

POSTERS

Abstracts



EuroSciCon Conference on

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Markéta Janovská, J Den Craniofac Res 2018, Volume: 3
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TACROLIMUS AS A POTENTIAL RISK OF ORAL CANDIDIASIS

Markéta Janovská

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Successful transplantation of organs depends on the quality of the donor organ, surgical procedure and proper immunosuppressive regimen. Immunosuppressive therapy in transplantology is divided due to its duration and indications in three groups—induction therapy, maintenance therapy and anti-rejection treatment. Immunosuppressants are medicaments with a range of effects, some of them are adverse. Use of immunosuppressants can cause reactivation of virus disease or can lead to oral candidiasis manifestation due to its influence on immunity. Long-term immunosuppression consists mainly of inhibitors of calcineurin-tacrolimus or cyclosporin A, usually in combination with steroids or other immunosuppressants. Tacrolimus is one of the main immunosuppressants in transplantology. Nystatin is a well-known antifungal drug. We would like to present some experiences with using nystatin suspension in treatment of oral candidiasis in transplanted patients with combined immunosuppressive therapy (mainly consist from tacrolimus and steroids).

Biography

Markéta Janovská completed her study from Charles University in Prague, and started to work in the Department of Oral Medicine of Všeobecná fakulní nemocnice v Praze, Institute of Dental Medicine. She is Lecturer of Medical Students of First Faculty of Medicine, External Lecturer of Dental Hygienists and Profimed s.r.o. in Oral Medicine. She has been a Speaker in international symposiums – Prague Dental Days, Slovakia Dental Days (2017), and lectures on postgraduate education courses for Otorhinolaryngologists and Dermatologists. She cooperates in research of recurrent aphthous stomatitis. She is currently preparing for her PhD studies.

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FIVE-FLUOURACIL FOR ODONTOGENIC KERATOCYST TREATMENT: A CASE REPORT

Giulianna Lima Pinheiro, Nathália Almeida, Ana Lucia Miceli, Cesar Noce, Erika Kuzminszyk, Gabriel Quintanilha and Beatriz Venturi
Rio de Janeiro State University, Brazil

Five-fluorouracil (5-FU) is an antimetabolite drug used in the treatment of various cancers, including basal cell carcinomas (BCC). Some authors believe that odontogenic keratocyst (OKC) would respond to 5-FU treatment because of their similarities to BCCs in molecular etiopathogenesis. The odontogenic keratocyst (OKC) is a developmental odontogenic cyst that arises from remnants of the dental lamina. A case of an OKC treated with 5-FU is presented in this study. A brown-skinned male, 61-year-old, sought an Oral and Maxillofacial Surgery service. During the clinical examination no mucosal changes, bone expansion or face asymmetry were observed. A panoramic radiography was performed and a unilocular radiolucent lesion was verified in the body and ascending mandibular ramus. The extraction of #17 and incisional biopsy were performed, and the diagnosis established was OKC, according to the histopathological patterns. Therefore, it was decided to perform a marsupialization and 5-FU intralesional. As a result, it could be observed exuberant bone neoformation, mainly in the basilar region of the mandible. Follow-up examination 4 months later showed no evidence of recurrence and the patient will be followed for at least another year so we can decide if another surgical procedure is necessary.

Biography

Giulianna Lima Pinheiro is a student at Dentistry College, Rio de Janeiro State University, Brazil. She is also an intern at Galeão's Air Force Hospital and a Teaching Assistant at Dentistry College (Oral Diagnosis).

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MANDIBULA WING OSTEOTOMY: A CASE REPORT

Giulianna Lima Pinheiro, Thiago Almada, Thaís Pimentel, Júlio Leite, Bianca Bravim, Sérgio Gonçalves and Roberto Prado
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The aim of this poster is to report a new technique of total osteotomy of the basilar mandible, including mandibular symphysis, also known as Wing Osteotomy. This technique was used to restore antero-posterior deformities of the lower third of the face in a class I bite patient. A 54-year-old woman with class II profile and class I bite was submitted to Wing Osteotomy. The goal of the surgery was the treatment of anteroposterior deformity, advancing the inferior border of the mandible. The surgery was planned by clinical evaluation and the guides were performed using Dolphin Image, which generates a .STL file to prototype the surgical guides improving technique and results.

Biography

Giulianna Lima Pinheiro is a student at Dentistry College, Rio de Janeiro State University, Brazil. She is also an intern at Galeão's Air Force Hospital and a Teaching Assistant at Dentistry College (Oral Diagnosis). She is a Surgery student at Brazilian Odontology Association (ABO/RJ).

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Asra Sabir Hussain et al., J Den Craniofac Res 2018, Volume: 3
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CLINICAL SIGNIFICANCE OF SALIVARY DISTINCTIVENESS FOR DENTAL PROFESSIONALS: A REVIEW

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Saliva is a biofluid that potentially serves as a reliable and a non-invasive diagnostic medium. The saliva-based microbial, immunologic, and molecular biomarkers aid in evaluating the condition of both healthy and diseased individuals. The objective of this review was to discuss the significance of saliva-based biomarker profiles in detecting the oral and systemic health conditions and to highlight the decision-making process of managing salivary dysfunctions for dental professionals in their clinical practice. According to the reviewed articles, saliva was used as a potential diagnostic medium for type I and II diabetes mellitus in well-controlled diabetic patients and Behcet disease. High levels of salivary enzymes might be attributed to the autoimmunological damage associated with the pathomechanism of diabetes mellitus. Clinical studies also reveal an association with oral pathologies for some of the established salivary markers of oxidative stress. However, these salivary markers are not for routine clinical use yet. A recent study proposed the measurement of the salivary enzyme lacto dehydrogenase (LD) level may be a useful tool to screen for gingivitis in young adults. On the other hand, there are several significant contributing factors that may result in salivary secretory disorders. Their prevalence and possible side effects may cause a negative impact on the patient's quality of life. Therefore, to treat such salivary secretory disorders is often challenging for physicians in their clinical practice. Several diagnostic tools are used for detecting these lesions in the early stage. Nevertheless, further prospective researches are required to improve the quality of evidence.

Biography

Asra Sabir Hussain has completed her Bachelor's in Dental Surgery (BDS) from Batterjee Medical College, Jeddah Saudi Arabia in September 2015. She started her career in a Private Dental Practice setup. Besides her clinical skills, she has keen interest in writing research papers relevant to different specialties in Dentistry. Her field of research interests are General Dentistry, Aesthetic Dentistry and Orthodontics. With the same enthusiastic approach, she earned the opportunity of Digital Poster Presentation at 42nd Annual Meeting of American Academy of Esthetic Dentistry held during August 03-05, 2017 in San Diego, California USA. She has presented her work as an E-Poster at the 26th American Dental Congress held during September 18-20, 2017 Philadelphia, USA. Nevertheless, she published her paper, "Methodologies in Orthodontic Pain Management, a Review" in The Open Dentistry Journal as a Principal and Correspondence Author and also "Esthetic restorative treatment planning for dental professionals, an overview" in the Ecronicon Dental Science Journal. She is now accepted in MSc Program (Primary Dental care OLDL) at The University of Edinburgh entry level February 2018.

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Warkaa M.Al-Wattar et al., J Den Craniofac Res 2018, Volume: 3
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EFFECT OF INTERLEUKIN-33 ON T-HELPER 17 CYTOKINES INTERLEUKIN-17 AND INTERLEUKIN-22 IN SALIVA OF PATIENTS WITH OROPHARYNGEAL CANDIDIASIS

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Background: Oral candidiasis is a mycosis (yeast/fungal infection) of *Candida* species on the mucous membranes of the mouth. Humeral immune response to candidal infection has much theory according to site of infection mediated by T-helper maturation, differentiation and secretion of cytokines. Interleukin-33 is one of the IL-1 super families which are called alarming cytokines family as they inform the immune system about any tissue injury, infection or necrosis. IL-33 is multifunctional cytokines that has anti-inflammatory (protective), inflammatory effect on tissue by modulating the action of T-Helper17.

Aim of study: To study the effect of InterLeukin-33 on T-Helper 17 cytokines InterLeukin-17 and InterLeukin-22 in saliva of patients with oropharyngeal candidiasis before and after therapy with Nystatine in comparison to control.

Materials & Methods: forty patients visiting AL-Yarmouk teaching hospital /Baghdad were included in this study having clinical symptoms of oral candidiasis and after a positive confirmation of infection using slandered mycological techniques and identification to species using smearing methods and swab culturing on chromagar media, saliva samples were collected from them between 8:00 and 11:00 am and centrifuged and stored at -60 c0 until immunological analysis using ELISA kits.

Results: there are a significant difference in median Of IL-17 in saliva of patients and control were respectively (85.4, 440.4), ($p < 0.001$). Median value of IL-22 was higher in patients than control group was respectively (429.9, 38.3) and the difference was statistically significant with $p = 0.003$. IL-33 median value in control group was lower than patient group were (227, 2 – 585, 2)

respectively and statistically significant p value (< 0.001). There are a great reduction in IL-17 and IL-22 after treatment with a median value of (-278.9, -134.35) respectively. At the same time IL-33 concentration elevated after therapy and the difference was (203.35)

Conclusion: IL-33 has local protective effect (anti-inflammatory) on mucosa by decreasing the secretion of IL-17 and IL-22 in saliva of patients with oropharyngeal candidiasis and so reduces tissue damage caused by excessive immune response.

Biography

Warkaa M.Al-Wattar is a Lecturer in Oral Pathology department, College of Dentistry, Mustansiriyah University-Department of Oral pathology.

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Velazquez Nicolas Z et al., J Den Craniofac Res 2018, Volume: 3
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USE OF FTA® CARDS (FLINDERS TECHNOLOGY ASSOCIATES) TO DETERMINE THE ESTABLISHMENT OF *Porphyromona gingivalis*, *Aggregatibacter actinomycetemcomitans*, *Tannerella forsythia* and *Prevotella intermedia* IN TO THE GINGIVAL SULCUS IN YOUNG PATIENTS USING FIXED ORTHODONTIC TREATMENT

Velazquez Nicolas Z and Reyna Roberto G
Autonomous University of Aguascalientes, Mexico

The use of Flinders Technology Associates (FTA® cards) produced and marketed by Whatman® International Ltd. UK for the inactivation and transfer of microorganisms has been tested in recent years. FTA® cards are composed of a cellulose membrane containing lyophilized chemicals capable of inactivating a wide range of microorganisms preserving their nucleic acids. The samples obtained can be processed in the laboratory from the inactivated virus in the paper of the card. The aim of this work was to demonstrate the advantages of using FTA® cards for inactivation, transport, and molecular diagnosis of VEN in allantoic fluid samples in young patients using fixed orthodontic treatment.

Biography

Velazquez Nicolas Z has completed his PhD from Sao Paulo State University and is a full time Professor and Researcher at Autonomous University of Aguascalientes, Mexico and has made research projects involving the rapid palatal expansion in normal and fissure patients. Later, he focused in the field of Dental Adhesive Materials (Universal Systems Adhesives) and conducted a study on the prevalence of the third molar impacted in dental school students and lately he has been working in the field of orthodontic miniscrews and dental implants as orthodontic anchorage.

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CONGENITALLY MISSING MAXILLARY LATERAL INCISORS: TREATMENT

Abu-Hussein Muhamad

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Congenitally missing maxillary lateral incisors are the second most common dental agenesis, exceeded only by third molars. Hypodontia, the absence of one or a few teeth, arises from a disturbance early in the tooth formation process during initiation or proliferation of the tooth bud. As a rule, if a tooth is absent, the most distal tooth of a type will be affected. Tooth malformations result from later disturbances during the differentiation stages of dental development, and these are most commonly manifested as size variations. Other dental anomalies that are frequently associated with congenitally missing teeth include microdontia, delayed dental development, and certain discrete ectopic eruption of the tooth. This presentation discusses factors in determining whether to close an open space or to open enough space for a prosthetic treatment for congenitally missing maxillary lateral incisors. Further, the importance of a total treatment approach using an interdisciplinary dental specialty team to maximize function, aesthetics, and oral health is discussed.

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NEED OF MAGNIFICATION

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You may remember the first time you saw a dentist wearing magnifying loupes or using a microscope; you probably thought the person must have a severe vision defect and is gadget freak. That certainly was my opinion as I observed renowned dentist using them to accomplish an oral treatment procedure. I had that naive opinion for the first few years of my dental career since magnification was not a popular aid to dental practice in India. Although I'm blessed with nearly perfect vision, I always felt the need to see more clearly some of the aspects of dental practice. After a few years of watching excellent dentists routinely using magnification and getting great results, I finally became inquisitive enough to try the concept myself. I found the extra armamentarium and extra time being taken to begin with in all the procedures with these gadgets. This put few doubts in my mind about moving along with magnification or not? However, after a few days of forcing myself, I was convinced that my treatment was being accomplished at a higher level of quality because of the magnification. My friends & colleagues asked me if I had started to use a new technique, because I was able to do complicated procedures easily and in a better way. This presentation poses some of those questions about magnification and answers from scientific information, personal experiences and my work with many dentists in study clubs whether the need of microscopes is really a need of the hour.

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DIAGNOSIS, NONSURGICAL AND SURGICAL TREATMENT OF OBSTRUCTIVE SLEEP APNEA

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Sleep-disordered breathing is a hot topic in dentistry and medicine today. Dentists are in a unique position to screen for, diagnose and treat their patients with obstructive sleep apnea. OSA is a serious, potentially life-threatening condition which can result in hypertension, congestive heart failure and even death. This presentation will cover the screening, diagnosis and contemporary management of sleep-disordered breathing in a comprehensive format, both for the general restorative dentist, the orthodontist and the oral and maxillofacial surgical specialists. From the medical history and clinical examination, to radiographic and diagnostic imaging findings, to a detailed discussion of the clinical polysomnogram and sleep medicine consultation referral, to mandibular advancement oral appliance therapy and CPAP therapy, to upper airway surgery including uvulopalatopharyngoplasty (UPPP), laser-assisted uvuloplasty (LAUP), nasal septoplasty, inferior turbinectomy, tonsillectomy and adenoidectomy, radiofrequency tongue and soft palate ablation, to maxillomandibular advancement and genioglossus advancement, to tongue and hyoid suspension, this presentation will provide direct and practical real life ways to improve the health and prolong the life of your patients with maximal fulfillment in return.

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WHY IS SALIVA SO IMPORTANT FOR YOUR PATIENT'S HEALTH?

Colin Dawes

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This course will touch on several clinical conditions in which saliva plays a very important role. The first of these is dental caries and the second is dental erosion. In both these conditions tooth mineral is dissolving due to the presence of acid in the mouth. We will discuss why teeth dissolve in acid and the different ways in which saliva and the acquired enamel pellicle influence these two conditions, as well as those of attrition and abrasion. Participants will learn how to differentiate among the various possible causes of erosion and dental caries. The opposite problem is the formation of dental calculus, where mineral is depositing in dental plaque. We will discuss how saliva influences this process and its role in the site-specificity of dental calculus. Saliva has recently been suggested to be important for the health of the oesophagus, particularly in patients with acid reflux. Participants will learn the possible benefits for the oesophagus of salivary stimulation. Participants will also learn to differentiate among the many possible causes and treatments available for patients with xerostomia or dry mouth, with an emphasis on the various drug categories which may lead to this condition. Since saliva is being used in preference to blood as a diagnostic fluid for various drugs and diseases and particularly as a source of DNA for genetic studies, we will discuss some of the implications of these studies.

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SECRET WORLD OF ORTHODONTICS: LINGUAL APPROACH

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Aim: In dentistry today, the most important reason why orthodontic treatment is not preferred by adults is aesthetic concerns. The greatest expectation of individuals who need orthodontic treatment is that the treatment method does not create aesthetic concerns during this process. In this respect, lingual orthodontics is indispensable not only for patient satisfaction but also for increasing number of cases for orthodontists as the only real invisible orthodontic treatment option. In this presentation, indications, contraindications, treatment process, difficulties and duration of treatment, oral hygiene, cost, advantages and disadvantages and patient satisfaction will be discussed in all aspects.

Material & Method: Lingual bracket systems have been developed during time in order to achieve successful and predictable treatment results and customized lingual brackets have been produced. Today, customized lingual brackets have brought orthodontic and digital dentistry together and lingual orthodontic treatments have produced predictable and successful results as much as the labial orthodontic treatments. In this presentation, different orthodontic malocclusion cases from simple to complex will be shared from beginning to the finishing treated with customized lingual bracket systems.

Results: Treatment results of adult patients who underwent lingual orthodontic treatment will be shared.

Discussion & Conclusion: In the past, force transfer, torque control and bracket shape were big problems for orthodontists treating patients with lingual orthodontics. With lingual orthodontics solving its problems by technology, its impact on orthodontics with respect to time will be much more in the future.

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TEMPOCOPY, A PROTOCOL TO ACHIEVE COMPLETE ORAL REHABILITATIONS COPYING THE PROVISIONAL PROSTHESIS BY MEANS OF CAD/CAM

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Introduction: A method to achieve complete oral rehabilitation with predictable success. Applicable to oral rehabilitations with fixed prosthesis on teeth and/or implants. We use the fixed provisional restorations to determine the centric occlusion and dental morphology for an optimal functional outcome on a periodontal, phonetic and aesthetic level.

Materials & Methodology: We prepare every case of rehabilitation in a classical way, using die cast models, diagnostic wax up, CBCT scan, surgical guide and a thermoplastic mold of our wax up in order to achieve provisional methacrylate crowns made intra orally. In order to deprogram the masticatory muscles and finding the centric occlusion a Lucia Jig is then incorporated in the provisional crowns. After a minimal time of ten minutes the centric position is located. Adding methacrylate posterior occlusal stability and lateral guidance is optimized. Esthetic and phonetic adaptations are made. If there are neither subjective nor objective problems the next weeks of follow up, we scan

our provisional bridge. This virtual bridge then will be positioned on the virtual model and all the parameters controlled. Finally, the technician makes the reduction on the virtual structure for later ceramic covering and this design is send to the Zirconia milling machine

Results: Achieving the occlusion in centric relation, reestablishing the TMJ (Temporomandibular Joint) in its physiological position makes us realize full arch rehabilitations with a very good long term prognosis.

Conclusion: The Tempocopy protocol allows us to work with much more predictability in aspects of occlusion, periodontics, phonetics and aesthetics .

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MASTER CLASS IN CLINICAL PERIODONTOLOGY: SECURING OUTSTANDING CLINICAL EFFECTIVENESS

Dominiki Chatzopoulou

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The main aim of this lecture is to evaluate the attitude and knowledge of non-surgical and surgical periodontal procedures by hygienists, periodontists and other dental professionals who have a specialty or a special interest in clinical periodontology. The following key challenges are going to be discussed: limitations of non-surgical periodontal treatment and assessment, periodontal regeneration for the dental professional, existing regenerative, plastic surgical procedures and when to refer to a periodontist. Primary dental care team would be advised on how to meet high standards of periodontal care, influence behaviour change of patients and fulfil their medico-legal and General Dental Council professional standards. They will be instructed to have a pathway they can follow, to understand their role in managing periodontal conditions and how to accept more responsibility for the success or otherwise of the treatment. It would enable delegates to understand the classification of periodontal disease and assessment of periodontal risk, be aware of patient communication principles and tools to support changed behaviour, be aware of clinical guides and non-surgical therapy, including a modified plaque and bleeding score methodology, understand the new care pathways for periodontal patients including referral protocol for advanced surgical periodontal treatment, implement the toolkit within practice and understand their role as clinical leaders. Although dental professionals are aware of

the current innovations in periodontal advanced procedures including periodontal regeneration and mucogingival surgical procedures, a good understanding of basic answers to the following questions should secure high quality of periodontal therapy and patient satisfaction.

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NEUROMUSCULAR DENTISTRY: TRANSCUTANEOUS ELECTRICAL NERVE STIMULATION AND ORTHOTIC SOLUTIONS IN FULL MOUTH RECONSTRUCTION

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Temporomandibular disorders (TMD) happen as a result of problems with the jaw, jaw joint, and surrounding facial nerves and muscles that control jaw movement. The main cause of this is injury to the jaw, the joint, or the nerves and muscles of the head and neck. This could also be due to the patient's occlusion not being in the proper position. Transcutaneous electrical nerve stimulation (TENS) currently is a form of electro-analgesia. Hundreds of clinical reports exist concerning the use of TENS for various types of conditions, including myofascial and arthritic pain. It uses electrical currents to stimulate muscle contractions that relieves pain and stiffness while improving jaw movement. Orthoses is an externally applied device used to modify the structural and functional characteristics of the neuromuscular and skeletal system. They are used to control, guide, and limit joints or body segments to otherwise correct the shape and/or function of the body, to provide easier movement capacity or reduce pain. Orthoses are also used

in dentistry to adjust the patient's occlusion to a more optimum position, which allows the temporomandibular joint and the surrounding neuromusculatures to be relieved. This Lecture will present two full mouth reconstruction cases which utilized TENS and orthodontics in their treatments. In the first case, TENS and Orthosis were used to increase the occlusion of a patient with severe overbite. While in the second case, TENS and orthosis was used to recapture the occlusion of the patient with posterior open bite. Orthoses used on these patients are tooth-colored to preserve the esthetic value of the smile. This lecture presents to the dental practitioners the importance of restoring a balanced occlusal relationship, and encourages them to incorporate the use of TENS and orthodontics in their treatment planning.

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ACCESS TO AND UTILIZATION OF DENTAL CARE SERVICES AMONG THE INDIAN COMMUNITY IN HONG KONG

Gayathri Balachandran

University of Hong Kong, Hong Kong

The objectives of this study were to describe the dental services utilization pattern of immigrant Indian adults in Hong Kong, their perceived barriers, and their satisfaction with the dental care services they had received. A cross-sectional survey was conducted using a structured questionnaire on a sample of immigrants. Indian adults who had been residing in Hong Kong for at least three years were recruited for this study. The questionnaire was completed either by study subjects on site or through an interview. The subjects were recruited from various religious, cultural, and social centers that served the Indian community. A total of 449 completed questionnaires were collected. Half of the survey subjects were aged 35 to 44 years and 49% were men. Their mean duration of residence in Hong Kong was 6.1 years. Slightly less than half (47%) of the subjects had visited a dentist in Hong Kong. The dental services they received were mostly curative treatments and preventive care was uncommon. Over 85% of the subjects who had visited a dentist in Hong Kong were satisfied with the various aspects of the service

they had received, except the treatment cost. Most (58%) of the survey subjects had visited a dentist in India within three years prior to this survey. Among the subjects who had not visited a dentist in Hong Kong, the most commonly cited barriers which affected their dental visit were communication problem (87%) and high treatment cost (98%). The vast majority (87%) of the subjects thought that a special dental service for minor ethnic groups in Hong Kong was needed. It is concluded that immigrant Indian adults seek dental care services both in Hong Kong and in India. The main perceived barriers were communication problem and high treatment cost. In general, they were satisfied with dental services they received in Hong Kong.

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ROLE OF LASER IN DENTISTRY

Mohannad El Akabawi

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Laser systems and their application in dentistry and especially oral surgery are rapidly improving today. The diode laser was introduced in dentistry and oral surgery in the mid-90s. The diode laser devices have specifications such as relatively small size, portable and lower cost that attract the dental practitioners and oral surgeons for use in various surgical indications in comparison to other laser equipment. Diode laser with wavelengths ranging from 810 to 980 nm in a continuous or pulsed mode was used as a possible modality for soft tissue surgery in the oral cavity. Based on the photothermal effect of the diode laser, the lesions of the oral mucosa are removed with an excision technique, or by ablation/vaporization procedures. Applications of lasers in dentistry is soft tissue surgery and ablation of lesions and the excision of exophytic lesions is one of this utilization, provided correct selection and application of diode lasers in soft tissue oral surgery, for example frenectomy, epulis fissuratum, fibroma, facial pigmentation and vascular lesions. The advantages of laser application are relatively bloodless surgery, minimal swelling, scarring and coagulation, no need for suturing, reduction in surgical time and less or no post surgical pain. Also, the laser instantly disinfects the surgical wound as well as allowing a noncontact type of operative procedure and therefore no mechanical trauma to the tissue.

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MENTAL HEALTH ISSUES AND SPECIAL CARE PATIENTS

David B Clark

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Psychoiatric illness and its medical management carry significant risks for oral disease. Although mental illness is common, in many cases it is misunderstood, remains unrecognized, or is undertreated. Mental illness and the resulting disabilities create difficulties not only for the patient but also for one's family and friends, not the least of which remains the highly stigmatized nature of the disease itself. Understanding the type, severity, stage of mental illness, along with a patient's own mood, motivation and personal perceptions of oral disease and lifestyle can enhance the knowledge of dental professionals concerning this critical aspect of a patient's medical history and further illustrates how closely mental health and oral health are intertwined. Mental illness must be viewed from a similar perspective as are other major diseases. Dental professionals should be aware of factors such as the reduced rates of compliance with dental treatment, reduced ability to access oral health care, the effects of various psychotropic medications on oral health including xerostomia, caries and periodontal disease and the potential interactions with drugs used in dental practice. Patients with psychiatric illness often bring unique needs and differing priorities to a dental practice, and the dental health practitioner must in turn demonstrate patience, flexibility, empathy, and a non-stigmatizing attitude in caring for these individuals. Enhancing self-esteem and feelings of self-worth for those coping with a psychiatric illness can be a very fulfilling experience that can only serve to continue to break down the stigma surrounding this group of diseases.

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THE BONE RENAISSANCE

Mahmood Qureshi

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Introduction: In a relentless pursuance of perfection and a definitive solution for long term stability of tissues around dental implants, the author will present an exceptional concept - the 'Bone Renaissance'; a unique philosophy encompassing the sequential and codified reversal of the bone back to its original 3-D Engineered Divine Osseo-architecture by incorporating the 5 in 1 modus operandi: 'SABIRIN', Stable Alveolar Bone Implant Reconstructive Integration Naturally; a major paradigm shift in re-establishing the natural spiritual union of the form and function.

The SABIRIN components resurrect the lost contours of the hard and soft tissues with a long-term, esthetic predictability.

Materials and methods: A typical patient, with existing edentulous areas and desiring implant treatment, either does not have adequate bone to permit implants to be placed or to have them placed into normal root locations. This atrophy is a dynamic functional loss as the bone heals and changes from stress bearing to non-stress bearing bone for implant placement. The Restoration of patients to Natural Contour, Comfort, Function, Esthetics And Health is achieved by using SABIRIN components: Vascularized Osteotomies, Sinus Grafts, Onlay Grafts, Implant placements with bone manipulation, Osteotomes, Piezo-surgical equipment, Concentrated Growth Factors & Stem Cells.

Results: It is not always possible to achieve the desirable aesthetic results by placing dental implants only in patients having advanced bone atrophy; various bone augmentation/manipulation procedures are employed to increase the height and width of the bone, in order to obtain acceptable facial results. By understanding the modern augmentative and grafting procedures, together with the availability of new techniques it is possible to adequately restore the patients in a simpler and predictable manner back to complete function and aesthetics. In the search for success and stability, we have recognized, with experience, observation and time that our comprehensive solution based on "SABIRIN" principles is predictable, safer, simpler, more stable and less expensive.

Analysis: The increasing emphasis on aesthetic perfection in contemporary implant dentistry requires that our goal as oral implantologist should be to have implants and crowns placed in the same position and appearance as natural teeth and be supported by stable bone and attached gingiva. This can be achieved by treating the primary obstacles of bone and soft tissue deficiencies.

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ALL-CERAMIC RESTORATIONS IN 2018: CLINICAL STEPS

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Introduction: Innovations in digital dentistry and high-strength all-ceramic systems in conjunction with advanced CAD/CAM technology provide us with more opportunity to offer esthetic and function not only in the esthetic zone, but also in high stress posterior occlusion. Each system requires specific tooth preparation, laboratory communication, surface conditioning for luting. Current ceramic primers and luting cements have made these a reality. All-ceramic restorations in 2018 is an in-depth look at concepts, procedures and products to enhance the durability of these restorations.

Course Objective: This course is designed to provide participants with practical information on indications, selection, tooth preparation, laboratory communication and bonding of current types of all ceramic restorations in light of current scientific and clinical information. Failures of esthetic restorations and steps for intra-oral repairs will be discussed.

Topics to be Discussed: The following topics will be discussed as a part of all-ceramic restorations in 2018: 1. Porcelain veneers; 35 years observations; what we did? What we do? 2. Clinical considerations of zirconia and IPS e.max lithium disilicate restorations. 3. Minimal invasive procedures with CAD/CAM zirconia restorations. 4. Bonding and cementing zirconia restorations in light of current scientific information.

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EXAMINATION OF ACUTE DENTAL INJURIES: CLINICAL AND RADIOGRAPHIC TECHNIQUES

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Dental injuries can happen anytime, anywhere. Often in the midst of a very busy day, a victim of dental injury appears at the surgery. An important key to success is prompt treatment. This can be difficult if the dental surgeon is involved with other patients. However, properly trained dental auxiliaries – the dental chairside assistant or dental hygienist – can perform the initial clinical and radiographic examinations. This presentation is designed for the entire dental team, with the aim of disarming the stressful situation an acute injury represents as well as initiating the necessary procedures which will serve to identify the area of focus for treatment.

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THE EFFECT OF ATORVASTATIN ON GLUCOCORTICOID-INDUCED OSTEOPOROSIS ON PERIODONTAL BONE LOSS

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Background: Atorvastatin (ATV) has shown pleiotropic effects on bone tissue, and osteoporosis can aggravate periodontitis. Thus, we assessed the effects of ATV on experimental periodontitis (EP) of rats subjected to glucocorticoid-induced osteoporosis (GIOP).

Methodology: Male Wistar rats were divided into: Naive, EP, GIOP+EP and ATV groups. GIOP+EP and ATV received 7 mg/kg of dexamethasone intramuscularly 1x/week for 5 weeks, the others received Saline (SAL). EP, GIOP+EP and ATV were

submitted to EP by ligature around 2nd upper left molars for 11 days. ATV received 27 mg/kg of ATV orally and the others SAL, 30 minutes before EP. Periodontium was analyzed by macroscopy, micro-tomography and histopathology; by immunohistochemical examination of RANKL, OPG, WNT10b, DKK-1 and β -catenin and by ELISA analysis of myeloperoxidase (MPO), TNF- α , IL-1 β , -6, -8, and -10, reduced glutathione (GSH), superoxide dismutase (SOD) and catalase (CAT). Leukogram and liver and kidney enzymes and bone-specific alkaline phosphatase (BALP) serum levels were performed.

Results: ATV decreased bone loss, reduced MPO, TNF- α , IL-1 β , -6, and -8, and increased IL-10, GSH, SOD and CAT levels. ATV reduced RANKL and DKK-1, increased OPG, WNT10b and β -catenin expressions and BALP activity.

Conclusions: ATV reduced inflammation, oxidative stress and bone loss in rats with EP and GIOP, with participation of WNT signaling pathway.

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THE IMPACT OF VITAMIN E AGAINST ACRYLAMIDE INDUCED TOXICITY ON SKELETAL MUSCLES OF ADULT MALE ALBINO RAT TONGUE: LIGHT AND ELECTRON MICROSCOPIC STUDY

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Acrylamide, one of the major environmental public health problems, results from its increased accumulation in the process of cooking food materials. This study aimed to demonstrate the light and electron microscopic structural effects of acrylamide on the skeletal muscle fibres of adult male albino rat tongue and to investigate the possible protective effect of vitamin E co-administration. Thirty adult male albino Sprague–Dawley rats were divided into 3 groups, each group included 10 rats. Group I (control), group II which was subdivided into two equal subgroups: subgroup IIa: included 5 rats that received acryl-amide orally once daily for 20 days. Subgroup IIb: included 5 rats that received acrylamide orally once daily for 40 days. Group III was also subdivided into two equal subgroups: sub-group IIIa: included 5 rats that received acrylamide and vitamin E orally once daily for 20 days. Subgroup IIIb: included 5 rats that received acrylamide and vitamin E orally once daily for 40 days. At the end of the experiment the tongue was dissected out for histological and electron microscopic studies, another muscle sample was homogenized and processed for biochemical estimation of malondialdehyde (MDA) and total antioxidant capacity (TAC). Light microscopic study of tongue skeletal muscles in acrylamide exposed animals revealed abnormal wavy course and splitting of the muscle fibres with fatty infiltration in between. Moreover, pyknosis and remnants of nuclei were detected. EM (electron microscopy) revealed marked aggregation of mitochondria of different size and

shape with giant cells formation, and partial loss of myofilaments. There was statistically significant increase in MDA and decrease in TAC indicating oxidative stress in acrylamide administrated groups (group II) than the control group which increased by prolonged duration (subgroup IIb versus subgroup IIa, $p < 0.0001$). This oxidative stress could explain the histological changes in tongue muscles of acrylamide exposed rats. Co-administration of vitamin E with acrylamide ameliorated most of the above mentioned histological changes in the animals used and signs of improvement that became better with prolonged administration of it (subgroup IIIb versus subgroup IIIa, $p < 0.0001$) were detected. It could be concluded that, chronic exposure to acrylamide might lead to skeletal muscle damage in rat tongue which becomes worth with prolonged duration of exposure. Acrylamide induced oxidative stress is the implicated mechanism of such histological changes. This toxic effect of acrylamide could be minimized when vitamin E is given concomitantly with it by its antioxidant effect.

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THERAPEUTIC OPERATIVE STRATEGIES COMBINED WITH BIOACTIVE/BIOMIMETIC ION-RELEASING MATERIALS ON DENTINE PERMEABILITY AND REMINERALISATION

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The aim of this lecture is to present the outcomes of several experimental therapeutic approaches we tested in our previous and current research studies such as dentine specimens air-abraded with bioactive glass 45S5 (BAG) and then treated with fluoride-releasing glass ionomer (GIC) or resin-modified glass ionomer cements (RMGIC). Moreover, experimental resin-based varnishes containing different bioactive fillers formulated and then applied onto demineralised dentine pre-treated with or without different biomimetic primers doped with sodium trimetaphosphate, aspartic acid (PASA) and/or poly(acrylic acid) (PAA). Dentin permeability evaluation using a fluid filtration system working at a simulated pulpal pressure of 20 cm H₂O and finally processed and assessed with AFM nano-indentation, XRD, FTIR-ATR, FEG-SEM (fractographic analysis), TEM, dye-

assisted confocal microscopy and Raman microscopy. The results of our studies showed that air-abrasion technique performed with BAG is able to create a therapeutic "bioactive smear-layer-covered surface", which reacted with body fluids, evoking hydroxyapatite (HAP) precipitation, and hence remineralisation of mineral-depleted dentine and occluding the dentinal tubules. These outcomes were especially evident when BAG air-abraded dentine specimens treated with GICs or RMGICs. Moreover, the use of experimental resin-based systems containing bioactive fillers in combination with biomimetic primers doped with PAA/PASA and TMP evoked "bottom-up" dentine remineralisation that restored the modulus of elasticity of demineralised dentine. The application of minimally invasive therapeutic operative strategies along with the use of current or innovative ion-releasing containing biomimetic reagents may represent a suitable strategy to remineralise demineralised dental hard tissues completely, enhancing the clinical outcomes and longevity. Moreover, bioactive glasses reacts with saliva depositing hydroxycarbonate apatite (HCA) within the demineralised collagen fibrils and occluding dentinal tubules. Therefore, it may be used as a suitable desensitizing bioactive material for the treatment of dentine hypersensitivity and as an air-polishing powder to prevent further demineralisation.

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IMPROVED AND MORE PREDICTABLE VERTICAL BONE AUGMENTATION FOR DENTAL IMPLANTS BY CONTROLLING BONE GRAFT SUBSTITUTE MICROSTRUCTURE

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The long-term success of implants depends upon the degree of osseointegration that can be achieved, which is largely determined by the volume and quality of bone available at the time of surgery. Bone height and volume is often diminished in patients due to the extended time after tooth loss and this is a major limitation impacting long term dental implant treatment success. Some of the commonly used surgical techniques for ridge augmentation are (i) Osteoperiosteal flap (OPF); (ii) Distraction osteogenesis (DO); (iii) Block grafting; (iv) Guided bone regeneration (GBR) using membranes; and (v) Subperiosteal tunnelling for minimally invasive approach to GBR. This talk discusses the development of bioceramics graft materials with controlled microstructure and superior biological properties to those currently available. Dicalcium phosphate cements, brushite

and monetite, resorb faster in vivo than hydroxyapatite (HA). Monetite (unlike brushite) does not re-precipitate as HA in vivo and demonstrates superior osteoconductive properties. We have produced monetite disc grafts by varying processing conditions which alter their physical properties such as porosity, surface area and mechanical strength. Histological observations after 12 weeks of onlay grafting on rabbit calvaria reveal higher bone volume (38%) in autoclaved monetite grafts in comparison with the dry heat prepared monetite grafts (26%). The vertical bone height gained is similar for both the types of monetite grafts (up to 3.2 mm). This talk discusses and provides information regarding two types of monetite onlay grafts prepared with different physical properties that could be used for achieving more predictable vertical bone augmentation.

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LEUKOCYTE AND PLATELET-RICH FIBRIN IN ORO-DENTAL AND MAXILLO-FACIAL SURGERY: CURRENT EVIDENCE FROM RANDOMIZED CONTROLLED CLINICAL TRIALS

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Background: Despite significant improvements in reconstruction techniques and materials during the last decades, the regeneration, restoration and/or repair of oro-dental and maxillo-facial defect remains a challenge. Platelet concentrates are autologous blood extracts obtained through centrifugation of whole blood samples. The preparation procedure allows the gathering and concentration of platelets and other therapeutic blood constituents (fibrinogen/fibrin, growth factors, leukocytes and circulating cells), in clinically-usable preparations (surgical adjuvants), which may enhance, accelerate and promote tissue (hard and soft) wound healing and regeneration. Despite promising clinical observations, their overall effectiveness remains debated, to date. This is mainly due to mixed/variable clinical outcomes, limited high-quality evidence-based literature, and poor characterization of end-products (and preparation protocols) used in studies; also until recently, lack of proper terminology systems to classify these preparations. Today, the leukocyte and platelet-rich fibrin (L-PRF) sub-family is receiving the utmost attention, mainly due to simplicity, user-friendliness, malleability and potential cost-effectiveness, when compared to the PRPs.

Objectives & Methodology: L-PRF is a second generation 3D autogenous/autologous platelet concentrate (and biomaterial: slowly- and strongly-polymerized fibrin gel; rich in growth factors and lymphocytes) derived via simple and rapid centrifugation of whole venous blood, in the absence of anti-coagulants, bovine thrombin, additives or any gelifying agents. A relatively new "revolutionary" step in modern platelet concentrate-based therapeutics, clinical effectiveness of L-PRF remains highly-debatable, whether due to preparation

protocol variability, limited evidence-based scientific and clinical literature and/or inadequate understanding of its bio-components. This critical review provides an update on the application and clinical potential/effectiveness of L-PRF during oral surgery procedures, limited to evidence obtained from human randomized and controlled clinical trials (RCTs: Jan. 2015–Nov. 2017).

Conclusions: Autologous L-PRF is often associated with early bone formation and maturation; accelerated soft-tissue healing; and reduced post-surgical pain, oedema and discomfort. Preparation protocols require revision and standardization. Well-designed RCTs (according to the CONSORT statement) are also needed for validation. Furthermore, a better analysis of rheological properties, bio-components and bioactive function of L-PRF preparations would enhance the cogency, comprehension and therapeutic potential of the reported findings or observations, moving a step closer towards a new era of "super" oro-dental and maxilla-facial bio-materials/-scaffolds; an ongoing topic of vital investigation at our BioMAT'X research group in Santiago de Chile.

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PERIODONTAL MUSCLE TRAINING CAN STRENGTH THE PERIODONTAL SUPPORT, FIT YOUR TEETH

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Statistical analysis: A total of 505 patients in general practice were asked to respond to a list of 25 obligatory nourishment for a child while going to have the first teeth, for its effectiveness in dealing with patient's periodontal health especially include chewing hard food. They were also asked to select the three effective nutrition for periodontal tissue. The indicts of patient perceived importance of the periodontal health were derived and each compared with actual effectiveness as determined from a sample of 250 patients opinion.

Introduction: By comparing the effect of long term workout in the fitness gyms and the habit of consuming hard rational food daily with a weekly schedule, could be very likely and would be support the oral health indeed. What to do to have aesthetically and functionally prevention method for further gum and periodontal diseases, which could be less aggressive and conservative, cheap and home treating methods. In case one cares about his body's physique, also he can care about the Gum structure as well.

Materials and Methods: To have a review, Bundles attached to teeth and their dis attachments provoke further injuries. Let's take a look at these bundles, if we peel away alveolar septa and papillae & marginal part, we can see the bundles (periodontal ligament), which is composed of bundles of connective tissue's fiber that anchor the teeth within the jaw. Each bundle is attached to cementum covering the root of the tooth. The other end is embedded in bony tooth sockets (alveolar socket). These bundles of fibers allow the tooth to withstand the forces of biting and chewing.

Results: As within skeletal growth, the muscles in the body also grow at irregular rates. The enlargement of muscles (hypertrophy) makes them thicker but muscle fibers can also get longer. With certain types of training and genetics, muscle mass can change.

According to the aging of muscular system, one reason is reducing the strength and power of the muscles, therefore, by training the endomysiums within the periodontal ligament with special training as well as eating hard foods and chewing them we can train them exactly like fitness club.

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