

13th International Conference and Exhibition on

DENTAL MEDICINE

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Posters



Dental Medicine 2016

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Assessment of oral health attitude and behavior among Health Sciences Center students

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Aim: The aims of this study were to assess the differences in oral health attitude and behavior among Health Sciences Center (HSC) students in four faculties and to compare oral health attitude and behavior among basic sciences, preclinical and clinical students (educational level), including a gender-based comparison.

Materials & Methods: The Hiroshima University-Dental Behavioral Inventory (HU-DBI) questionnaire consisted of 20 dichotomous questions. A mass email invitation was sent to all registered students via the Qualtrics survey system. Mann-Whitney U tests and chi-square tests were utilized. A factor analysis test was used to cluster certain questions in groups. The significance level was set to $p < 0.05$.

Results: The mean scores of HU-DBI were: 5.4 Medicine, 5.7 Dentistry, 4.7 Pharmacy and 4.5 Allied Health. The data were further divided into basic sciences, pre-clinical and clinical educational levels. The mean scores of the HU-DBI based on the level of education were 5.3, 5.6 and 5.7 for the basic sciences, pre-clinical and clinical groups, respectively.

Conclusion: Students in advanced years of their education and female students exhibited better oral health behavior and attitudes. Recommendations are made to emphasize dental education and early exposure to dental health.

Biography

Dena Ali has completed two years of Advance General Dentistry training at Columbia University College of Dental Medicine in New York, USA. She has received her MA degree from Columbia University in May 2011 and Fellowship in General Dentistry. In addition, she is also a Diplomate of American Board of General Dentistry. She has joined Kuwait University Faculty of Dentistry as a full-time Assistant Professor at the Restorative Sciences Department in July 2012.

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Response of connective subcutaneous tissue of mice to antimicrobial photodynamic therapy with different concentrations of a Phenothiazine chloride photosensitizer

Daniela Silva Barroso de Oliveira
University of São Paulo, Brazil

Antimicrobial Photodynamic Therapy (aPDT) has been proposed as a promising technique for disinfection of root canals, especially in teeth with apical periodontitis. However, the biological effect of this treatment and its use with defined parameters still need to be better assessed. The objective of this study was to evaluate the response of the connective subcutaneous tissue of mice after aPDT application using the phenothiazine chloride photosensitizer (10 mg/mL Helbo Blue), in different concentrations and in different periods. Isogenic BALB/c mice (n=99) were divided in four groups according to photosensitizer concentrations of 10 mg/mL, 1 mg/mL, 0.1 mg/mL and 0.005 mg/mL. Each group was divided into three subgroups according to the period evaluated (7, 21 and 63 days). A sample of the subcutaneous tissue of the area of application of the aPDT was collected for histopathological evaluation. The analysis was performed through qualitative parameters (inflammatory infiltrate and fibrosis) and semi-quantitative (scores). The results were analyzed by the non-parametric test of Kruskal Wallis, followed by the Dunn test ($\alpha=5\%$). It was not possible to observe a difference between the groups, independently of the concentration used ($p > 0.05$). It was possible to conclude that the photosensitizer Helbo Blue showed low aggression to subcutaneous tissue of mice in the concentrations and periods evaluated.

Biography

Daniela Silva Barroso de Oliveira is currently a PhD student at the School of Dentistry of Ribeirão Preto and Professor of Pediatric Dentistry at School of Dentistry in the Federal University of Alfenas.

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One-session root canal treatment with aPDT: Evaluation in dog's teeth with apical periodontitis

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University of Sao Paulo, Brazil

Aim: To evaluate one-session endodontic treatment with aPDT and two-session treatment with calcium-hydroxide (CH)-based dressing in dog's teeth with apical periodontitis.

Method: After experimental induction of apical periodontitis, 48 teeth were randomly assigned to the following groups: Group I (one-session treatment with aPDT 120 days); Group II (one-session treatment with aPDT 180 days); Group III (two-session treatment with CH-based dressing 120 days) and Group IV (two-session treatment with CH-based dressing 180 days). The animals were euthanized after 120 and 180 days. After histotechnical processing, microscopic and radiographic analyses were performed. Data were analyzed by Kruskal-Wallis and Fisher's exact tests ($\alpha=0.05$).

Result: Groups III and IV presented repaired, resorbed and cemental areas with collagen bundles and few inflammatory cells. In Groups I and II, the areas of cemental resorption were not repaired with reduced presence of cells and fibers. In the analysis of the apical closure, fluorescence microscopy and percentage of radiographic reduction of lesions, there was significant difference between Group I and III and between II and IV ($p<0.05$). Groups I and II had weak RANKL expression and positive immunostaining for RANK and OPG. In III, there was positive immunostaining for RANKL. In IV, the three osteoclastogenesis markers were expressed.

Conclusion: The results using aPDT were worse than those obtained with two-session endodontic treatment using a CH-based dressing in teeth with apical periodontitis.

Biography

Lidia Regina da Costa Hidalgo is a Dentist graduated at University Estadual Paulista, School of Dentistry of Araçatuba, Brazil in 2009. He has completed his Master's degree in Preventive Dentistry and Social Dentistry in 2012 and PhD from Universidade de São Paulo in Pediatric Dentistry, School of Dentistry in Ribeirão Preto, Brazil working on basic research and clinical areas.

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Effect of dimethyl sulfoxide wet-bonding technique on hybrid layer quality and dentin bond strength

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University of Campinas, Brazil

This study examined the effect of a dimethyl sulfoxide (DMSO) wet bonding technique on the resin infiltration depths at the bonded interface and dentin bond strength of different adhesive systems. Flat dentin surfaces of 48 human third molars were treated with 50% DMSO (experimental groups) or with distilled water (controls) before bonding using an etch-and-rinse (SBMP, 3M ESPE) or a self-etch (Clearfil: Clearfil SE Bond, Kuraray) adhesive system. The restored crown segments (n=12/group) were stored in distilled water (24 hours) and sectioned for interfacial analysis of exposed collagen using Masson's Trichrome staining and for microtensile bond strength testing. The extent of exposed collagen was measured using Light Microscopy and a Histometric Analysis Software. Failure modes were examined by SEM. Data was analyzed by two-way ANOVA followed by Tukey Test ($\alpha=0.05$). The interaction of bonding protocol and adhesive system had significant effects on the extension of exposed collagen matrix ($p<0.0001$) and bond strength ($p=0.0091$). DMSO-wet bonding significantly reduced the extent of exposed collagen matrix for SBMP and Clearfil ($p<0.05$). Significant increase in dentin bond strength was observed on DMSO-treated specimens bonded with SBMP ($p<0.05$), while no differences were observed for Clearfil ($p>0.05$). DMSO-wet bonding was effective to improve the quality of resin-dentin bonds of the tested etch-and-rinse adhesives by reducing the extent of exposed collagen matrix at the base of the resin-dentin biopolymer. The improved penetration of adhesive monomers is reflected as an increase in the immediate bond strength when the DMSO-wet bonding technique is used with a water-based etch-and-rinse adhesive.

Biography

Luis Roberto Marcondes Martins was graduated in Dentistry from the University of São Paulo in 1982. He did specialization in Restorative Dentistry in 1986 and Implantology in 1994. He has completed his Master's degree in 1986 and PhD in 1991 in Restorative Dentistry from the University of São Paulo. He is currently a Professor at the State University of Campinas/FOP. He has more than 120 scientific papers published in scientific journals with numerous published in impact journals.

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The comparative study of five different calcium hydroxide residues in root canal after final canal preparation using ProTaper rotary system and NaOCl 2.5%

Sogol Amiri
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Introduction: There is a high possibility that intracanal medication used for multiple-visit treatment, remains in root canal even after incorporating different endodontic instruments and chemical substances for removing it, prior to obturation.

Aims: Our study aims to evaluate the residues of five different calcium hydroxides which are presumed to be eliminated completely after final root canal preparation with ProTaper rotary files and NaOCl 2.5%, in identically prepared single-rooted teeth, using stereomicroscope.

Material & Methods: 81 single-rooted straight and intact human teeth, consisting of 17 maxillary central incisors, 17 maxillary canines and 47 maxillary premolars, were decrowned from 15 mm to anatomic apex and randomly divided into 5 groups of each with 3 incisors, 3 canines and 9 premolars. 5 positive and 1 negative controls were prepared. All teeth were prepared with rotary ProTaper files up to MAF=F2 down to the anatomic apex and with NaOCl 2.5% multiple irrigations according to ISO use instruction. Groups were filled with calcium hydroxide to full length as follow: Metapex (META BIOMED Co/Korea), Meta paste (META BIOMED Co/Korea), Golchai (Golchai Co/Iran) powder/liquid type, mixed 3/1 with distilled water, Calcipex II (Nippon Shika Yakuhin Co/Japan) and Endo-Cal (Morvabon Trading Co/Iran) Calcium hydroxides in all groups were applied with identical tips and for powder type, it was introduced into the canal with S-file 25 and pushed into the canal with endodontic plugger then all roots were covered by cavitation temporary filling material and incubated in 37 °C and 100% humidity for a week. Afterward cavitation was removed and each tooth was filed up to file size F3 with ProTaper system down to the anatomic apex, meanwhile NaOCl 2.5% was used for multiple irrigations according to ISO instruction, then all teeth were spitted using a 0.13 mm Disc on a continues hand-piece by making longitudinal grooves on both sides of each tooth and then splitting them into two equal pieces using a metal spatula. All specimens were magnified 40x and observed under stereomicroscope. Calcium hydroxide residues were analyzed quantitatively by means of a grid, with results expressed in percentage of canal walls covered by debris. Tucky statistical test was considered to be used if needed.

Results: In all groups (1-5) there were amounts of remaining calcium hydroxide. More than 60% of calcium hydroxide was still on canal walls all along root canal to the anatomical apex. There was no significant difference among similar teeth in all groups ($P < 0.9$).

Conclusion: There is no significant difference between different types of calcium hydroxide, whether they are powder /liquid type (Golchai) or paste form (other groups) and whether they are oil based (Metapex) or water-based (other groups) and whether they are pure (Golchai and Endocal) or there are other ingredients such as iodoform (Metapex) or barium sulfate (Metapaste and Calcipex II) as additives, when comparing for residues after chemomechanical removal from root canals prior to obturation.

Biography

Sogol Amiri has completed her DDS from Dental Faculty, Shahed University, Iran. She is currently working and learning in private dental office of Professor Dr. Hassan Semiyari. She has worked both in endodontic and periodontic fields.

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Combinatorial therapeutic effects of curcumin and thymoquinone on experimentally induced hamster buccal pouch carcinoma

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Background: One of the most challenging tasks concerning cancer is to induce apoptosis in malignant cells and development of new tumor targeted agents focus on apoptosis both curcumin (CU) and thymoquinone (TQ), natural compounds has chemopreventive properties, which are mainly due to its ability to arrest cell cycle and to induce apoptosis.

Objectives: The aim of this study was to evaluate effects of a combined treatment using CU & TQ on the expression pattern of cell proliferative (proliferating cell nuclear antigen (PCNA) and apoptotic (Bcl-2) markers during 7,12-dimethylbenz [a] anthracene (DMBA)-induced hamster buccal pouch carcinogenesis.

Methods or Experimental Design: Hamsters were divided into five groups of 5 animals in each. Group-1 was served as an untreated control. Group-2 hamsters were painted with 0.5% DMBA in liquid paraffin on the left buccal pouches three times a week for 14 weeks. Group-3 hamsters were receiving CU treatment for 6 weeks following DMBA painting. Group-4 hamsters were receiving TQ treatment for 6 weeks following DMBA painting. Group-5 hamsters were receiving both CU and TQ treatment for 6 weeks following DMBA painting. The experiment was terminated at the end of 14 weeks for control group and 18 weeks for treatment groups. The experimental animal's tumors were subjected into morphological examination and subsequently screened the pathological changes and estimate of cell proliferative and apoptotic.

Results: We were able to demonstrate that combination of TQ and CU was well tolerated and significantly reduced tumor volume without additional toxicity to the mice $P=0.002$. CU & TQ was able to reduce or inhibit cell proliferation ($P=0.000$), reduce cell viability and induce apoptosis ($P=0.000$). There was highly statistically significant positive correlation found between BCL2 and PCNA ($r=0.956$, $p<0.001$).

Conclusion: The present study suggests that CU & TQ might have inhibited the tumor formation by exerting anti-cell-proliferative and apoptotic potential after DMBA-induced hamster buccal pouch carcinogenesis.

Biography

Mohamed Mahmoud Ahmed is an Associate Professor in Oral & Dental Pathology Department, Al-Azhar University, Egypt. He has many article publications to his credit. He has a great experience and role in the field of Dentistry.

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Protocol for the association of depression and dental caries: NHANES 2011-12

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Purpose: Depression is a common mental health condition in which negligent self care is often a feature. The association of depression and poor oral health has limited research. The purpose of this study is to determine if there is an association of depression with untreated dental caries among adults' ages 18-55 years.

Methods: The data for this study were from the 2011-12 National Health Nutrition and Examination Survey. The key outcome was the presence/absence of untreated dental caries. The key independent factor was depression, based on the responses to the Patient Health Questionnaire-9 Depression Score. There were 2,892 participants. Chi square and logistic regressions were conducted.

Results: There were 2,169 participants (76.7%) without depression, 454 (14.6%) who with mild depression, and 270 (8.7%) who with moderate/severe depression. There were 710 (21.3%) with current caries. In unadjusted analyses, individuals with mild depression had an odds ratio of 1.44 (95% CI: 1.07, 1.93) of having current caries. The unadjusted odds ratio increased to 1.74 (95% CI: 1.19, 2.55) for individuals with moderate or severe depression. In an adjusted model, the odds ratios remained positive, but they were no longer significant (1.23 [95%CI: 0.96, 1.58] for mild and 1.30[95%CI: 0.84, 2.01] for moderate/severe depression.

Conclusions: Lower family income to poverty ratio, education and lack of insurance were stronger predictors of untreated dental caries than depression in adults' ages 18-55 years.

Biography

R Constance Wiener has completed her PhD in Public Health in 2012 from West Virginia University and completed her DMD at the University of Pittsburgh. She is a WVU Clinical and Translational Science Institute Clinician Scientist. She has published more than 30 papers in peer-reviewed journals and has been served as an Editorial Board Member and journal Reviewer.

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Title: Evaluation of the efficacy of ultrasonically activated SmearClear, 17% EDTA and One step irrigating solution in removal of smear layer – An *In Vitro* SEM Study**Pallavi Goel**

Swami Devi Dyal Hospital and Dental College, India

The success of endodontic therapy relies on proper biomechanical preparation, disinfection and three dimensional obturation of the root canal system. During cleaning and shaping of the root canal system, mechanical instrumentation leaves a smear layer covering the dentinal walls which may be infected and may protect the bacteria within tubules, hinder penetration of disinfectants and sealants into dentinal tubules and has the potential of compromising the seal of the root canal filling. The purpose of this study was to compare the efficacy of SmearClear (Sybron Endo, Orange CA), 17% EDTA, one step irrigation solution using ultrasonic activation in removing smear layer from root canal walls. Thirty extracted single rooted human teeth were randomly divided into three groups (n=10) and instrumented using Protaper Next Nickel Titanium rotary instruments. Each canal was subsequently irrigated with either of the solutions which were ultrasonically activated. The samples were prepared and examined under scanning electron microscopy for the opening of dentinal tubules in the coronal, middle and apical thirds.

Biography

Dr. Pallavi Goel has completed her BDS at the age of 22 years from Kurukshetra University and is pursuing post graduate studies from Pt. B. D. Sharma University of Health Sciences Rohtak in the department of Conservative Dentistry and Endodontics. She has won bronze medal in poster presentation at the 30th IACDE and 23rd IES National Conference held at Amritsar.

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Esthetic and functional decisions in implant prosthodontics before the placement of implants in the maxillary edentulous arch

Tony Daher

Loma Linda University, USA

Implant treatment for the maxillary edentulous patient is challenging due to inherent anatomic esthetic and biomechanical problems. Moreover, controversy persists as to factors critical for implant and prosthetic success. With the presentation of many clinical situations, this lecture examines 6 critical factors that direct the type of dental prostheses, early in the consultation process which includes: The nature of the patient's dental condition, whether the residual ridge is visible in both the relaxed lip and smiling state, the availability of adequate interarch space for the indicated type of prostheses, the need or not of a labial flange, the presence or the absence of bone in 3 radiographic zones and how many implants are needed.

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Oral disease-dental anxiety-brain-immune connections

Yong-Geun Choi

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Dental professionals have made remarkable progress on the better understanding of oral diseases and the more developed clinical technology for the prevention and treatment of it. However, anxiety of visiting dentist has been considered a factor beyond the capability of dentist to control over. Nevertheless, it was evidenced that dental anxiety is a powerful underlying factor determining the prevalence and prognosis of oral diseases. Deteriorated chewing function is closely linked with the diminished food choice that is one of the strongest environmental challenges to the survival of humans. Change of social activity due to the unacceptable aesthetic as well as speaking function of oral system is a critical challenge to humans, the very complicatedly net-worked social beings. Amygdala, a brain region specializing in facial recognition, displays exaggerated responses to the unfamiliar face of dentist that is processed as an attacker to threaten the security and safety. Directly, psychosocial stress due to the deteriorated daily function of oral system can increase the pro-inflammatory level of cytokine IL-6. As an indirect pathway, hypothalamic-pituitary-adrenal axis (HPA) is activated by the stress. Key hormone secreted by adrenal gland such as cortisol acts on immune cells and suppresses the immune systems, which aggravates the already present oral diseases. The vicious cycle can be interrupted by changing amygdala's process of the unfamiliar face of dentist. Based on the fact that seeing fearful or angry or unfamiliar face invoke stress reactivity in the amygdala results in avoidance of dental utilization, solutions for patient's avoidance behavior can be inferred.

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Temporomandibular joint (TMJ) syndrome

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An overview of the TMJ, the main complaint is pain in the jaw joint that can be caused by a variety of medical problems. The TMJ connects the lower jaw (mandible) to the skull (temporal bone) in front of the ear. Certain facial muscles that control chewing are also attached to the lower jaw. Problems in this area can cause head and neck pain, facial pain, ear pain, headache, a jaw that is locked in position or difficult to open, problems with biting and jaw clicking or popping sounds when you bite. Temporomandibular joint syndrome is also referred to as temporomandibular joint disorder. Women tend to have TMJ disorders then men. The question is when to seek for treatment and where to go for treatment and what is the treatment.

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Biohazardous aerosols in the dental work environment the problem and solution

Carmen Schuller

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The need for protection from airborne biohazards was first observed in 1899 and the implementation of personal protection began in 1915. Standard surgical masks were created to protect the patient from the doctor, however they leave the practitioner exposed, ineffectively protecting healthcare workers or other wearers from the inhalation of air contaminated with infectious diseases. Today's masks usually have limited filtration capacity and typically fit too loosely over the nose and mouth. This allows free entrance of aerosolized contaminants. Tightly fitted masks can cause carbon dioxide to accumulate and the surgeon, as an example, may develop headaches, become uncomfortable, and otherwise find his/her faculties and effectiveness impaired. To alleviate this condition, some healthcare workers lower the mask below the nose so that they can inhale freely. This practice is, of course, undesirable since it risks exposing the patient to air exhaled by the surgeon/healthcare worker and the surgeon/healthcare worker to contaminants in the environment. Some newer respirators/masks do provide nominal protection, but they do not filter the incoming air for a wide range of viruses, bacteria, or chemicals. Modern protective equipment has simply failed to adapt to these ever-growing threats. Therefore, nothing on the market today, provides consistent protection against infection from aerosols, toxic chemicals, deadly pathogens, bacteria and viruses. The solution is the creation of a device which totally isolates the healthcare professional from ambient air. By using compact portable systems, providing clean air pressurized and monitored for normal breathing. A wide range of contaminants can be isolated and filtered from the air delivered to the wearer via a patented membrane filtration process.

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Cantilever fixed partial dentures: A simple and reliable solution for anterior single tooth replacement

Guillaume Gardon-Mollard

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Different treatment options are available for the clinician when facing an anterior single tooth replacement: Removable partial dentures, three-unit cemented fixed partial denture (FPD), implant supported restoration or resin-bonded FPD. Many different clinical and personal parameters must be taken into account for the restorative dentist and the patient to make the more suitable and predictable choice: esthetic outcome, longevity, length of treatment, risks and costs. As an alternative to three-unit-cemented FPD's, dental implant therapy is a conservative approach when adjacent teeth are intact but remains a very sensitive procedure in the esthetic zone. Treatment durations, risks and costs can also be discouraging for the patient. Cantilever resin-bonded FPD's must be considered an attractive and reliable alternative treatment option.

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An overview of the diagnosis, prevention and management of dental injuries in sports

E Jan Chithalen

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Sports today are about entertainment and speed. The athletes are training harder to become bigger, faster and more aggressive to try and land lucrative professional deals. The equipment related to these sports has also improved in both technology and level of protection offered while being less bulky and lighter. This combination leads to bigger and harder hits due to players feeling less of the impact. While dental protection has been around for years, recent discussions associated with concussion research and prevention of dental trauma itself has made Dental protection an issue needing further investigation. Add to that the cost and pain associated with rehabilitation, Prevention is the key. This talk will discuss the different types and mechanisms of Dental Sports Injuries, their treatment and the controversy about types of mouthguards and what they can do for our athletes.

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The bone renaissance

Mahmood Hussain Qureshi

Pakistan Academy of Implant Dentistry, Pakistan

In a relentless pursuance of perfection and a definitive solution for long term stability of tissues around 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. The refurbishment of patients to innate curve, contour, aesthetics and function is achieved by using SABIRIN components: Vascularized osteotomies, Sinus grafts, onlay grafts, bone renaissance implant placement with especially designed osteotomes (rotary & manual) and soft tissue manipulation. Based on the 25 years of experience, the presenter thoroughly discusses the rationale, gives practical guidelines and presents surgical maneuvers to rectify hard and soft tissue deficiencies.

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Enhancing implant esthetics with multiple provisionalization

Majid A Al-Harhi

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Implant dentistry has come a long way since 1981 with great improvements made to achieve primary implant stability and improve bone-to-implant contact. The focus has since shifted toward creating an esthetic restoration that is indistinguishable from natural teeth and is stable over time. The success of a single tooth implant restoration in the esthetic zone depends not only on restored function but also on harmonious integration of the restoration into the patient's overall appearance, especially the peri-implant soft tissue. In spite of the available surgical techniques, Fu et al. 2011 proposed a guideline that demonstrates possible ways to increase the soft tissue thickness around implants, i.e. the "PDP management triad": implant position (P), implant design (D) and prosthetic design (P). First, the implant position, and angulation are key determinants in ensuring that an implant supported restoration has functional and esthetic success through an ideal emergence profile. Second, implant diameter and platform design can help prevent crestal bone resorption, which is a great asset in preserving esthetics. Third, the prosthetic design can provide the additional space for soft tissue in growth to create a fuller soft tissue profile. To optimize esthetic treatment outcomes, the use of provisional restorations with adequate emergence profiles is recommended to guide and shape the peri-implant tissues prior to definitive restoration. It is preferable to place provisional restorations on the implant at the time the restorative procedure is started. This process will establish a natural and esthetic soft tissue form that will determine guidelines for laboratory fabrication of an anatomically appropriate soft tissue model. The case demonstrates the fabrication of a provisional temporary crown designed to optimize the development of ideal soft tissue form around implant in esthetic zone.

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Road to endodontic success: New trends with basic concepts

Abhishek Parolia

Manipal University, India

The specialty of endodontics has evolved over the years like many other dental and medical specialties. The changes that have occurred in the last ten years, however, have been of great extent. Progress in any field can only be achieved by altering the old beliefs, concepts and attitude and moving forward. Successful management of root canal failures demands an understanding of the causes of failure and knowledge of the advantages and disadvantages of the various techniques. Now-a-days due to the better understanding, advancements of the theories, new generation of instruments and techniques of modern nonsurgical endodontics have made endodontics look simpler. The use of microscope, nickel-titanium rotary file systems, electronic apex locators, ultrasonics and newer obturation systems have profoundly changed the traditional endodontic practice. This lecture will outline the fundamentals of success in Endodontics, provide some of the considerations and guidelines necessary to achieve predictably successful endodontic outcome.

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In vitro evaluation of the tensile bond strength of a pre-fabricated dowel post system and commonly used core build up materials

Anita Hooda

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Introduction: The management of the extensive loss of the tooth structure requires endodontic treatment and prosthetic reconstruction. The post and core build up is required for restoring teeth to optimum health and function. The union between a post and core should provide sufficient strength to resist intraoral tensile and compressive forces.

Materials & Methods: This *in vitro* study evaluated the tensile bond strength of a pre-fabricated dowel post system and commonly used core build up materials. The study includes Group A- Glass ionomer cement-II and Group B- Silver amalgam. Carbon steel moulds were used to fabricate the post and core assemblies. Twenty post and core assemblies with two different core material and para-post number 5 were prepared. Tensometer model no KIPL-PC 2000 was used for testing the samples. A gradual force was applied to the specimen till a visible or audible evidence of the failure or inability of the specimen to withstand a greater load was shown. The modes of fracture were observed and the failure loads in Kg for samples were recorded.

Results: Results showed that all the twenty posts and core assemblies of each group showed a fracture at the post-core interface and the posts separated out cleanly from the forces. The mean failure load for glass ionomer and amalgam group was 9.85 and 51.55 kg respectively. A highly significant differences were noted among groups ($p < 0.01$) when compared statistically. Furthermore, the mean separation forces of the group A as compared to group B was found to be statistically significant ($p < 0.01$).

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A multidisciplinary approach to implant dentistry: Three case reports

Arun Vidyadharan

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Implant dentistry is a merger of different disciplines of dentistry like oral surgery, prosthodontics, periodontics, radiology, orthodontics and endodontics. Surgery and prosthetic rehabilitation play the key part of treatment. There are situations where other disciplines play an important role. When remaining teeth is involved in rehabilitation along with implants or where aesthetic concern comes into play; often procedures like crown lengthening, post core and even lasers become applicable. Three case reports are discussed where an interdisciplinary involvement of dental treatments was deemed beneficial to the patients in achieving a successful outcome.

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Effects of sports on teeth arrangement and gingival attachment

Azim Charoosaei

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Teeth vary in size, shape and location in the jaws. Teeth start to form under the gums well before you are born. Most people are born with 20 primary (baby) teeth. These teeth start to push through the gums at around 5 to 6 months of age. All 20 baby teeth usually erupt by about age 2. Baby teeth are then lost as early as age 6 and are usually all gone by age 13. Permanent teeth then fill in. By age 21 most people have 32 permanent teeth, 28 if wisdom teeth are removed. Everyone is at risk of tooth decay, or cavities. Tooth decay is one of the most common oral health problems. Bacteria that naturally live in your mouth use sugar in food to make acids. Over time, these acids destroy the out-side layer of your teeth, causing holes and other tooth damage. There are ways to help prevent tooth decay. Safe sports and physical activities help blood to flow better and rapidly. It is a well recorded affect in gingival.

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Botulinum toxin-treatment of temporomandibular joint disorders

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Temporomandibular joint is a ginglymoarthrodial joint performing hinge and rotational movements. This complex unit is made up of bone, muscles, ligaments, etc. Nature has created this joint so beautifully that for whole of a person's life it bears masticatory forces, muscular forces and other para functional forces. Different surveys over the time, have detected a high prevalence of temporomandibular joint disorders. Nowadays, young individuals are becoming more sufferers of TMDs. With times various treatment modalities have been advocated. Botulinum toxin A is a neurotoxin which blocks the release of acetyl-choline at pre-synaptic vesicles in neuro-muscular junctions, making its action non functional and thus inhibiting muscular contraction. It is being used successfully in medical conditions like blepharospasm, bladder overactivity, etc., and its role in treatment of refractory cases TMDs are very promising.

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Facing challenges in maxillofacial skeletal deformities

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Surgical correction of the maxillofacial skeletal deformity is to restore normal Esthetic and function, while minimizing potential negative short-term and long-term sequelae. The surgical correction of maxillofacial skeletal deformities includes the reconstructive procedures that correct deformities of the maxilla, mandible; facial skeleton and associated soft tissue structures. The etiology of maxillofacial skeletal deformities may be either congenital or acquired. Deformities may be evident at birth or may manifest during subsequent growth and development, creating functional, degenerative, cosmetic and/or psychological problems. The timing of corrective surgery can be critical and may occur during or after completion of growth. Orthodontic consultation and treatment in conjunction with surgical correction are frequently necessary and highly favorable in most cases. Radiographic evaluation prior to or following treatment is critical, but should be used as clinically indicated. Treatment planning can involve single or multiple separate, staged surgical and nonsurgical treatments. Other nonsurgical specialties may also be helpful or necessary for completion of treatment in more complicated cases. Therefore, treatment planning is very important in order to reach the optimum goals but in some cases the surgeon may face challenges during the set up of the treatment plan. In this presentation, there will be guidance how to manage complex cases with some learning points and tips for the operative and surgical techniques. Several difficult cases had been selected such as ; Binder Syndrome , long face syndrome , bilateral cleft lip and palate with different treatment plan modalities in a problem solving manner.

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A review of dental implant materials

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Implants have been gaining popularity amongst the patients and frequently are being considered as a first treatment option for missing teeth. In attempt to replace a missing tooth many biomaterials have been evolved as implants for many years in an effort to create an optimal interaction between the body and the implanted material. From a chemical point of view, dental implants may be made from metals, ceramics or polymers. The choice of material for a particular implant application will generally be a compromise to meet many different required properties. There is, however, one aspect that is always of utmost importance that how the tissue at the implant site responds to the biochemical disturbance that a foreign material presents and whether the surrounding bone is integrated with the implant material. The goal of achieving an optimal bone-implant interface has been approached by the alteration of implant surface topography, chemistry, energy and charge as well as bulk material composition. This presentation will review and summarize the biomaterials used for dental implants and the various pros and cons associated to those materials. This presentation might answer the question that “Are ceramic and polymer implants a promising alternative to titanium implants?”

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The effect of metal surface treatment before reporcelainization for ceramic repair after adhesive fracture of ceramo-metallic restoration

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Introduction: Ceramic fracture over non-precious crown coping is a clinical disaster causes a problem for the clinician. The problem is of great importance since till now there is lack of literature/researches that investigate this point. The high cost of the precious metals has simulated interest in less expensive alloys for the casting of Crown & Bridge. We intended to share in solving the problem in regard to the best treatment of bare metal for the best bond strength.

Aim: To investigate the effect of metal surface treatment (sandblasting, grinding and grinding) followed by sand blasting before reporcelainization of the bare metal on the bond strength and to shed some light on the mechanism of metal ceramic bonding.

Material & Methods: Two non-precious dental casting alloys, a nickel-chromium and a cobalt-chromium alloys and one type of dental ceramic were used. A total of 80 rod shaped metallic samples, 40 samples for each alloy were used for bond strength measurements and for metallographic study.

Results: Bond strength evaluation test: Co-Cr alloy exhibited the highest mean bonding value followed by Ni-Cr. For Ni-Cr alloy the highest mean bond strength was obtained when the bare metal was treated with sandblasting. For Co-Cr alloy, the highest mean bond strength was obtained when the bare metal was treated with sandblasting and when it was treated with grinding with P120D silicon carbide emery paper.

Conclusions: It is possible to repair the metal/porcelain restoration interface after adhesive fracture. Direct reporcelainization (without metal surface treatment) on the bare metal also gives adequate bond strength. Sandblasting increases the bond strength of metal/porcelain interface for both the investigated alloys, namely Ni-Cr and Co-Cr. The cobalt-chromium alloy shows better bond strength with sandblasting than the nickel-chromium alloy. Grinding procedure should not be used as a metal surface treatment before reporcelainization because it lowers the bond strength in case of base metal alloys.

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Tender differences in response to preemptive use of Ibuprofen for postoperative pain control after third molar surgery

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Analgesics can be used before surgery to alleviate postoperative dental pain. However, numerous studies have indicated gender-related differences in response to analgesics. This study compared the effect of pre-emptive use of ibuprofen on pain relief between men and women following the surgical removal of an impacted third molar. The pre-surgery anxiety level of participants (30 women and 29 men) was assessed by Corah's anxiety scale. Patients received ibuprofen (400 mg) 1 hour prior to surgical procedure. They were asked to record their pain intensity on a visual analogue scale and total number and the time of first rescue medication consumed over 24 hrs after surgery. Women showed greater anxiety before dental surgery than men. Pain intensities at 10, 12, 16 and 24 hours after the surgery were significantly higher in women than in men. Women significantly used more rescue medication than men; however, time to the first medication use was not significantly different between the two groups. Pre-emptive use of ibuprofen had lower efficacy in controlling post-surgical pain in women. This suggests that women likely need a higher dose of pre-emptive ibuprofen for sufficient postoperative pain control and highlights patients' gender as an important factor for improved pain management using this pre-emptive technique.

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Prevalence of medical conditions among patients visiting dental school in Asir region, Saudi Arabia: A retrospective study

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Background: Patients seeking dental care have significant medical problems which play an important role in the management and progress of treatment. It is important for the clinician to be aware of the type of medical condition in the patient for providing optimal Dental care.

Aims & Objectives: This study aims to assess the prevalence of medical conditions among patients seeking dental care in KKUCOD, to assess the prevalence of medical conditions in patients seeking Dental Treatment, to assess the type of medical condition and age group which is most prevalent and to assess the total number of Saudi & Non-Saudi Nationals.

Material & Methods: Patient's medical records were retrieved over a period of one year. Due ethical clearance was obtained. Data regarding age group, nationality, type of medical condition were recorded and subsequently entered in Excel spread sheet. Medically compromised conditions were classified into 11 categories.

Result: A total of 7051 patient files were screened. Of the 7051 patient files screened, 725 patients had medical conditions. Age group of 20-30 years had highest prevalence rate. Endocrine (Diabetic) conditions were the most prevalent medical condition closely followed by Cardiovascular, Respiratory and Hematologic conditions. Of the 725 patients with medical conditions Saudi's were the predominant group than the non-Saudi patients as Saudi nationals are main group of patients seeking dental treatment at KKUCOD.

Conclusion: 10.3% of the patients had medically compromised conditions which are significantly higher, diabetes was the most prevalent medical condition followed by cardiovascular, respiratory and hematologic conditions and age group of 20-30 years had the highest prevalence rate.

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