegetation and verrucousness.

Conclusion: The application of this procedure in the oral cavity is extremely useful to identify the pathogenic agent causing the oral clinical lesion.

P087

Oral Mucositis in Pediatric Patients with Cancer in Durango, Mexico

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Aim or Purpose: In Mexico, pediatric cancer is the third leading cause of morbidity and mortality in children between 1 and 14 years of age. Chemotherapy (CT) and/or radiotherapy (RT) are commonly used to treat these conditions. The adverse effects of CT and RT are related to their cytotoxic activities against non-cancerous cells of the body, resulting in anatomical and functional conditions which impact in the human health. The oral cavity is frequently affected, as lesions can appear that aggravate existing pathologies and the oral mucositis is an adverse effect of CT and/or RT. The aim of this study was to investigate the apparition of oral mucositis in children undergoing cancer treatment.

Materials and Method: Fifty-one children with cancer who had received CT, RT, or CT/RT underwent clinical evaluations; World Health Organization (WHO) criteria were used to establish the degree and severity of mucositis.

Results: Mucositis was present in 88.23% of the patients; 57.78%, 7.78%, and 24.44% received CT, RT, and CT/RT, respectively. Severity scores of 1 and 2 were the most common; scores of 3-4 were observed in patients who received CT/RT or more than seven

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treatment cycles. There was a significant association between mucositis, the type of treatment, and the number of cycles received ($p < 0.05$).

Conclusions: It is important to implement therapeutic protocols that help maintain excellent oral health and reduce the risk of oral mucositis. Stomatologists should be consulted to assess patients' oral cavities and undergo preventative treatment prior to CT and/or RT administration.

P088

Evaluation of Saliva K-Na Ions Changes during Orthodontic Therapy

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Aim or Purpose: Saliva is a complex mixture secreted by the salivary glands, which contains more than 60 compounds. Electrolytes, especially sodium and potassium balance of proteins has a direct impact on biological fluids. Saliva and serum proteins may be involved in the mechanism of tooth demineralization. The aim of this study was evaluation of saliva Na and K ions during orthodontic therapy.

Material and Methods: Of 13 people who had inclusion criteria, in time before the start of orthodontic treatment, one week after treatment, 1 month and 3 months after treatment saliva sample was taken. About 5 cc saliva spitting method used was collected in sterile Falcon. The samples were poured into test tubes and centrifuge for 10 minutes at 3000 rpm and the sodium and potassium ion concentration was measured by spectrophotometer.

Results: The release of potassium ions in fixed orthodontic appliance during the effective period is short. So that no significant difference in the concentration of potassium ions in the range of one week and one month after treatment, respectively. Sodium ion concentration decreased significantly after use of fixed orthodontic appliance control group. But a significant increase in the concentration of these ions in the saliva of patients after one month took place.

Conclusion: Operating time on saliva ion release rate is effective from fixed orthodontic appliances, the concentration of sodium and potassium ions after about three months, returning to the normal pre-treatment.

P089

Laser in the Treatment of Oral Mucositis

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Introduction: Radiotherapy and chemotherapy are treatments applied in patients with malignant tumors of the head and neck. It can be defined as an inflammatory condition of the mucosa manifested through erythema, ulceration, hemorrhage, edema and pain. Often, due to its morbidity, the antineoplastic treatment is altered or suspended.

Case Description: This work, illustrated through a clinical case, aims to guide the prevention and treatment of oral mucositis. The low intensity laser alternative has been used as a form of treatment/healing of oral mucositis and has obtained positive responses from a clinical and functional point of view. Therapy using the low-power laser with the wavelength of 685 nm, power of 35mW and energy density of 1.1J/cm2, daily, until the involution of the lesions and normalization of the functions.

Discussion: Oral mucositis is an inflammatory condition of the mucosa which may be secondary to radiotherapy, sometimes leading to the need for modifications that interfere, therefore, in the prognosis of the disease. Laser therapy has become shown a very efficient and promising method in treatment of this condition, since it reduces the pain and accelerates the healing process of the lesions. However, more studies controlled, with significant sampling, are necessary for the development of protocols of this modality of treatment.

Conclusion: Based on the protocol used, before and during the treatment of mucositis, the low power laser stimulated tissue healing beyond analgesia.

Poster Session 20 | 06.09.2018, 11:15–12:15 | Screen 2

Theme: Oral Health and Systemic Health

P090

Alveolar Bone Cells Associated with Dentinogenesis Imperfecta and DSPP Mutation

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Aim or Purpose: Dentin sialophosphoprotein (*DSPP*) plays a crucial role in hard tissue mineralization. *DSPP* mutations have been shown to cause dentin disorders in humans and periodontal defects in mice. However, the characteristics of alveolar bone cells in patients with *DSPP* mutation have never been explored. This study aims to characterize phenotype, genetic etiology, and alveolar bone cells associated with *DSPP* mutation.

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Materials and Methods: Clinical and radiographic examinations of the patients were performed. Pathogenic variants were identified by whole exome and Sanger sequencing. Cells isolated from the alveolar bones of an affected patient were investigated for their characteristics including cell morphology, attachment, spreading, and proliferation.
Results: We examined a family with three affected members exhibiting opalescent teeth with extreme wear and fracture. Clinically, the proband had atrophic dental arch and multiple bone exostoses. Radiographic examinations of affected patients revealed bulbous crown, obliterated pulp cavities, short roots, periapical lesions, furcation involvement, and alveolar bone loss. Exome sequencing identified a heterozygous missense mutation, c.50C>T, p.P17L, in exon 2 of the *DSPP* gene. These phenotype and genotype suggest dentinogenesis imperfecta (DGI). The alveolar bone cells isolated from the patients showed compromised proliferation, colony formation, and spreading compared to the control cells obtained from healthy individuals.
Conclusions: This study demonstrates dentin anomalies and periodontal defects in the patients having DGI associated with *DSPP* mutation. Compromised cell spreading, proliferation, and colony formation were observed in the mutant alveolar bone cells.

P091

Attitudes and Practices Study Regarding Dental Floss Among Dental Students

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Aim or Purpose: To assess attitudes and self-reported practices regarding dental floss among dental students.
Materials and Methods: A 19-item self-designed questionnaire regarding oral hygiene attitudes and practices, mainly dental floss, was self-administered to 137 dental students: 46 (33.58%) freshman, 47 (34.30%) 3rd year and 44 (32.12%) last year from Faculty of Dental Medicine, "Carol Davila" University of Medicine and Pharmacy, Bucharest, Romania. Prior the study informed consent was obtained.
Results: 87% of freshman students brushed their teeth twice daily or more and 13% brushed once a week, but 35% of them tend to spend less time (1 min) and 4% just 30 seconds on brushing. Only 2% of 3rd and last year students brushed their teeth once a week, but 9% of last year students tend to spend 1 minute and 5% just 30 seconds on tooth brushing. 83% of freshman students used dental floss after tooth brushing, but 46% of them for only 30 seconds, while 81% of 3rd students used dental floss before tooth brushing and 57% of them for 1 minute. 41% of last year students choose dental floss by doctors' recommendation, 17% of them by hazard or store offer and 7% by media advertising, while 35% of freshman students choose dental floss by doctors' recommendation, 24% by other family members recommendation, 19% by hazard and 14% of them by media advertising.
Conclusions: The results of the study indicate the need of more extensive research, in order to implement oral health programs, appropriate to the needs of these communities. .

P092

Is Obesity a Risk for Periodontal Disease?

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Aim or Purpose: Obesity is an epidemic disease and higher in body mass index (BMI) can contribute to an overall systemic inflammatory response, but the consequences in oral health remain controversial. In this study, we investigated the possible association between obesity and periodontitis.
Materials and Methods: 21 patients with class III obesity (BMI > 40 kg/m^2) were submitted to an intraoral examination, periodontal evaluation, and pocket depth measurement. Patients who were more than 65 years old, who were diagnosed with diabetes, with leukogram abnormalities, low oral hygiene (lower than twice daily tooth brushing) and using the dental prosthesis were excluded of this research. This study was approved by the Research Ethics Committee and all subjects gave written consent after receiving information concerning the research objectives.
Results: The gingival bleeding was observed in 60.7% of patients and even all patients presented slight periodontal disease, it was localized in upper molars (16, 17, 26 or 27).
Conclusions: There was no association between obesity and periodontitis in this study. The prevalence of localized periodontal disease could be the result of facial fat accumulation associated with physical limitation present in class III obese patient during brushing.

P093

Oral Health: The First to Decline During Obesity

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Aim or Purpose: Obesity is a risk factor for diet-related noncommunicable diseases including diabetes, hypercholesterolemia and oral health problems, affecting all age groups and socioeconomic classes. Therefore, the aim of this study was to assess the magnitude of obesity investigating the biochemical parameters, TDMF index, and impact on oral health quality of life.
Materials and Methods: 19 volunteers with class III obesity (BMI= 48.8 ± 8.9) were submitted to an intraoral examination, blood tests were performed, and the group answered a questionnaire to verify demographic and socioeconomic factors, use of dental services, and Oral Health-Related Quality of Life (OHRQoL). This study was approved by the Research Ethics Committee.

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Results: The population was predominantly feminine (79%), the majority concludes the secondary school (95%). The biochemical parameters were within the normal references ranges however, the oral health was extremely compromised even with good hygiene and regular dental visits (DMFT indexes= 9.52 ± 4.5) causing psychological disability and physical pain in the great part of patients.
Conclusions: This study showed no changes in clinical biochemistry measurements, but a significant association between obesity and oral health decline was present, causing a negative impact on patient's quality of life.

P094
Dental Surgery in Patients with Severe Blood Dyscrasias
Marcelo Ivander Andrade Wanderley, Leticia Rodrigues De Oliveira, Juliana Bertoldi Franco, Luiz Alberto Soares Valente Junior, Maria Paula Siqueira de Melo Peres
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Introduction: Hematologic dyscrasias are diseases that affect blood components, increasing the risk of infection and bleeding, making it a challenge for dental management. The present study aims to report two cases of patients diagnosed with blood dyscrasias that underwent dental surgical procedures highlighting the main multidisciplinary approach for a safe dental care.
Case Description: Patient 1, 18 years old, female, diagnosed with aplastic anemia, thrombocytopenic (5.200 cells/mm^3), with the need of extraction of the left mandibular first molar and patient 2, 30 years old, male, severe hemophilia A with the need of extraction of both upper left premolars. Platelet transfusion in patient 1 and FVIII replacement therapy (30%) in patient 2 were performed before the surgical procedure. Intra alveolar fibrin glue, several simple interrupted sutures and fibrin glue on top of the sutures were used for hemostatic control. There were no complications during the trans and postoperative period and there was no need of hemoderivatives transfusion.
Discussion: The human-derived fibrin sealant mimics the final stage in the coagulation cascade and several studies show its efficacy: helps the sealing of tissues, closure of wounds and establishes local hemostasis. Massive transfusion nowadays is only used when really needed as there is an increased risk of disequilibrium in hemostasis and some side effects may present such as pyrogenic shock and hypervolemia. Local hemostatic measures therefore can be used to contain bleeding.
Conclusion/Clinical Significance: Thus, patients with blood dyscrasias can safely undergo dental treatments, using interdisciplinary planning to reduce the transfusion of blood derivatives.

Poster Session 21 | 06.09.2018, 11:15–12:15 | Screen 3

Theme: Digital Dentistry

P095
Awareness of Dental Students about Radiation Hazards and Safety Measurements
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Aim or Purpose: To evaluate the students' knowledge about radiation hazard and protecting methods in Taibah university, Medina, Saudi Arabia in order to improve the students' knowledge about radiation hazards and safety methods in dental clinic.
Materials and Methods: This was a cross-sectional study that recruited dental students who were working at Taibah university dental clinic, Medina, Saudi Arabia. Through convenience sampling, structured anonymous questionnaires were distributed. Questionnaires have been distributed to students from 2nd to fifth grade and divided to 2 sections; five questions about x ray hazards and twelve questions about x ray protection methods. Descriptive statistics and inferential analysis were performed.
Results: The study sample included 165 dental students of whom 62% were males and 38% were females. Forty-percent of the participants have heard about stochastic and non-stochastic effects, 61% were aware about ALARA principle. The majority of the participants, 75% believed that radiation exposure has an effect on the thyroid gland, 56% remain at a *safe distance* during exposures, however, protective lead apron has not been used, also 62% said that x-ray is contraindicated in pregnancy, and high percentages of the participants did not know the permissible radiation exposure limit for general public 50% or for the workers 40%.
Conclusion: The overall level of awareness about radiation hazards and safety measurements among dental students have varied from low to medium. Student must know and use the protection principle to minimize the risk on the patient and the dentist.

P096
Distance Learning: Expanding Dental Education in Special Care Dentistry
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Aim or Purpose: Diabetes, Chronic Kidney Disease and Hypertension have increased incidence and prevalence in the world population. Research shows that the absence of oral health care may contribute to negative outcomes in patients with oral problems. Lack of education has been cited as one of the factors that impacts in the provision of oral health care for a significant number of individuals.
Materials and Methods: To reduce the knowledge gap of dentistry professionals, a 30-hour Massive Open Online Course (MOOC)

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was developed for the care of patients with systemic impairment during the years 2016 to 2018 in Portuguese for the Brazil. Initially, given the epidemiological importance, three pathologies were chosen: diabetes, chronic kidney disease and hypertension. All materials followed the principles of web development standards to provide usability and accessibility to anyone on any device. In addition, to share knowledge and expand access, all course content is available in English and Spanish e-books, free of charge, in applications on Google Play and the Apple Store, since December 2017.
Results: The two-year follow-up of the course registered 13089 enrollments. Despite the target audience being dental professionals, 15% of those enrolled were from other health professions. Almost all of them (94.2%) were professionals of the Brazilian Public Health System, 73.4% were female.
Conclusions: The results show that the use of information technology resources are strategies capable of increasing the access to education of a large number of professionals, improving the knowledge necessary for the oral health care of patients with systemic impairment.

P097
6th Month Follow-Up of Cad/Cam Fabricated All-Ceramic Single Crowns
Sinem Ok, Yılmaz Umut Aslan, Yasemin Özkan
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Aim or Purpose: The aim of this clinical study was to compare the marginal and internal adaptation of all-ceramic crowns fabricated by means of computer-aided design/computer-assisted manufacturing (CAD/CAM) technology and examine the clinical outcomes at baseline, 6 months after luting.
Materials and Methods: A total of 45 crowns were placed, including 15 lithium disilicate ceramic crowns, and 30 lithium disilicate (LDS) strengthened lithium alumino-silicate (LAS) glass-ceramic crowns. The marginal and internal gaps of crowns were recorded by using a replica technique. The replica specimens were sectioned bucco-lingually and mesio-distally and the thickness of silicone layers was examined by computerized light microscopy at × 40 magnification. Twenty reference points per tooth were measured, mean marginal and internal gaps were recorded. Restorations were clinically assessed at baseline and 6 months after cementation by using USPHS (United States Public Health Service) criteria, plaque and gingival indexes as well as patients' satisfaction criteria. Data were analyzed by using "Mann-Whitney U" and "Freidman" tests ($P < 0.05$).
Results: Total survival rates of LDS and LAS groups were 100%. There were no crown fracture or chipping. The mean marginal gaps were 53.33 (± 11.27) μm for LDS group and 51.67 (± 11.24) μm for LAS group ($P < 0.05$). The highest gap value was observed at the occlusal area and the lowest one at the marginal area. There was no significant difference depending on the material.
Conclusions: All analyzed crowns exhibited clinically acceptable scores regarding clinical evaluation criteria. Early results indicate that LAS crowns may be an effective option for all-ceramic restorations.

P098
Clinical Evaluation of 2 Different Cad/Cam Inlay-Onlays as Split-Mouth Study
Elif Coşkun, Yılmaz Umut Aslan, Yasemin Özkan
Marmara University Faculty of Dentistry, İstanbul, Turkey

Aim or Purpose: The aim of this prospective clinical split-mouth study was to evaluate the clinical performance and compare the marginal adaptation of inlay-onlay restorations made of a lithium-disilicate glass-ceramic and hybrid ceramic CAD/CAM blocks over a 6-month period.
Materials and Methods: A total of 60 inlay-onlay restorations were placed in 14 patients including 30 lithium disilicate glass ceramic and 30 hybrid ceramic CAD/CAM blocks. The restorations were assigned to two groups according to the materials used. Clinical evaluations were performed after 1 week and 6 months of cementation process according to the modified United States Public Health Services (USPHS) criteria, gingival and plaque indexes. The marginal quality analysis of sixteen samples were assessed under a SEM regarding morphological changes. The data were analyzed by using Friedman, Wilcoxon Signed Ranks, Chi-square, Independent samples and Paired t tests ($p < 0.05$).
Results: No statistically differences between the two materials were found at any time. After 6 months, total survival rates of all-ceramic restorations were 100%. Regarding stereomicroscopic evaluation of IPS e.max CAD and Cerasmart groups of this study, continuous margin percentages in both ceramic-cement and enamel-cement interfaces decreased, but these results were not statistically significant ($p > 0.05$).
Conclusions: Based on the 6-month data, both all-ceramic systems can be considered reliable treatment options for posterior inlay onlay restorations.

P099
Accuracy of Two Different Intraoral Scanners in Full Dentate Patient
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Aim or Purpose: Over the last years, different intraoral scanning systems for direct digitalization have been introduced to the dental market. However, the accuracy of these scanners is variable, and little information is available. The aim of this in vivo study was to compare the accuracy of two intraoral scanning systems and the difference between upper and lower jaw on the accuracy.
Materials and Methods: Ten patients with full dentition received one conventional impression with a polyvinyl siloxane (PVS) and three scans with an intra-oral scanner (C) with powder and powder-free intra-oral scanner (IOS) for upper and lower jaw. The conventional impressions were poured and the resultant casts were scanned and used as the reference model to evaluate precision and trueness of intraoral scanning virtual models provided by each system. Data were converted to stereolithography (STL) files and processed and analyzed.

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Results: The trueness value was 99,88 ± 42,56 μm in upper jaw and 82,6 ± 26,81 μm in lower jaw for C, and 105,53 ± 25,49 μm in upper jaw, and 109,56 ± 36,84 μm in lower jaw for IOS. The differences between two systems were not statistically significant ($P > 0.05$), but statistically significant difference was found in the precision ($P < 0.05$). C group showed higher value in both upper and lower jaws.
Conclusions: Powder-free intra-oral scanner was more precise than with the powder intra-oral scanner and at the similar level of trueness. No statistically significant difference was found between upper and lower jaws in both systems.

Poster Session 22 | 06.09.2018, 12:30–13:30 | Screen 1

Theme: General Dentist

P100
Acidogenicity and Aciduricity of Streptococcus Mutans Serotype C
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Aim or Purpose: The virulence factors associated with *Streptococcus mutans* (*S. mutans*) pathogenicity include acidogenicity and aciduricity (production and acid tolerance). *S. mutans* is classified into four serotypes and although serotype *c* is the most predominant, there is great controversy about its relationship with caries. The objective of this study was to evaluate the phenotypic characteristics related to acidogenicity and aciduricity of *S. mutans* serotype isolated from saliva of children with and without caries.
Materials and methods: The Institutional Ethics Committee approved this descriptive study. Saliva samples were collected from 29 children between 8-10 years of age. Isolates were identified as *S. mutans* and genotyped by PCR. 50 selected isolates were analyzed in order to determine their acidogenicity and aciduricity capacity at pH 2.8 and 5.0. Chi-square test was used to estimate the association between variables. The Logrank test was used to analyze survival at a 5% of significance.
Results: While the presence of *S. mutans* was significantly higher in patients with caries ($p < 0.05$), the distribution of serotype *c* was similar in children regardless of caries experience. Acidogenicity was similar among the tested groups of children. However, aciduricity at pH 2.8 was higher in the isolates from children without caries (Log Rank $p = 0.041$).
Conclusions: Acidogenicity does not appear to be the differential virulence factor between the isolates, and the increased aciduricity of the isolates from children without caries is possibly related to inherent mechanisms of the strains that modulate the acid tolerance response improving their survival.

P101
Chicken Embryo as a Model to Study Facial Development
Yurany Estupiñán Villa, Juan Carlos Restrepo García, Andrea Estefanía Restrepo Morales, Tatiana Rodríguez Oquendo, Maria Camila Yances Sánchez, Monica Tatiana Parada-Sanchez
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Aim or Purpose: Facial development is a complex and synchronized embryonic process that begins with the formation and growth of five facial prominences, a singular frontonasal prominence, two maxillary prominences and two mandibular prominences that contribute greatly to the external appearance of an individual. The purpose of this study was to identify the stages that lead to the formation of the face using the chick embryo as a model for observation and study.
Materials and Methods: After approval of the Institutional Animal Ethics Committee, the facial embryonic development was monitored in 60 fertilized eggs. Selected embryos were photographed and their facial developmental stages were identified according to Hamburger and Hamilton stages (HH, 1951).
Results: Fertilized eggs were incubated with an average temperature of 37.1° C and constant humidity. Under these conditions, the viability rate of the embryos was 74.2%, for a total of 33 embryos analyzed between HH6 and HH27 (embryonic days 1-6). Chick face formation took place between HH16 and HH27.
Conclusions: The chicken embryo is an appropriate model to understand the facial development taking into consideration its remarkable similarity in the stages of craniofacial morphogenesis observed in developing humans, particularly during the rapid organization, growth and fusion of the facial prominences. In addition, the chick face is easily accessible for observation and manipulation in most stages. Lastly, a large number of embryos can be observed for a short period time at a low cost.

P102
Empathy in Dentistry Students of Universidad Catolica de Cordoba, Argentina
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The aim of this study was to measure the levels of empathic orientation in university students from 1st to 5th year of Dentistry, according to genders, in 2016. An exploratory cross-sectional study was carried out. The sample consisted of students from 1st to 5th year, 173 (79.36%), and was stratified by academic year and gender. Jefferson's Empathy Medical Scale (EEMJ) was applied in the Spanish version for students of health sciences (S version), validated in Mexico and Chile, and culturally adapted to Argentina by judges. An analysis of variance (ANOVA) model bifactorial III was carried out, to evaluate differences of the means between the academic years, genders and the interaction of these factors. The level of significance used was $\alpha \leq 0.05$ and $\beta < 0.20$ in

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all cases. There was a difference between women and men in empathy in general (F = 108.56, M = 98.859) and in their components, with the exception of "Put yourself in the other's shoes". Both gender tend to decrease empathy in general and its components from 3rd year with tendency to increase by 5 °, except for the last component. The empathy in general difference between students of 5 ° and 1° was covered in 29.8% of possible growth. "Compassion care" 18.99%, "Taking perspective" 36.84% and "Put yourself in the other's shoes" 6.71%. These results provide a diagnostic to work on specific strategies to promote the formation of this attribute in the curriculum of the Dentistry students of this University.

P103

Importance of Rugae Palatinae in Human Identification

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Aim or Purpose: The Palatal Rugoscopy refers to the study, registration and classification of rugosities localized in the mucosa of the roof Palatine oral cavity.
Materials and Methods: In this study we sought to demonstrate the properties of palatal rugae to identify a human being in those cases where body characteristics do not allow the use of traditional methodologies such the fingerprints, that is to say bodies in an advanced state of decomposition, carbonization or skeletonization. Materials and methods: 260 individuals of both sexes were selected, all belonging to the Argentine National Gendarmerie, with the objective of elaborating an undoubted rugoscopic database to make comparisons with dubited imprints, and to determine the patterns in terms of form and direction, following the classification established by the Argentine dentist Juan Ubaldo Carrea.
Results: Allowed to evaluate a positive comparison in the whole sample, with higher frequencies of the types I (31%) and II (39%) and the straight (42%) and curve (33%) morphologies according to the Carrea classification.
Conclusion: The need to raise awareness among the scientific community about the importance of knowing and disseminating this identification methodology, its value as a variable potential for population analysis, and its eventual inclusions both in training programs and in judicial use file systems are discussed.

P104

Buccodental Effect in Divers during and After a Dive

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Aim or Purpose: To examine the presence of symptoms in the stomatognathic system in recreational and sport divers in a dive to the open sea in the Ecuadorian coasts during and after an immersion in the period from May to July 2017.
Materials and Methods: Epidemiological, exploratory, descriptive, observational cross-sectional study. Through the non-probabilistic sampling method intentional type. We worked with 3 diving schools: Ray Aguila, Tortuga Divers and Sea Life Diving and the GOE.
Results: The divers interviewed, the masculine gender obtained 76.8% with 17.3% and the feminine 23.1% with 8.69%. All divers perform medical-dental consultations per year, 53.6% one consultation per year, 27.5% per year, 8.6% three consultations per year, 5.7% four consultations per year and the remaining 4.3% five dental visits year. of the totality of the interviewed, 49.26% presenting type of symptomatology during the dive. with respect to the presence of some type of pain, 14.49% was during the descent and 8.69% in the ascent. According to the type of pain, the dental damage was of 26.08%, and that of the Articulation was temporomandibular remnant of 23.18%.
Conclusions: According to the literature, diving exposes the oral tissues as a lesion-type lesion, such as barodontalgia, barotrauma, odontocrexis, muscle and joint fatigue (atm) due to continued bite on the air supply mouthpiece that causes a mandibular displacement. and an anteropulsion of the articular disc. According to (Zadic, 2009), the possible sources can be: dental caries, defective restorations of the teeth, pulpitis, pulp necrosis, apical periodontitis, periodontal pockets, impacted teeth and mucous retention cysts.

Poster Session 23 | 06.09.2018, 12:30–13:30 | Screen 2

Theme: Caries Prevention

P105

Evaluation of an Oral Health Programme

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Introduction: Caries and gingival diseases can be prevented by controlling their risk.
Aim or Purpose: To encourage self-care actions to students from the NOA region by means of conscious promotion and prevention.

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Material and Methods: This project includes all students at Primary level. Several workshops about oral care have been done and the main recipients were parents. However, different training programme factors intended mainly to teachers and students were also carefully organized. The main purpose of these was to raise awareness among the participants over the importance of having these oral care techniques included in their everyday life. After that, a group of people was selected to be health promoters in order to continue persuading people about the value of these healthy habits.
Results: The outcome of this programme showed to be a great success since all the students had knowledge not only of the basic aspects concerning oral health but also, they effectively showed that they knew how to keep it. On the other side, parents as well as educators who acted as health promoters showed to be motivated and eager to continue having (and encouraging) good oral hygiene.
Conclusion: Through this programme it has been observed that there was an increase in the number of children who put into practice all the techniques taught by the professionals.

P106
10 Years of Prevention in Kindergarten 934 V. Zagala
Maria Laura Cabrera, Claudia Dreyer, Bibiana Pignolino, Carina Vetye
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Introduction: Although largely preventable, dental cavities are among the most common chronic diseases worldwide. In Latin America the DMFT is 3. Programs and budgets are focused mainly in dealing with emergencies and alleviating pain, not prevention.
Aim or Purpose: To evaluate results after a 10-year study of a preventive program in children 3 to 5 years old that attended a preschool located in a low-income neighborhood of Buenos Aires for 36 months (2008-2017).
Materials and Methods: Children that entered pre-school at the age of 3 and remained for three consecutive years were examined. There was an initial oral diagnosis, preventive activities, instructions on oral hygiene, fluoride, and nutritional guidance were provided. A dental office was established within the neighborhood clinic for four hours each month, where children were treated using ART.
Results: 1082 of the 1282 (82%) of children studied had an oral diagnosis of DMFT4.8. Assistance was provided to 396 children (31% with at least 4 appointments each) whose initial ceod was 1860,25 31. the final ceod was: 698, 32, 1179; reduction of cavities 66% (95% CI mean 2.92 2.8, -3.04; p,0.0001), 7 missed, 1158 filled (95% CI means -2.92 1.22 -3.04 p,0.0001) and 102 discharges.
Conclusion: The shift in paradigm from treatment to prevention, demands a great deal in hours trying to implement intersections programs.

P107
Prevalence of Caries in Cordoba School-Children. CORA National Prevention Program
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Aim and Purpose: The National Prevention Program of CORA has been working in Córdoba since 1997, consisting on training teachers to develop health education projects in schools. AIM. To know the prevalence of caries experience in school children of 6 and 12 years from urban and rural schools of Córdoba, whose results will be contrasted with those of the rest of the country.
Materials and Methods: An exploratory survey was carried out according to WHO criteria for epidemiological studies of oral diseases: Stratified sampling technique by conglomerate. 228 children of 6 years and 216 of 12 years of urban and rural schools of Cordoba were examined. The data collection was in the school setting, visual examination, natural light, without instruments. Informed consent was signed by parents. The DMFT and DEFT Index (Knutson, 1938) were used. It was considered caries, the cavitated lesions corresponding to code 5 of ICDAS II.
Results: In the total group, DEFT at 6 years was 2.54 (± 2.87) and DMFT: 0.18 (± 0.58) and at 12 years, DMFT: 1.16 (± 1.66). The average percentage of children with caries experience in 6 years was 52.09% and in 12 years 41.14%. In the group of 12 years, the highest value of DMFT found was 2.67 (± 0.58).
Conclusion: The schools of the province sustain the project with continuity for 20 years. Ministerial recognition and agreements with public health have been achieved. Strong institutional commitment of FOPC and Circulos Odontologicos. Commitment and altruism are highlighted in the work group.

P108
Streptococcus Dentisani in the Dental Plaque of Colombian Children
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Aim or Purpose: Different bacterial species are associated with the oral health condition and with probiotic characteristics, such as *Streptococcus dentisani*. The purpose of this study is to determine in an exploratory study, the presence of *Streptococcus dentisani* from dental plaque of children of different cities in Colombia and if the presence of this bacteria is related with oral health and other conditions.
Materials and Methods: This study used convenience sampling and approval of Ethics Committee of UCC. Supragingival dental

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plaque was collected from children between the ages of 6 to 12, divided into three groups: ICDAS 0, ICDAS 1 and 2, and ICDAS higher than 3. The DNA of the samples was extracted and the real-time PCR was undertaken using specific primers of the carbamate kinase gene for this species. The samples were normalized by the ng of ADN that was present in every sample. Mann-Whitney U test and Kruskal-Wallis test was undertaken to find out if there were significant differences between the groups.
Results: In the molecular analysis, *S. dentisani* was identified in all samples, but the statistical analysis does not show differences between the healthy children and the children with some degree of dental caries. However, there are significant differences between the children with other condition such as frequency of eating and use of fluoride products.
Conclusion: This study established the presence of *S. dentisani* in children in four cities of Colombia. The quantification of bacteria shows significant differences between the food intake and use of fluoride products groups.

Poster Session 24 | 06.09.2018, 12:30–13:30 | Screen 3

Theme: Oral Pathology

P109
Gingival Hyperplasia… An Alert Sign!
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Introduction: Gingival hyperplasia due to cellular infiltration is a possibility in leukemia. Acute myeloblastic leukemia (MLA) is a neoplastic disease that results from uncontrolled clonal proliferation of abnormal precursor cells of myeloid, erythroid, monocytic, megakaryoblastic and, at a lesser frequency, mast cell, basophilic and dendritic. It infiltrates the bone marrow, produces a variable degree of cytopenias, compromises different organs and/or systems and causes death by hemorrhage and/or infection.
Case Description: Female patient of 24 years old, assisted due to gingival hyperplasia and hemorrhage. clinical examination, asthenia, episodes of low-grade fever, gingival hyperplasia of the upper arches from molar to molar is observed both in the vestibular and palatal areas. It had a vegetative aspect, firm consistency and bleeding to the touch. The patient denied DBT, pregnancy or taking any medication. An incisional biopsy was performed and sent to the Pathological Anatomy Laboratory of FOUNNE.
Discussion: Oral signs and symptoms may indicate a serious underlying systemic disease. The most frequent oral findings of leukemia are mucosa bleeding and ulceration, petechiae, and gingival hyperplasia. Histological findings are compatible with gingival involvement due to lymphoblastic or myeloproliferative process. It requires correlation with clinical history and continue studies in a more complex center. The patient was referred to the Hematology Service of the "Hospital Escuela" where studies were completed.
Conclusion: This case highlights the importance of gingival hyperplasia as a diagnostic indicator in Leukemia, since it may be the first clinical manifestation.

P110
Multiple Cystic Pathologies in a Single Patient. a Radiographic Finding
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Introduction: Cystic lesions are frequent in the jaws. Their relevance lies in their potentially destructive growth. Different cystic entities can coexist in a single patient. Performing adequate imaging studies is therefore essential to establish accurate diagnosis and treatment plan.
Case report: A 61-year old Argentine male patient presented for consultation. Family history: Mother's death due to stomach carcinoma, father's death due to cardiopathy. Patient's history: smoker (30 packs/year), surgery for aneurism of the abdominal aorta. Routine radiographic examination with panoramic X-ray showed rounded radiolucent images with defined borders, no larger than 1 cm in diameter, associated with root remnant and teeth with caries lesions with pulp involvement. A well delimited unilocular radiolucent lesion surrounding the crown of unerupted tooth 3.8 limited by radiodense cortical plate was also observed. In view of the need for three-dimensional images to visualize the extent of the lesions, the surgeon requested a cone beam computer tomography (CBCT).
Discussion: The present case report attempts to highlight the importance of requesting CBCT as a complementary study to establish accurate diagnosis and treatment plan of multiple cystic lesions in a single patient.
Conclusion: Panoramic X-rays are limited because they provide a two-dimensional (2D) image, whereas CBCT (3D) allows evaluating bone lesions, their extent and relation with neighboring structures, and is therefore the most complete and precise assessment tool for surgical treatment planning.

P111
Association of Bisphosphonates and Olive Oil in Bone Remodeling
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Aim or Purpose: Bisphosphonates inhibit resorption and increase bone mineral density. Olive oil is antioxidant, anti-inflammatory and promotes bone neoformation. To analyze the effect of Alendronate (AL), Pamidronate (PA) and Olive Oil (OL) on bone remodeling and evaluate its association.
Materials and Methods: 144 Wistar rats, 160gr males divided into 6 groups: C (Control) received weekly, subcutaneously in the

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posterior limb, 0.3 ml of saline solution. The AL group received 0.5 mg of Alendronate/Kg of weight. The PA group: 0.6 mg of Pamidronate/Kg. Group O received daily OL with the food. ALO group: subcutaneous Alendronate and OL in the diet. The PAO group received Pamidronate and OL in the diet. A cavity was carved in tibia. It was sutured. Times were evaluated 0,7,15,30,60,90 days. Alkaline phosphatase (FA) was studied in blood. In X-rays Optical Density (OD) was analyzed. In cuts of tibia Histology and histomorphometry. Biomechanical tests were performed on femurs. The data were compared by Analysis of Variance (significant differences $p<0.05$) according to: time, tibia and treatment.

Results: FA showed significant differences between problem groups and C. Radiographically increased DO in problem groups with respect to C, standing out PAO. Histologically increased amount and thickness of trabeculae in PAO. Histomorphometrically: trabecular increase in PA and PA. Biomechanically increased stiffness in PAO in 60 and 90 days.

Conclusions: The increase in AF corresponds to an increase in osteoblastic activity. Increased DO signals bone neoformation. Trabecular augmentation indicates increased bone quality. There were statistically significant differences between problem and control groups.

Poster Session 25 | 06.09.2018, 13:45–14:45 | Screen 1

Theme: Oral Immunology

P112

IE-DAP Reverses CSE Effects on NOD1 Pathway in Leuk-1 Cells

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Aim or Purpose: Smoking is a well-known risk factor for oral disorders. Nucleotide binding oligomerization domain 1 (NOD1) signal pathway plays a key role in innate immune. Our recent studies confirmed that cigarette smoke extract (CSE) could inhibit NOD1 expression and affect expression levels of crucial molecules of NOD1 signaling in oral mucosal epithelial cells.

Materials and Methods: Immortalized human oral mucosal epithelial (Leuk-1) cells were treated with various concentrations of iE-DAP (NOD1 agonist) for 24h. We treated Leuk-1 cells with 4% CSE, 50 μg/ml iE-DAP (NOD1 agonist), 4% CSE + 50 μg/ml iE-DAP, respectively. We investigated differential expression of NOD1 and p-NF-κB in NOD1 signal pathway by using Western blotting. Real-time PCR and ELISA were performed to detect the mRNA levels and secretion of f IL-6, IL-8, TNF-α and IFN-γ, respectively.

Results: Western blotting analysis demonstrated that iE-DAP triggered NOD1 expression of leuk-1 cells in a dose-dependent manner. iE-DAP also reversed the suppressive effect of CSE on NOD1 expression and prevented the overactivation of NOD1 and p-NF-κB following CSE exposure. Real-time PCR and ELISA results confirmed that iE-DAP reversed CSE-mediated effects on the mRNA levels and releases of IL-6, IL-8, TNF-α and IFN-γ by Leuk-1 cells.

Conclusions: Our results indicated that NOD1 activation with iE-DAP could reverse CSE-mediated effects on NOD1 signaling in human oral mucosal epithelial cells.

P113

Influence of IE-DAP on NOD1 Signal Pathway in Leuk-1 Cell

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Aim or Purpose: Nucleotide binding oligomerization domain 1 (NOD1) signal pathway and human β defensins (hBDs) play crucial roles in oral innate immunity system. The peptidoglycan derivatives iE-DAP is one of the key fragment recognized by NOD1. Our aim is to explore the influence of iE-DAP on some key proteins and hBDs in oral mucosa epithelial cell.

Materials and Methods: Immortalized human oral mucosal epithelial (Leuk-1) cells were cultured in vitro and stimulated by iE-DAP of different doses for 24 h. Cell viability was measured by MTT assay. The protein expression of NOD1 and RIP2 and in NOD1 signaling pathway was tested by western blot. Cytokines hBD-1, -2, -3 were investigated by ELISA, while mRNA expression of those transcription factors was detected by qRT-PCR.

Results: iE-DAP had no significant influences on cell viability until the dose went up to 1000 μg/ml for 24 h. iE-DAP increased the NOD1 expression in Leuk-1 cells in a dose-dependent manner. and 50 μg/mL iE-DAP up-regulated expression levels of RIP2 significantly. iE-DAP up-regulated expressions of hBD-2, participating in innate immunity and defensive response of Leuk-1 cells.

Conclusions: NOD1 agonist iE-DAP plays an important role in regulating innate immune system of Leuk-1 cells through enhancing the expression of key proteins in NOD1 pathway and regulating the secretion of its downstream cytokines.

P114

Immunohistochemical Study of the Lingual Mucous

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Aim or Purpose: To observe the human lingual mucosa in their ventral and dorsal faces during embryonic development, maturation and cell aging to determine age and topographic modifications related to their function.

Materials and Methods: Histological, histochemical and immunohistochemical studies were performed on the human lingual mucosa on their ventral and dorsal surfaces.

Results: (a) The chronological development of the lingual papillae during the prenatal stage was observed. (b) Particular structural and cytological characteristics of samples of elderly among which stand out with routine optical microscopy cellular nests with

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fusiform acidophilic cells with cytoplasmic prolongations and clear acidophilic cells and clear globular cells with tapered ends and pinocytotic nuclei. (c) Verification with confocal laser microscopy of dark cells with dense nuclei and flattened cell bodies with prolongations that envelop a network of pale cells with intracytoplasmic granulations. (d) Topographic and intensity modifications of the keratinocyte immunostaining were observed in the dorsal and ventral mucosa of fetuses, adults and elderly with cytokeratins 34 beta 12, 5/6. (e) Structural differences marked in the epithelial ridges in the epithelium of the ventral tongue mucous in adults and elderly.
Conclusions: The histological, histochemical and morphological characteristics described in human lingual mucous in different age groups can contribute new elements towards the orientation in the determination of the chronological age of the individuals within the forensic dentistry.

Poster Session 26 | 06.09.2018, 13:45–14:45 | Screen 2

Theme: Implantology

P115
The Regeneration of EMD Around Implants Placed by Osteotome Technique
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Aim or Purpose: Anatomic localization of the maxillary sinus may create various difficulties for the clinicians in order to administer implants in this area. Osteotome sinus lift technique, in which sinus membrane is lifted by crestal approach without opening a lateral window in the bone, enables placing longer and wider implants. Moreover, this technique allows the application of a variety of materials that contribute to bone regeneration and enhance the primer and long-term stabilization of implants. The aim of our study is to evaluate effect of the enamel matrix derivative upon bone regeneration and osseointegration occurring around implants placed by osteotome technique.
Materials and Methods: The osteotome sinus lift procedures were performed on 40 patients who had residual bone height between 4-6 mm. The patients were divided into 2 groups: (1) Test group (n = 20): Enamel Matrix Derivatives (EMD) were applied to prepared implant sockets and (2) Control group (n = 20): any material has been applied. CBCT scans were performed preoperative, immediate postoperative and after 3 months. Resonance frequency analyses were performed during operation and after 3 months.
Results: There was no statistically significant difference between the groups as regards residual bone height, radiographic bone gain and ISQ values.
Conclusions: It can be concluded that Enamel Matrix Derivatives application with osteotome technique in posterior maxilla resulted with a satisfactory bone height and shown to provide satisfactory success criteria.

P116
State-Of-The-Art of Full Arch Rehabilitation on Implants
Oswaldo Villa
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Introduction: The full arch rehabilitation is one of the most challenging prosthetic treatment alternatives for the edentulous maxilla. Accurate diagnosis and treatment planning are essential to successful, predictable clinical results. Decisions concerning the placement of implants may have a lasting impact on the quality and prognosis of the final restoration. A series of clinical guidelines and considerations is presented with illustrative clinical treatment protocols of edentulous maxillae that vary in degrees of anatomical and prosthetic difficulty. Evidence-based treatment options are discussed with reference to risk assessment. Nowadays we face the multiple clinical situations which lead us to perform treatments, which a decade ago did not have in mind, the use of new materials and surgical techniques, have revolutionized the treatment of the full arch in implantology.
Aim or Purpose: The purpose of this study was to compare the different options in the rehabilitation of the full arch in implantology.
Materials and Methods: Innovative concepts and materials were used, Conometric concept, The Weldone Concept, materials such as PEEK, PEKKTON, milled dentures in cad cam, lithium disilicate, resin, zirconia, in addition with immediate loading and immediate function,
Discussion: The correct diagnosis, using all the digital tools and a broad knowledge of science, will lead us to success; in the first, the selection of the patient, type of rehabilitation, type of materials, number of implants, design and connection, which will lead to long-term clinical success in one of the most complex areas of implantology.

P117
Combination of Xenograft and I-PRF for Lateral Sinus Lift
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Introduction: The lack of sufficient bone in the distal part of the upper jaw is often a problem in the planning and placement of dental implants. To ensure sufficient bone volume, different types of lateral and crestal sinus lift techniques are used. Recently, the use of PRF as a sole graft material and in combination with various bone substitute materials in sinus lift procedures revealed promising clinical results.
Case Description: Patient is a 45-years-old male with missing molar teeth on the right side of his upper jaw and a residual bone height average of 3, 5 mm. A lateral sinus lift was performed using a combination of xenograft and A-PRF and i-PRF. After 4 months a control CBCT was performed which showed a significant increase in height of the newly formed bone - an average of 12 mm. Three intraoral implants were placed and after 4 months they were loaded with a fixed bridge.

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Discussion: The presented clinical case showed a significant increase in bone volume without any complaints from the patient. The qualities of the newly formed bone allowed achieving good primary stabilities of the implants. The control CBCT showed good integration of the newly formed bone and a positive response of the chronic inflammation in the sinus.
Conclusion/Clinical Significance: The results of this case report revealed that the combination of xenograft and A-PRF and i-PRF is suitable for augmentation of the maxillary sinus before placement of dental implants and it could successfully shorten the clinical time required for this.

P118
Assessment of Implant Surface Stresses during Implantation: Finite Element Analysis
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Aim or Purpose: In this study, it was aimed to evaluate the stress values on conical and cylindrical dental implants during placement.
Materials and Methods: Using Finite Element Analysis, the stresses created during placement of the dental implants in the type 2 bones were measured on implants and compared each other.
Results: The results showed that when the same conditions were established, In contrast to the stress they create in the bones, stress on the cylindrical implant is higher than on the conical implant. as the depth increased, the stress values decreased.
Conclusions: Cylindrical implants are more advantageous during implantation in terms of stress in the bone, but stress on the implant surface is higher than in conical implants.

P119
Guided Bone Regeneration and Implant: Alternative to Endodontic Failure
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Introduction: Over-filling in endodontics has a bad prognosis and retreatment is a questionable option. It takes greater relevance depending on which anatomical area is affected and the bacterial load. Due to the success, currently an alternative is the guided bone regeneration and subsequent insertion of an endosseous implant.
Case Description: Female patient, ASA I, initial diagnosis of acute dentoalveolar abscess in tooth 3.5. Conventional endodontic treatment was performed. Patient presented mild pain and paresthesia for 3 months, which resolved spontaneously. Pain episodes were only described during the rehabilitation sessions. In consequence patient was referred to maxillofacial service. Cone Beam showed an intimate relationship between overfilling and dentoalveolar nerve, and an important loss of vestibular bone. Atraumatic extraction of the tooth and guided bone regeneration (GBR) using particulate human bone (Puros® mixed, Zimmer®) and a collagen membrane (Biomend Extend®, Zimmer®) was performed. In a second intervention, insertion of a Straumann® Bone Level, SLActive®, Roxolid® implant was planned.
Discussion: Overfilling and pain inhibit rehabilitation of the tooth. When evaluating the viability of implant insertion, insufficient bone is detected, particularly due to the absence of a vestibular wall. Extraction plus GBR in a first surgical time and subsequent insertion of an implant, arise as a treatment alternative.
Conclusion/Clinical Significance: Current GBR techniques with insertion of implants allow predictable results, even in contact with nervous tissue.

Poster Session 27 | 06.09.2018, 13:45– 14:45 | Screen 3

Theme: Orthodontics

P120
Number Abnormalities in HIV Positive Patients with Vertical transmission
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Introduction: We present a series of clinical cases of HIV positive patients with vertical transmission, in treatment with AZT from birth to the present. A presence of agenesis of both upper lateral incisors has been recorded.
Materials and Method: The sample corresponds to three patients with superior lateral agenesis and need for orthodontic treatment. Female patient, 18 years of age, presents agenesis of superior laterals and superior and inferior diastemas. The treatment plan consists of the prosthetic replacement of the missing pieces. Second patient male sex, 20 years old, presents superior lateral agenesis and crowding. The characterization of the canines as laterals together with extractions of lower premolars was decided. Third patient male sex, 18 years of age, presents agenesis of superior laterals. It is resolved not to perform orthodontic treatment and only the characterization of canines and containment.
Results: In the three cases presented, an acceptable dental esthetics and correct masticatory function were achieved.
Conclusions: There are few reports that associate the use of antiretroviral medication or HIV infection, with the alteration of formation and growth of permanent dental pieces.

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P121

Class III Malocclusion Treatment with Muh Shield: Mixed Dentition

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Introduction: Angle Class III malocclusion, characterized by anterior crossbite, poses research challenges regarding diagnosis, prognosis and treatment. Its prevalence rate is 13% among the Mexican population. Early treatment generates a time-cost benefit relationship, and the Muh Shield is a functional device that achieves maxillofacial, muscular and functional changes, lingual replacement and correction of anterior crossbite.
Case Description: A male patient aged 9.5 years presented mixed dentition, anterior crossbite, -2 mm overjet and -4 mm overbite. Cephalometric analyses confirmed skeletal Class III malocclusion, concave profile, hypoplastic maxilla, hyperplasic mandible and high mandibular angle. Treatment included after-school and nightly use of a Muh Shield for 5 months, leading achievement of an edge-to-edge bite, enhanced muscle tone and facial profile improvement. Fixed appliance was subsequently placed for three months, using loops for proclination of upper incisors with biweekly follow-up. Results: crossbite correction, 1 mm of overjet and overbite; lateral cephalogram showed skeletal Class I, and straight skeletal profile.
Discussion: Although studies suggests the self-correction of crossbite in mixed dentition, its low proportion (0%-9%) does not justify delay in correcting until permanent dentition. Since other researchers posit that soft tissues have a greater impact on the limitations of maxillary growth, a Muh Shield serves this function, as it stimulates longitudinal and transversal growth of the maxilla, repositions the tongue, and modifies muscle tone.
Conclusion: Results showed improved muscle tone, lingual position, facial profile and crossbite correction, preventing worsening of the malocclusion and more severe consequences.

P122

Comparative Study of 2 Systems of Passive Self-Ligating Orthodontics

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Aim or Purpose: Alveolar-dental remodeling with passive self-ligating orthodontics generates the transverse development of the arches. Different philosophies use brackets and specific types of arch wires to achieve it. Two philosophies of passive self-ligating: D (without friction) and B (transverse bio adaptation of the jaws) were used. Distances between upper and lower premolars and molars in pre and post alignment were compared.
Materials and Methods: We compared 32 patients of both sexes, between 12 and 36 years old, with moderate to severe crowding: 16 treated with System B and 16 treated with System D; with the approval of the Ethics Committee and informed consent. The treatments were carried out during the years 2014 and 2017. The distance between premolars and molars of pre and post alignment was measured on study models with digital gauge. Paired T-test and unpaired T-test were applied for comparison.
Results: Distances varied significantly in both jaws $p < 0.05$, except upper first molar of system D and second lower molar of system B. The comparison between B and D showed no statistically significant difference ($p > 0.05$).
Conclusions: During the alignment, in cases of moderate to severe crowding, with both low friction and low force systems, transverse development of the arch wires was achieved spatially in the premolar sector.

P123

Development of Natural Arcade with BTM Passive Self-Ligating Orthodontics

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Aim or Purpose: With BTM self-ligating orthodontics (transverse bioadaptation) transverse development is obtained by alveolar-dental remodeling and transverse increase of the premolar area. The aim of this study is to compare the transverse diameter in the pre and post dental alignment with orthodontic system BTM in patients with moderate to severe discrepancy.
Materials and Methods: 16 patients of both sexes between 16 and 35 years with discrepancy between -6 and -16 mm were treated. BTM system of self-ligating brackets and super-elastic nickel-titanium thermal activation arch wires were used. Four transverse measures per arch: between premolars and molars were taken with Mitutoyo digital gauge. The data were recorded in the spreadsheet and treated statistically with Student T Test for paired samples and ANOVA. Duration: 2015 to 2017. The project was approved by ethics committee and patients signed informed consent.
Results: Correct dental alignment was achieved. The average distance varied at the end of the alignment with statistically significant difference in all upper and lower teeth, except the second lower molar ($p < 0.05$). ANOVA test. There were no differences between jaws, great difference between teeth and significant effect of interaction between maxilla-teeth factors. ($p < 0.001$).
Conclusion: The recovery of the natural dental arch shape with BTM system orthodontics produces an increase in transverse diameter, mainly in the premolar sector of both jaws, allowing correct alignment in moderate to severe crowding.

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P124

Class III Patient Treated with Orthodontics and Surgical Assistance

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Introduction: Class III patient with growth spurt ending and maxillary atresia, this determined the need for a surgical assisted disjunction, completing the treatment with a Delaire mask.
Case Description: Patient of 16 years, skeletal class III and atresia of the maxilla. It was decided to perform a maxillary disjunction through an osteotomy type Le Fort I and parasagittal hard palate. A type Hyrax disjunction device was activated ½ mm in the morning and ½ in the afternoon to achieve the disjunction, using at the same time a Delaire traction mask with intermaxillary elastics every day from 8 to 10 hours a day for 3 months. The necessary transversal widening and the maxillary advance were achieved to allow an occlusion in class I.
Discussion: The disjunction and traction of the maxilla in patients who have already completed their growth spurt are usually treatments that do not have the expected success in most cases due to the ossification of the sutures. When performing surgical osteotomies and gradually separating the osseous segments after a period of latency, osteoid tissue is generated, which then matures into bone tissue. This process is called osteogenic distraction.
Conclusion: From the gradual separation of the osteotomies and the traction generated by the Hyrax disjunction device and the Delaire mask, it was possible to achieve the necessary widening and the maxillary advancement that allowed the orthodontics to conclude with a class I occlusion. This treatment avoided the need for subsequent orthognathic surgery.

Poster Session 28 | 06.09.2018, 15:00–16:00 | Screen 1

Theme: Gerodontology, Special Care Dentistry

P125

Dental Status and Oral Function in the Temporomandibular Disorders Elderly

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Aim or Purpose: Temporomandibular disorders (TMD) are a group of disorders affecting the masticatory system causing limitation of oral function. The aim of the study was to compare the differences in dental status, oral behavior, and limitation of mandibular function between the elderly diagnosed with TMD and dentate elderly in Vietnam.
Materials and Methods: The sample consisted of 146 TMD and 112 dentate elderly. The age of participants in both groups ranged 65–74 years. The DMFT and CPI indices were used to evaluate dental and periodontal status. The self-rated frequency of oral behavior occurrence and mandibular limitations were based on 21-item Oral Behavior Checklist and 20-item Jaw Functional Limitation Scale.
Results: Mean number of missing teeth in TMD group was 9.6 ± 8.6 while it was 7.6 ± 6.4 in the dentate group ($P = 0.036$). Gingival bleeding in TMD group was detected at 18.3 ± 10.2 teeth being less than in the dentate group (21.0 ± 8.7, $P = 0.023$). Mean number of sextants with a 0-3 mm clinical attachment loss was high for the dentate group (1.4 ± 2.0, $P = 0.021$), while mean number of excluded sextants was high for TMD group (1.3 ± 1.8, $P = 0.037$). The TMD elderly had the more frequent behavior of "hold, tighten, or tense muscles" than the dentate group. There were no significant differences in self-rated mandibular functional limitation between the two groups.
Conclusions: TMD was associated with missing teeth and clinical attachment loss. The TMD elderly tend to have increased frequency of holding, tightening, or tensing muscles. Jaw functional limitation did not differ significantly between TMD and dentate elderly.

P126

Oral Status Perception by Individuals in Drug Dependence Treatment

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Aim or Purpose: To know how young people linked to abusive drug use perceive their oral status since consumption.
Material and Method: A qualitative research model was proposed. The theoretical sample was completed with recorded discourses and graphic representations of young adult and adolescent population aged 15 to 24 years old in treatment for drug use in residential regime at Portal Amarillo a national reference center of Uruguay. The techniques were individual interviews and focus groups. The project was approved by the Research Ethics Committee of School of Dentistry. Informed Consent was developed to participants or their legal representatives.
Results: The comparative and constant analysis of the texts and the drawings made by the patients about the perception of oral state in health and illness made evident these findings. The stories highlighted harmful changes in oral health since the consumption as: colour teeth became yellowish, dental cavities that caused pain, an esthetic and functional alterations, and bad breath. During the consumption the patients declared having neglected the oral hygiene and have had few or sporadic visits to the dentist. The smile was considered essential for self-esteem, relationships, couple relationships, social insertion and access to work.
Conclusions: Oral deterioration affects the quality of life of young consumers, leaving them more vulnerable and discriminated by society. It would be convenient to propose strategies for the

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professional dentist and its auxiliary team to provide them with special attention focused on health promotion and prevention in Health Services.

P127

Total Oral Care of Down Syndrome Comorbid with Regression

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Introduction: In recent years, adult with Down syndrome (DS) have been described as presenting regression and depression, and it could be related to impaired oral function. We report a case of total oral care of DS patient comorbid with regression and depression.

Case Description: Case: 39-year-old, male, DS, Presenting chief complaint: prosthodontic treatment, Past Dental history: nobody had assisted his oral care and he had not have an opportunity to partaken regular checkup and PMTC in his life. Present status: after his father died, when he was at 33-year-old, he presents generalized anxiety depression, social withdrawal, regression with decline in loss of cognitive. He could not go outside. His oral status shows severe and progressive periodontitis, missing of numerous teeth. This status keeps well by serving oral care via Home Dental Care Visits (HDCV) every month with a considerate point shown as follow; do not demand with neglect of his will, touch him under consideration on his pride, set his goal or task with corresponding to his abilities, place a leisure time, strive for mental stability though out watching over him.

Discussion: Dentist and hygienists will be responsible for providing total oral health care to DS, including quality of life from childhood through later life and continuum HDCV may lead to social stimulation and to prevent social withdrawal.

Conclusion/Clinical Significance: Expanding the current scope of total health care such as social life and medical treatment for DS would improve their currently poor oral health status.

P128

Extra-Oral Retained Occlusal Splint: Bruxism Treatment in Down Syndrome

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Introduction: Occlusal splint are indicated for the treatment of temporomandibular joint disorders (TMD) with bruxism. Patients with special needs due to their degree of cognitive and motor deficiency cannot receive treatment through such plaques because of the risk of suffocation. In order to allow the use of occlusal splint in these patients, we developed the occlusal splint with extraoral retention.

Case Description: A 38-year-old man with Down Syndrome presenting bruxism and TMD was included in our study. The occlusal splint was made on the plaster models articulated in a semi-adjustable articulator, and after acrylization the same was tested in the mouth and properly adjusted. Two orthodontic strands number 8 bilaterally attached to the posterior sides of the plate join in the region of central incisors, extend in an extraoral direction and then were bilaterally folded toward the region of labial commissure, surpassing them in 2 centimeters. The wires are then wrapped by a small silicone hose and then acrylated with acrylic resin fluid injected into the hose through a syringe. The stem then fulfills its retention role allowing gentle contact with the patient's skin.

Discussion: After the 4-week follow-up, we were able to observe the patient's adaptation to the therapeutic model without any restriction to its use. The appliance had no crack or break signal.

Conclusion/Clinical Significance: This report suggest that the method can benefit Down Syndrome patients with TMD. Future long-term studies are required, in order to ensure the maintenance of benefits and safety.

Poster Session 29 | 06.09.2018, 15:00–16:00 | Screen 2

Theme: Public Health

P129

Helping Smiles: Rural Schools

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At present, there are institutions in different parts of our country where children go every day for education, food and love: Rural Schools. Any school located over 5 kilometers away from a city is considered 'rural'; they are not easy to access – due to location, weather conditions and lack of means of transport – and some do not meet basic needs, such as safe drinking water and electric power. The children attending these schools are of a wide range of ages, and they share the same teacher, books, classroom, activities, and school supplies – with no access to technology. The specialist visiting these schools must, firstly, be a highly socially committed person with a strongly volunteering spirit. Sensitivity will be the most cherished trait – the person must be willing to treat pathologies easily, with simple materials and equipment. There will be a mobile unit with the necessary material and equipment to resolve any type of pathology. Also, informative talks will be held so that children can learn more about their dental hygiene. Visiting rural schools requires a big commitment – it means social integration for those people with no easy access to health, education and information.

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P130

Curricular Social Practice in the Municipality of Avellaneda

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Aim or Purpose: The present work sets out a way of approaching oral health in vulnerable populations within the framework of the connection, throughout an agreement signed in 1997, between the Municipal Institute of Pediatric Dentistry (IMODI) from the Municipality of Avellaneda and the Chair of Preventive and Community Dentistry from the University of Buenos Aires' College of Dentistry. To describe the University extension programs that are currently carried out in the Municipality of Avellaneda.
Materials and Methods: The target populations were selected according to social vulnerability criteria: schoolchildren attending School N°46 in Avellaneda; preschool children attending "Mafalda" Kindergarten and teenagers from ENVION program in Isla Maciel. The interventions included a) an educational component: workshops carried out in areas according to the age groups, and b) an assistance component with a strong preventive profile that reached the 2nd resolution level, carried out in IMODI.
Results: In 2017's second semester, a coverage of 123 children was reached (53 schoolchildren, 49 preschoolers and 21 teenagers). as a result of the dental care provided, 11 children were fully discharged, 23 were partially discharged and 35 schoolchildren, 38 preschoolers and 16 teenagers remain treated Benefits Profile (Benefits: preventive/curative/mutilating): in schoolchildren: 34%/62%/4%; in preschoolers 75%/25%/0%; in teenagers: 23%/63%/14%.
Conclusion: This proposal has let us lay out the work within the university extension as a strategy to settle changes in a territorial space aimed at improving the population's health.

P131

Role of the Dentist in Sports

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In Argentina, the recent success of sports like rugby and hockey resulted in a significant increase in individuals practicing it. Such growth in turn, demands more qualified professionals in the sports medicine field. The question is whether dental professionals are aware of this and proficient for this task. The aim of this brief study is to assess where dentists are standing regarding preventative mouth protection in sport practice. The statistical data presented was obtained out of a research conducted at a prevention program for athletes practicing rugby at youth stages, (515 answers to a 4-question survey) that has been conducted since 2008 at Resistencia, Chaco in Argentina.

P132

Digitalization of the Medical History. New Technologies Available at FOR

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The digitalization of the medical history as a new resource available implied a great challenge and breakthrough not only at the management level, but also as an academic training resource for the undergraduate and postgraduate student. This is so because it allows the correct use of these technologies in the daily odontological practice. At the management level, the use of these technologies required the reform of the infrastructure and the training of the human resources to optimise their use. This use will improve the filing of each patient's historical data as well as its statistical record and it would soon allow an ideal organization. This will provide benefits in the clinical research and make the practices easier by accompanying them as a secondary work tool in its contribution to cases of incidences of oral diseases, programming and reprogramming of preventive practices improving the quality of benefits. This new challenge places the institution in a privileged position in the hierarchy of public educational – scientific institutions, also as a service facilitator, producing an innovation of great social impact inside and outside itself.

P133

Obligatory Preventive Program of Oral Health of Misiones

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In 2016, in the Province of Misiones, Argentine Republic, Law VI No. 193 was passed, author of Mabel Pezoa, creating the Obligatory Preventive Program of Oral Health "Mas Sonrisas, Mas Salud". The beneficiaries of the Program are children and adolescents enrolled in school and consists of teacher training as health multipliers, the provision of basic brushing equipment to each child and the provision of fluoride twice during the school year. The Program must be included in the curricular design of the levels of the educational environment in order to generate in the students' habits of oral self-care. The Program is in charge of an interdisciplinary and interinstitutional team of the Ministries of Health, Education, the Dental Confederation of Argentina and the Misiones Dental Federation with the function of planning, executing and evaluating the results obtained. It will be implemented gradually from the Initial Level to the Secondary Level.

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Poster Session 30 | 06.09.2018, 15:00–16:00 | Screen 3

Theme: Periodontics

P134

Il-1B and MMP-8 in Relation with Tooth Loss and Smoking

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Aim or Purpose: To investigate the concentration of interleukin-1β (IL-1β) and matrix metalloproteinase-8 (MMP-8) in gingival crevicular fluid (GCF) and in saliva in relation to tooth loss and smoking in patients with periodontitis.
Materials and Methods: 24 individuals (11 men, 13 females), mean age 49,42 (SD±13,782) with clinically and radiographically established chronic periodontitis have been involved in the study. The patients were admitted for treatment between October 2016 and February 2017. The Institutional Ethics Committee approved the study protocols. During the clinical examination numbers of missing teeth and smoking were recorded. GCF from 6 periodontal sites and unstimulated whole saliva were collected from all patients. The concentration of IL-1β and MMP-8 was measured using enzyme-linked immunosorbent assay (ELISA).
Results: We don't find any significant differences in GCF and salivary levels of IL-1β and MMP-8 between smokers and non-smokers ($p > 0,05$). We don't find any significant differences in GCF and salivary levels of IL-1β and MMP-8 between patients with tooth loss less than 6 teeth and tooth loss from 6 to 10 teeth ($p > 0,05$).
Conclusions: Among patients with periodontitis GCF and salivary levels of IL-1β and MMP-8 were comparable between smokers and non-smokers as well as between patients with tooth loss less than 6 teeth and tooth loss from 6 to 10 teeth.

P135

Experimental Periodontitis in Rats Treated with Oncological Dose of Zoledronate

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Aim or Purpose: To assess the progression of experimental periodontitis (EP) and the periodontal tissue response to scaling and root planing (SRP) during treatment with oncological dose of zoledronate.
Materials and Methods: A total of 100 rats were used distributed into 4 experimental groups: SAL (n = 30), ZOL (n = 30), SAL-SRP (n = 20) e ZOL-SRP (n = 20). Drug treatment plan lasted for 8 weeks. Intraperitoneal injections of 0,45 ml of sodium chloride solution 0,9% (Groups SAL and SAL-SRP) or 0,45 ml of the same solution adding 100 μg/Kg of zoledronate (ZOL and ZOL-SRP) within intervals of three days between injections. A cotton ligature was installed around the first left lower molar after two weeks of medicative treatment. At the groups SAL-SRP and ZOL-SRP ligature was removed two more weeks later and SRP was executed. It was executed histopathological analysis of periodontal tissues and histometric analysis of bone percentage at the furcal region (BPF) and necrotic bone percentage at the furcal region (NPF).
Results: ZOL group presented increased local inflammatory response, higher BPF and higher NPF at days 14, 21 and 42 after ligature installation in relation to SAL group. At ZOL-SRP, inflammatory response was increased, there was no BPF alteration, and NPF was higher throughout time in comparison to the group that had not received periodontal treatment.
Conclusions: The treatment with oncological dose of zoledronate decreases alveolar bone loss induced by EP, it increases the amount of alveolar necrotic bone tissue, increases and extends local inflammatory response, either at sites with no periodontal treatment or the ones that went under SRP.

P136

Antineoplastic Agents Aggravate Experimental Periodontitis: A Study in Rats

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Aim or Purpose: This study evaluated the effects of 5-fluorouracil (5-FU) and cisplatin (CIS) in the early stages of experimental periodontitis (EP) in rats.
Materials and Methods: This study was approved by Ethics Committee in Animal Experimentation under protocol number #2015-00590. Ninety 4-month-old male Wistar rats (*Rattus norvegicus*, *albinus*) were randomly divided into following groups: PSS-EP - systemic treatment with physiological saline solution (PSS) and EP induction; CIS-EP - systemic treatment with CIS and EP induction; 5FU-EP - systemic treatment with 5-FU and EP induction. Each animal received two intraperitoneal injections of PSS, 5-FU or CIS at day 0 and day 2. The doses of the first and the second injections of 5-FU were 80 mg/kg and 40 mg/kg of body weight, respectively, and for CIS were 5 mg/kg and 2.5 mg/kg of body weight, respectively. After the first injection, the induction of EP was performed by the placement of a number 24 cotton thread around the lower left first molar. Animals were euthanized at days 3, 5, and 7. Histologic and histometric analyses [percentage of bone in the furcation (PBF)] were performed at the furcation region. Data were statistically analyzed ($p < 0.05$).
Results: CIS-EP and 5FU-EP showed more inflammation and lower PBF than PSS-EP at all periods of evaluation. 5FU-EP showed lower PBF than CIS-EP at 5 and 7 days.
Conclusions: 5-FU and CIS aggravated the progression of EP in the early stages.

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P137

Evaluation the Osteogenic Potential and Protein Expression of Cell Spheroids

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Aim or Purpose: This study was performed to evaluate the cellular viability and the osteogenic differentiation potential of cell spheroids comprised of different ratios of gingiva-derived stem cells and bone marrow stem cells with concave microwells. We investigated the most efficient method by comparing stem cell viability and osteogenic differentiation ability of gingiva-derived stem cells and bone marrow-derived stem cells with varying ratios and three-dimensional cell culture.

Materials and Methods: Co-culture of gingiva-derived stem cells and human bone marrow stem cells. The human bone marrow-derived stem cells and gingiva-derived stem cells were loaded at ratios of 6:0 (Group 1), 4:2 (Group 2), 3:3 (Group 3), and 2:4 (Group 4) and 0:6 (Group 5). Determination of cellular viability & Alkaline phosphatase activity assays and Alizarin Red S staining & Western blot analysis.

Results: Most of the cells in the spheroids emitted green fluorescence. Significant decreases in cellular viability were noted with longer incubation. Western blot to detect the Runx2, osteocalcin and GAPDH protein expressions on Day 7.

Conclusions: Stem-cell spheroids formed with the co-culture technique with two types of cells may enhance osteogenic differentiation potential, and multi-cell spheroid-based cell delivery could be a simple and effective strategy for improving stem cell therapy.

P138

Application of Microencapsulation with Stem Cells for Osteogenic Differentiation

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Aim or Purpose: Mesenchymal stem cells are multipotent progenitor cells with the capacity for self-renewal and the potential for osteogenic, chondrogenic, and adipogenic differentiation. Our groups have isolated human mesenchymal stem cells and characterized from the gingiva. The application of stem in immune protective device may be applied when using the stem cells. The purpose of this study is to test the possibility of using microencapsulation with stem cells.

Materials and Methods: Adult stem cells were obtained and microcapsulation of stem cells was performed using an electrostatic bead generator, which utilized a stable electrical field to generate smaller, stronger and more uniform microcapsules. The viability of cultured microencapsulated stem cells was determined by the fluorometric method using calcein and ethidium homodimer-1 using LIVE/DEAD® viability/cytotoxicity.

Results: The capsule diameter was formed in the range of 2000-500 μm. Light microscopy of encapsulated stem cells revealed that most cells were located toward the periphery with only a few cells located at the center. PEGylation of the microcapsules using fluor-PEG-SCM was confirmed using the confocal laser scanning microscope. The shape of microcapsules was maintained up to the final evaluation point. The viability of stem cells was maintained up to follow-up period of the culture as ascertained by LIVE/DEAD® viability kit.

Conclusions: Preliminary study gives the possibility of microencapsulation technology to deliver growth factors. Further study is needed to evaluate the feasibility of this approach.

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