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19th American Dental Congress

December 08-10, 2016 Phoenix, USA

Scientific Tracks & Abstracts (Day 1)



American Dental Congress 2016

Sessions:

Day 1 December 08, 2016

Current Concepts in Oral Health | Advanced Dentistry | Dental and Oral Health | Therapy and Treatment | Oral and Maxillofacial Surgery

Session Chair

Ron Goodlin

American Academy of Cosmetic Dentistry, Canada

Session Co-Chair

Tarek El-Kerdani

University of Florida, USA

Session Introduction

Title: The company - The history of Univet

Jordan Sumners, UNIVET Optical Technologies, USA

Title: Salivary IgA enhancement strategy for development of anti-caries mucosal vaccine

Huimin Yan, Institute of Virology-Chinese Academy of Sciences, China

Title: Myofunctional re-education – A stage in the orthopedic and orthodontic treatment of the adult patient

Elina Teodorescu, Carol Davila University of Medicine and Pharmacy, Romania

Title: Bacterial community responses at the gene and molecule level during sugar catabolism in highly diverse oral *in vitro* biofilms

Anna Edlund, J Craig Venter Institute, USA

Title: The use of monocortical bone graft in closure of oro-antral fistula

Azza Abourabeh, Alexandria University, Egypt

Title: Efficacy of the preemptive lornoxicam on the postoperative pain, eudema and the body temperature after the impacted mandibular third molar surgery

Zeynep Fatma Zor, Gazi University, Turkey

Title: Factors relating to contemporary usage patterns of amalgam and resin composite for posterior restorations

Mai E Khalaf, Kuwait University, Kuwait

Title: Failure of eruption of permanent molars: A diagnostic dilemma

Geetanjali Sharma, UCLH Eastman Dental Hospital, UK

Title: Role of an orthodontist in cleft lip/palate rehabilitation

Arif Yezdani, Bharath University, India

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Salivary IgA enhancement strategy for development of anti-caries mucosal vaccine

Huimin Yan

Wuhan Institute of Virology-Chinese Academy of Sciences, China

Dental caries remains one of the most common global chronic diseases caused by *Streptococcus mutans*, which is prevalent all over the world. A potent and effective anti-caries vaccine has long been expected for caries prevention but no vaccines have been brought to market till now mainly due to the low ability to induce and maintain protective antibody in oral fluids. We explored different fusion strategies for the generation of a single fusion protein composed of both caries vaccine antigen and flagellin. We found that intranasal immunization with a single recombinant fusion protein of flagellin and PAc (KF-rPAc) can induce PAc-specific salivary IgA antibody responses and endow protection against caries. Optimization of the fusion strategy by replacement of the highly variable region of flagellin with caries vaccine antigen could increase specific IgA antibody response and protection efficacy. Novel recombinant fusion proteins KFD2-rPAc in which the hyper-variable region of flagellin (KF) was replaced with PAc could induce robust PAc-specific serum IgG and IgA as well as PAc-specific salivary IgA, meanwhile lower the antibody response against KF compared with KF-rPAc. More importantly, KFD2-rPAc could provide higher protective efficacy than that by KF-rPAc, but with limited anti-body response not needed for protection against caries. KFD2-rPAc can be a superior caries vaccine candidate for possible clinical trial. In conclusion, the fusion protein composed of both caries vaccine antigen and flagellin is an effective strategy to enhance salivary IgA response and anti-caries efficacy for development of caries mucosal vaccine.

Biography

Huimin Yan has completed his BS and PhD from Wuhan University, China. He has completed his Post-doctoral studies as a Research Associate in the Department of Pathology, School of Medicine, Case Western Reserve University, USA on Mucosal Immunology. He is a Professor in Wuhan Institute of Virology, CAS and PI of Mucosal Immunity Research Group.

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Myofunctional re-education: A stage in the orthopedic and orthodontic treatment of the adult patient

Elina Teodorescu

Carol Davila University of Medicine and Pharmacy, Romania

Myofunctional therapy and dento-facial orthopedics aim to correct the skeletal dysfunction, re-direct the development processes towards normality and they primarily act during the period of maximum growth, in the pre-puberal and puberal stage. Applied medical research continues to demonstrate, in all fields, that “the function generates the organ”. The oral interdisciplinary restorative therapy offers a new morphological status to the adult patient and functionally sustains, in an adequate way, a newly constituted form. Is it thus possible to educate a new functional engram for an adult organism (fully grown and in the presence of some persistent dysfunctions whose morphological consequences have been treated)? May it be necessary and worthy that the therapeutic protocol of orthodontic correction and oral rehabilitation of the adult, having functional disorders, includes a stage of myofunctional re-education? Our clinical results, dynamic evaluation and cephalometric observations on 108 cases, lead to the conclusion that, using functional appliances like activator in the final phase of an orthodontic treatment in adults helps prevent orthodontic relapse and correct breathing, swallowing and occlusal disorders. This approach provides progressive balance of facial antagonistic muscle groups and functional matrix, improving even more the esthetic outcome, adaptation and training of a proper 3D TMJ complex position and function, and sometimes its morphology. Through all these, the myofunctional phase significantly increases a dynamic functional stability, including adequate function of the facial muscles and neuromuscular answer following orthognathic surgery. Later on, the same patient would have less treatment needs of oral rehabilitation.

Biography

Elina Teodorescu has completed her PhD from Carol Davila University of Medicine and Pharmacy with fundamental research in Anthropology from an Advanced Oral Sciences approach. She is currently an Associate Professor at Carol Davila University of Medicine and Pharmacy, Department of Orthodontics and DentoFacial Orthopedics. He is the author of monography “*Diagrama – retea in analiza cranio-faciala tridimensionala*”, author and co-author of chapters in 5 orthodontic handbooks and has published more than 25 papers. She is serving as a Member of several Editorial Boards.

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Bacterial community responses at the gene and molecule level during sugar catabolism in highly diverse oral *in vitro* biofilms

Anna Edlund

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The oral micro-biome representing dental plaque is highly impacted by frequent and drastic pH drops due to the rapid response of microbial fermentation of dietary carbohydrates. In caries-associated plaque samples, pH remains below the 'critical level for demineralization' for extended periods of time after a carbohydrate pulse, while in health-associated plaque pH recovers. A major hurdle to understanding the dynamic interactions of oral biofilms and low pH-virulence development associated with caries disease is the high taxonomic variability of the oral microbiome between individuals. Also, it is extremely difficult to track species and strains temporally and spatially. To circumvent these major hurdles, we developed an oral *in vitro* biofilm model system, derived from human saliva. This biofilm model proved to be reproducible and stable at both taxonomic and functional levels and contained ~130 operational taxonomic units (OTUs), covering 60-80% of the original saliva diversity. In this study we applied this model as a solid platform to answer fundamental questions of the processes within naturally diverse dental plaque, associated with both health and disease. We applied a parallel approach of sampling for community mRNA (metatranscriptomics) and secreted small molecules during sugar fermentation and biofilm formation, to acquire new information on gene transcription activities and metabolite production in low pH. The biological information captured here reveals highly regulated gene transcription activities and temporal secretion of both primary and secondary metabolites, of which a few belong to bioactive groups of compounds (e.g. alkaloids, lactones and cyclic-dipeptides).

Biography

Anna Edlund has several years of experience in the research field of microbial ecology at the School of Dentistry, UCLA and at Stockholm University, Sweden. She is an Assistant Professor at the J. Craig Venter Institute, USA. Her research has led to the development of a unique oral *in vitro* bio-film model system where hundreds of bacteria grow together as a community. By applying cutting-edge sequencing technologies, mass spectrometry and bioinformatics tools to this model system it has been possible to identify novel genes, pathways and molecules with clinical and ecological significance.

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The use of monocortical bone graft in closure of oro-antral fistula

Azza Abourabeh

Alexandria University, Egypt

Background: Oro-antral fistula is a pathological condition characterized by the existence of a communication between the oral cavity and the maxillary sinus as a result of loss of the soft and hard tissues which normally separate both compartment.

Aim: The aim of the study designed to show the effectiveness of intra-oral block bone graft for closure of oro-antral fistula.

Methods: The study was conducted on 10 patients suffering from oroantral fistula as a complication of dental extraction, their age ranging from 23-59 years old, for both sexes and oroantral duration ranging from 2 months to 2 years. All cases were treated by the use of monocortical bone graft harvested from the mandibular symphyseal area by the use of trephine bur with different sizes, and the buccal advancement flap for closure of oroantral fistula. A clinical and radiographical (periapical, panoramic, and computerized tomography radiograph) evaluation was made immediately after surgery and after 1, 3 and 6 months postoperatively.

Results & Conclusion: None of the cases had developed oro-antral communication recurrence. The closure of oroantral fistula by buccal advancement flap and bone graft has the advantage of reconstruct bone by bone and mucosa with mucosa (replace the defect with similar tissues) and bone graft ensure support to the flap and so reduction of failure rate of oroantral recurrence.

Biography

Azza Abourabeh has obtained her Master's degree in Oral & Maxillofacial from College of Dentistry, Alexandria University in 2008. She was a Resident in Oral & Maxillofacial Department in Alexandria University Hospitals for three years and was a Faculty Member in Oral & Maxillofacial Department, Qassim University in Saudi Arabia. She is currently an Assistant Lecturer in College of Dentistry, Pharos University in Egypt.

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Efficacy of the preemptive Lornoxicam on the postoperative pain, eudema and the body temperature after the impacted mandibular third molar surgery

Zeynep Fatma Zor
Gazi University, Turkey

Background & Aim: Third molar surgery is the most common procedure in oral surgery; pain and edema are the most encountered complications postoperatively. Aim of the study was to evaluate the effects of preemptive lornoxicam on pain, edema and body temperature after the third molar surgery.

Methods: 43 patients (14 men, 29 female) aged between 18-23 years requiring bilateral and symmetrically impacted lower third molar were included in this study. Firstly 8 mg I.V. lornoxicam was given to the preemptive group. After the third molar surgery under local anesthesia the placebo was injected. The patients were controlled at postoperative 1 and 7 days. The same patient was operated one month later with the opposite protocol. Pain was evaluated by VAS. Edema was evaluated by tape measuring technique. Pain severity in postoperative 12 hours, the first analgesic requirement, the total analgesic number in postoperative 5 days and the patients' satisfaction were assessed. Facial measurements were handled by the total distance of tragus-mouth corner, tragus-menton and eye corner-gonion.

Results: No statistical difference was observed on edema and body temperature between two groups ($p > 0.05$). However, significant statistical differences were observed on pain in the preemptive group ($p < 0.05$). It is determined that preemptive group feels less pain in postoperative 5 hours and needs fewer analgesics in postoperative 12 hours. It is observed that the time required by the first analgesic postoperatively is longer and patients satisfaction is higher than the post-operative group ($p < 0.001$)

Conclusion: According to the results, preemptive lornoxicam is effective and safe for postoperative pain control after third molar surgery.

Biography

Zeynep Fatma Zor has been working as an Oral and Maxillofacial Surgeon at the Gazi University, Faculty of Dentistry, Department of Oral and Maxillofacial Surgery from Ankara, Turkey since 2004. She has completed her PhD in 2010 from Gazi University, Faculty of Dentistry. She is interested in preemptive analgesia, lornoxicam, implant dentistry, orthognathic surgery, TMJ surgery and esthetic dentistry.

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Factors relating to contemporary usage patterns of amalgam and resin composite for posterior restorations

Mai E Khalaf

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Objectives: This study analyzed the use of amalgam and resin composite for posterior restorations placed by general dentists in relation to dentist, patient and cavity factors.

Methods: One thousand posterior restorations (n=1000) placed by a representative sample of general dentists working in the Ministry of Health (MOH) Kuwait during routine clinical practice were assessed and information about the restorations was recorded using a survey questionnaire. Descriptive statistics and binary logistic regression analysis were used to determine the factors associated with the use of amalgam versus tooth colored restoratives.

Results: Dentists chose amalgam for 30.8% of the 1000 restorations. Dentists with longer experience (>15 years) were more likely to choose amalgam (OR=3.78, 95% CI=1.52, 9.38). Amalgam was more likely to be chosen for patients with poor oral hygiene (OR=1.58, 95% CI=1.08, 2.32) and a high number (≥ 4) restorations (OR=1.44, 95% CI=1.07, 1.94) with large cavity sizes (OR = 6.33, 95% CI = 3.88, 10.32). Tooth colored restorations were more likely to be chosen for small cavity sizes.

Conclusions: The use of resin composite materials as the dominant choice among dentists in Kuwait reflects the trend worldwide. Nevertheless, clinicians still find a use for amalgam in posterior load-bearing teeth and in the high-caries risk population.

Biography

Mai E Khalaf is an Assistant Professor at the Department of General Dental Practice, Kuwait University. She has completed a two-year advanced education in General Dentistry and Master of Arts at Columbia University, NY, USA. She has obtained board certification in General Dentistry and is currently involved in preclinical and clinical teaching at Kuwait University. She is involved in research mostly in the field of restorative dentistry.

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Failure of eruption of permanent molars: A diagnostic dilemma

Geetanjali Sharma, Louise Kneafsey, Paul Ashley and Joseph Noar
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Background: There are limited studies that have proposed various protocols for the management of failure of eruption (FOE) of permanent molars with no clear consensus or guideline. Accurate diagnosis of FOE is challenging but key for successful management.

Purpose: The aim of our research was to confirm key diagnostic criteria that will aid diagnostic differentiation between Primary failure of eruption (PFE) and Mechanical failure of eruption (MFE) of permanent molars and identify successful management strategies.

Methods: This was a retrospective descriptive study. Patients diagnosed with FOE of permanent molars (excluding impaction) between January 2003 and December 2013 was identified. A data collection sheet was used to record patient details, clinical and radiological features of failure of eruption. Two examiners (GS, LK) independently analyzed the data and a diagnosis of PFE or MFE was made based on a combination of current protocols. Management strategies for each were identified and reported as satisfactory/unsatisfactory.

Results: A total of 31 patients met the inclusion criteria of which 15 were classified as PFE and 14 with MFE. 1 patient was too young to confirm diagnosis, 1 patient had delayed eruption. 26% of cases were misdiagnosed or prematurely diagnosed as MFE, which led to unsuccessful orthodontic management.

Conclusion: In our paper we propose a management protocol based on the results of this study coupled with existing protocols in the form of a simple flow diagram to aid accurate diagnosis and management of this rare and challenging clinical problem.

Biography

Geetanjali Sharma has completed her undergraduate dental training in 2006 from Queen Mary and Westfield College, University of London, thereafter, she entered the Specialist Postgraduate Program in Orthodontics and attained her MOrth (RCS, England), MclinDent (Orthodontics) and FDS (RCS). She is currently working as a Consultant Orthodontist at Chelsea and Westminster NHS Trust, London and teaches/supervises postgraduate orthodontic students at Eastman Dental Hospital, UCLH, London.

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Role of an orthodontist in cleft lip/palate rehabilitation

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Clefts of lip and palate are one of the most common craniofacial anomalies with a multifactorial inheritance with genetic and environmental factors responsible for its occurrence with a 70% incidence of non-syndromic cleft lip with or without cleft palate and a 30% syndromic cleft lip with or without cleft palate. The incidence of cleft lip and palate in India is 1:500 live births with unilateral cleft lips predominant over bilateral cleft lips with left sided unilateral clefts more common than right sided ones. In females, isolated cleft palate is more common as compared to males in whom the incidence of cleft lip is higher. Un-operated cleft lip/palate subjects exhibit normal facial growth whereas surgery dependent on its timing could produce mid-facial growth problems. Nevertheless, esthetics, psychosocial reasons and speech mandates a multidisciplinary treatment approach for management of such patients. This presentation would deal with the role of orthodontist in the treatment of cleft patients. The orthodontist is one of the first few specialists to meet the parents and infant. Informed reassurance, parental counseling, dietary counseling and fluoride prescription is the first step towards management of cleft cases. In bilateral clefts, pre-maxillary segments must be retruded. Pre-surgical infant orthopedics carried out at three to six weeks makes use of intraoral appliances to separate the collapsed lateral maxillary segments which along with elastic strapping across prolabium restrains pre-maxillary growth. Acrylic obturators can be used for feeding difficulties. Pre-surgical nasoalveolar molding, a nonsurgical technique, is effective in infants to reduce the size of intra-alveolar cleft by molding of bony segments, surrounding deformed soft tissues and cartilage in the cleft nose. The orthodontist has to effectively manage the anteroposterior, transverse and vertical dimensions of the maxillary and mandibular dental arches in the mixed and permanent dentition. Skeletal class III malocclusions with retrognathic maxilla can be treated with protraction headgear therapy around six to eight years of age. W-arch, quad-helix, nickel titanium palatal expanders or other types of expansion appliances at 9-10 years of age are used to correct anterior and posterior cross bites. A secondary bone graft (8-11 years) is performed prior to cleft canine eruption and active orthodontic treatment is started after eruption of canine. Comprehensive orthodontic treatment with pre-adjusted edgewise appliances can be used around 12-13 years of age for orthodontic traction of impacted teeth, precise positioning of teeth and arch coordination. Chin cup headgear therapy can be used to restrain//redirect mandibular growth. After completion of growth period, pre-surgical and post-surgical orthodontics may be deemed necessary for the cleft patients who warrant orthognathic surgery.

Biography

A Arif Yezdani has obtained his BDS in 1985 and MDS in 1989 both from University of Madras, India. He has worked abroad as a Consultant and Specialist in a prestigious Specialist Dental Centers of Ministry of Health, Kingdom of Saudi Arabia. He has presented various scientific papers both in national and international conferences, symposiums and workshops. He was the Co-Chairman of a scientific session of an international symposium and of a national workshop and also Course Director of a workshop on Accelerated Osteogenic Orthodontics. He was also Coordinator for Indian Academy of Aesthetic and Cosmetic Dentistry (IAACD) and Colgate-IDA "Future Dental Professionals" program. Presently, he is a Convener of Clinical Society Meetings in Sree Balaji Dental College and Hospital, Chennai, India and has convened 112 clinical society meetings till date.

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Workshop



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Leonard B Goldstein

A T Still University, USA

Utilizing Acupuncture and Osteopathic Manipulation in the Treatment of TMDs

Temporomandibular Disorder (TMD) is clinically characterized by pain in the masticatory muscles of the temporomandibular joint (TMJ). This affects an estimated 10 million Americans, and one-third of adults will experience symptoms of TMD over their life span. Clinically, patients complain of tenderness, headaches, restricted jaw movement, muscle stiffness, and weakness.

The consequences of untreated head, neck, and facial pain range from a lower quality of life to a healthcare burden for avoidable treatment. Adopting Osteopathic Manipulative Treatment (OMT) and Acupuncture as a more mainstream approach to treatment and prevention of those issues could help create healthier and more productive communities.

Overall, acupuncture offers a useful treatment modality in the management of TMD. It is simple, relatively safe, and efficacious.

The workshop will provide hands-on examples of both acupuncture and OMT for the participants.

Biography

Leonard B Goldstein serves as A. T. Still University's Assistant Vice President for Clinical Education Development, Professor of Osteopathic Manipulative Medicine at the ATSU School of Osteopathic Medicine in Arizona (SOMA) and Professor of Dentistry at the ATSU Arizona School of Dentistry and Oral Health (ASDOH). He has earned his Doctor of Dental Surgery degree from Case-Western Reserve University and PhD from the City University of Los Angeles. Immediately following graduation from dental school, he served in the US Army as a Captain in the Dental Corps during the Viet Nam Conflict. Prior to joining ATSU, he was the Director of Clinical Education and Associate Professor of Family Medicine at the NYIT College of Osteopathic Medicine from 2005-2014. He has published over seventy (70) peer-reviewed articles and has spoken at national and international medical and dental education conferences.

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Scientific Tracks & Abstracts (Day 2)



American Dental Congress 2016

Sessions:

Day 2 December 09, 2016

Tools and Techniques in Dentistry | Regulatory and Ethical Issues of Dentistry | Endodontics | Oral Cancer | Orthodontics

Session Chair

Katherine Kula

Indiana University School of Dentistry, USA

Session Co-Chair

Leonard B Goldstein

A T Still University, USA

Session Introduction

Title: Fixed & removable prosthodontics in the rehabilitation of the worn and/ or depleted dentition

Paul F Gregory, University of Leeds School of Dentistry, United Kingdom

Title: RCT of 10% chlorhexidine coating for the prevention of adult caries

Athena Papas, Tufts University School of Dental Medicine, USA

Title: Workshop: Utilizing acupuncture and osteopathic manipulation in the treatment of TMDs

Leonard B Goldstein, A T Still University, USA

Title: Comparison of marginal fit of zirconia copings manufactured with the use of two CAD/CAM systems Cerec InLab (Sirona®) CAD/CAM Zirkozahn (Zirkozahn®) and Zirkograph 025 ECO pantographic system (manual milling system) (Zirkozahn®)

Maria Jose Jimenez Suarez, New York University College of Dentistry, USA

Title: To determine the oral health status of school children in remote area, Dudhkunda municipality of Solukhumbu, Nepal.

Yangjee Sherpa, B P Koirala Institute of Health Sciences, Nepal

Title: Applicability of Tanaka-Johnston and Moyers mixed dentition analyses in Northeast Han Chinese

Jangbu Sherpa, Kanti Children's Hospital, Nepal

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Fixed & removable prosthodontics in the rehabilitation of the worn and/or depleted dentition

Paul F Gregory

University of Leeds School of Dentistry, United Kingdom

Demographic surveys of post-industrial societies show a continual decline in the overall rates of edentulousness with an increased rate of tooth retention, although tooth loss ranging from one to many teeth is still a common occurrence. The primary causes of tooth loss are caries, periodontal disease or trauma and this tendency of gradual tooth loss increases with age. Counterpointed against tooth loss are varying levels of tooth tissue loss due to para-functional activities (bruxism), abrasion, attrition and/or erosion coupled to differential levels of tooth over-eruption, tilting and/or dento-alveolar compensation. Osseo-integrated implants may be seen as a gold standard treatment for the rehabilitation of missing teeth but their costs, need for surgical intervention and on-going maintenance requirements to minimize peri-implant disease can preclude this treatment option from many of our patients. It is here that conventional and particularly adhesively retained fixed partial dentures (bridges), possibly in combination with removable partial dentures and adhesive restorations still provides valuable treatment options for our patients with worn and/or depleted dentitions. The use of the re-organization approach to the worn and/or depleted dentition will be compared and contrasted against the use of the confirmative approach. Clinical examples will be used to highlight techniques and taken from clinical practice, under-graduate & post-graduate clinical teaching. The research evidence will be presented as the underpinning foundations for a methodical approach to the clinical management & importantly the biological costs of the different treatment options for each of the prosthodontic options chosen in replacing missing teeth.

Biography

Paul F Gregory has completed his graduation from University of Leeds, School of Dentistry in 1981 and spent 24 years in General Dental Practice. In 2005, he started full-time Teaching at University of Sheffield, School of Clinical Dentistry and passed his mono-specialty qualification in Prosthodontics at Royal College of Surgeons of Edinburgh in late 2007. In 2008, he was registered with General Dental Council, UK as a Specialist in Prosthodontics and returned to University of Leeds to teach undergraduate and postgraduate students. In 2011, he was promoted as a Senior Clinical Teaching Fellow in Restorative Dentistry and in 2012; he became Program Manager of the two Masters in Clinical Dentistry Post-graduate distance learning courses (Implant Dentistry & Restorative Dentistry).

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RCT of 10% chlorhexidine coating for the prevention of adult caries

Athena Papas

Tufts University School of Dental Medicine, USA

Objective: The prevention of adult caries study, an NIDCR-funded multicenter, double-blind, randomized clinical trial, enrolled 983 adults (aged 18-80) at high risk for developing caries to test the efficacy of a chlorhexidine diacetate 10% weight per volume (w/v) dental coating (CHX).

Methods: A computer randomly assigned participants to receive either the CHX coating (n=490) or a placebo control (n=493). Coatings were applied weekly for four weeks and a fifth time 6 months later. The primary outcome (total net D₁₋₂FS increment) was the weighted sum of changes in tooth surface status over 13-months. Additionally a small sub set was followed for an additional 6 months for safety.

Results: We observed no significant difference between the two treatment arms in either the intention-to-treat or per-protocol analyses. Analysis of three protocol-specified secondary outcomes produced similar findings. The safety of 10% (w/v) chlorhexidine diacetate coating was verified by microbial analysis.

Conclusion: This trial failed to find that 10% (w/v) chlorhexidine diacetate coating was superior to placebo coating for prevention of new caries.

Biography

Athena Papas is the Erling Johansen Professor of Dental Research and the Head of the Division of Oral Medicine at Tufts University School of Dental Medicine in Boston, Massachusetts. She has received her Dental degree from Harvard and her PhD in Oral Biology from MIT. She had a Pre-doctoral Fellowship at Massachusetts General Hospital and a Post- doctoral Fellowship at Children's Hospital. As Principal Investigator, she has led over 100 studies in the fields of geriatric dentistry, cancer, HIV, Sjogren's syndrome, xerostomia and medically compromised patients. She has worked in multiple areas of translational research, including medications and device therapies.

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Comparison of marginal fit of zirconia copings manufactured with the use of two CAD/CAM systems Cerec InLab (Sirona®) CAD/CAM Zirkonzahn (Zirkonzahn®) and Zirkograph 025 ECO pantographic system (manual milling system) (Zirkonzahn®)

Maria Jose Jimenez Suarez

New York University College of Dentistry, USA

The aim of the study was to compare the marginal fit of zirconia copings fabricated with two different CAD/CAM systems: Cerec InLab (Sirona®) and Zirkonzahn (Zirkonzahn®) with a pantograph system Zirkograph 025 ECO (Zirkonzahn®).

Material and methods: Cr-Co master model with a zirconia crown preparation of an upper premolar was manufactured. Ten zirconia copings were fabricated for each group following manufacturer's instructions. Control group consisted of ten metallic copings. A replica technique was used with elite HD+ polyvinyl siloxane (Zhermack®). Measurements were taken using a stereomicroscope at 50x magnification to determine the absolute marginal discrepancy and marginal width of each coping. Statistical analysis was conducted using IBM SPSS® software. T-test study was conducted in order to compare obtained data. Results showed that the mean marginal absolute discrepancy and marginal width were: 92.14 ± 38.59 and 78.62 ± 31.33 μm for Cerec InLab (Sirona®) CAD/CAM system, 38.71 ± 12.62 and 36.91 ± 13.56 μm for Zirkonzahn (Zirkonzahn®) CAD/CAM system, 77.92 ± 38.01 and 69.42 ± 33.23 μm for Zirkograph 025 ECO (Zirkonzahn®) pantograph system. Control group exhibited 44.11 ± 15.36 and 43.74 ± 15.70 μm . With respect to absolute marginal discrepancy and marginal width, statistical significant differences were observed when comparing Cerec InLab (Sirona®) and Zirkograph 025 ECO (Zirkonzahn®) with control group. No statistical significant differences were observed between Zirkonzahn (Zirkonzahn®) CAD/CAM and the control group. Overall level of statistical significance was $p > 0.001$. It can be concluded that Zirkonzahn® CAD/CAM system was the most accurate system of all. CAD/CAM Cerec InLab system (Sirona®) proved to be the less precise system.

Biography

Maria Jose Jimenez Suarez has graduated as a Dentist from the Universidad San Francisco de Quito in Ecuador. She has published her original research study in "Revista Odontologica Mexicana". She has worked with the intraoral scanner Trios 3SHAPE® and software in fixed prosthesis fabrication using CAD/CAM systems. She is currently attending Advanced Education Program in Prosthodontics at New York University College of Dentistry.

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Report on school oral health program in Dudhkunda municipality, Solukhumbu, Nepal

Yangjee Sherpa¹ and Jangbu Sherpa²

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²Kanti Children's Hospital, Nepal

Background: Dental caries is a significant health problem among the people of all ages but the magnitude of the problem is greatest among young children. As far as the population of Solukhumbu District, one of the remote areas of Nepal, is concerned, data is not available regarding dental caries and oral hygiene status.

Objectives: The objective of this study is to determine the oral health status of school children in remote area, Dudhkunda municipality of Solukhumbu.

Materials & Methods: The survey was carried out in 3079 children of 37 schools of Dudhkunda municipality, Solukhumbu. Out of this, 1578 were male and 1501 were female children.

Results: Out of the total examined, 60% of the patients showed presence of at least one decayed teeth, 10% showed gingival/periodontal problems. The major problem seen was dental caries and poor oral hygiene.

Biography

Yangjee Sherpa from Nepal. He has completed his bachelor in Dentistry at the age of 26 from B.P Koirala Institute of Health Sciences, Dharan, Nepal. After completing bachelor degree, he did work as a dental surgeon in Nepal Medical College and Teaching Hospital, Kathmandu, Nepal for an year. Then he did his private practice in private clinic in Kathmandu, Nepal for nearly an year. After then he worked in Phaplu district hospital, Solukhumbu, Phaplu, a remote area of Nepal for a year. Now he is in US for his further study and he is preparing for it.

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Applicability of Tanaka-Johnston and Moyers mixed dentition analyses in Northeast Han Chinese

Jangbu Sherpa

Kanti Children's Hospital, Nepal

Objectives: To assess the applicability of Tanaka and Johnston equations and Moyers prediction method in Han ethnic group of Northeast China and to develop the prediction equations for the same population.

Design: This work is a cross-sectional study.

Setting: Department of Orthodontics, School of Stomatology, Jiamusi University, Heilongjiang, China.

Participants: A total of 130 subjects (65 male and 65 female) aged 16-21 years from Han ethnic group of Northeast China were recruited from dental students of Jiamusi University and patients seeking orthodontic treatment at Department of Orthodontics, School of Stomatology, Jiamusi University. Ethnicity was verified to 2 previous generations by questionnaire.

Methods: Study models were fabricated from alginate impression and mesio-distal width of teeth were measured with Digital Vernier caliper. The predicted values obtained from Tanaka-Johnston and Moyers methods in both arches were compared with the actual measured widths. Based on regression analysis, prediction equations were developed.

Results: Tanaka and Johnston equations were not precise, except for the upper arch in males. However, the Moyers 85th percentile in upper arch and 75th percentile in lower arch predicted sum precisely in males. For females, the Moyers 75th percentile predicted the sum precisely for upper arch, but none of the Moyers percentiles predicted in lower arch.

Conclusions: Both Tanaka and Johnston equations and Moyers' method may not be applied universally without question. Thus it may be safer to develop regression equation for specific population. Validating studies must be conducted to confirm the precision of the newly developed regression equations.

Biography

Jangbu Sherpa has completed his Master's degree in Orthodontics and Dentofacial Orthopedics from Jiamusi University, China. He is currently working at Kanti Children's Hospital, Nepal. He is the Director of Khumbila Dental Clinic, Kathmandu, Nepal.

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Scientific Tracks & Abstracts (Day 3)



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Sessions:

Day 3 December 10, 2016

Dental Hygiene | Cosmetic Dentistry | Dental Sleep Medicine | Orofacial Myology | Dental Nursing

Session Chair

Jacqueline A Singleton

University of Louisville School of Dentistry, USA

Session Co-Chair

Arif Yezdani

Bharath University, India

Session Introduction

Title: Infection control policy in dental clinic

Ishraga Forawi, Ministry of health, Saudi Arabia

Title: Oral lichenoid lesions and serum antinuclear antibodies in Thai patients

Kobkan Thongprasom, Chulalongkorn University, Thailand

Title: Evaluation of mechanical properties and cell response of glass infiltrated Zirconia after Sandblasting

Nguyen Thi Phuong Thao, Chonnam National University, South Korea

Title: Oral health and nutritional status of early head start children in a selected area of Dhaka city

Mst Mostary Zannath, Atish Dipanker University of Science and Technology, Bangladesh

Title: Histopathological evaluation of response of primary teeth pulp after direct pulp capping with bioactive glass and mineral trioxide aggregate

Roza Haghgoo, Shahed University, Iran

Title: Prevalence of oral impacts on daily performance among children in Moldova

Aurelia Spinei, Nicolae Testemițanu State University of Medicine and Pharmacy, Moldova

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Oral lichenoid lesions and serum antinuclear antibodies in Thai patients

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Aim: The aim of this study was to investigate the presence of serum antinuclear antibodies (ANA) in Thai oral lichenoid drug reaction (OLDR) and oral lichen planus (OLP) patients.

Materials & Methods: This study comprised of 20 patients diagnosed with OLDR, 23 patients with OLP and 24 healthy control subjects. Participants' blood samples were assayed for ANA staining patterns and serum ANA titer levels by immunofluorescence using Human epithelium type 2 (HEp-2) as a substrate. The serum ANA titer levels were defined as low (1:40-1:80), medium (1:160-1:320) and high (>1:640).

Results: Serum ANA was detected in 73.9%, 70% and 25% of OLP, OLDR and control subjects respectively. There was a statistically significant difference between the number of serum ANA positive subjects in the OLP or OLDR groups and the control group ($p < 0.01$), but no significant difference between the OLP and OLDR groups. The speckled pattern was the most commonly found staining pattern, present in 60.9%, 55.0% and 20.8% of the OLP, OLDR and control subjects. The number of subjects with low ANA titers in the OLP and OLDR groups were significantly higher than that of the control group ($p < 0.01$). Medium ANA titers were found in 15%, 4.4% and 4.2% of the OLDR, OLP and control subjects, while high ANA titers were not found in any group.

Conclusion: The number of serum ANA positive OLP and OLDR patients was significantly higher than the control group. Speckled pattern and low titer levels were the most common findings in both OLP and OLDR groups.

Biography

Kobkan Thongprasom has completed her MSc in 1987 from University College London, UK. She is the Director of Research Unit in Oral Diseases, Chulalongkorn University. She has published more than 51 papers in reputed journals and has been serving as an Editorial Board Member of reputed international dentistry and medicine journals.

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Evaluation of mechanical properties and cell response of glass infiltrated zirconia after sandblasting

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Zirconia surface modification techniques, especially, the glass infiltrated zirconia method is one of the most effective methods of producing a composite with more desirable properties than the individual components. The aim of this *in vitro* study was to evaluate the mechanical properties and initial cell response of glass infiltrated zirconia ceramics before and after sandblasting. One hundred zirconia specimens were divided into the following 4 groups, according to the surface treatments: untreated zirconia (control), sandblasted zirconia (S), glass infiltrated zirconia (G), and sandblasted glass infiltrated zirconia (GS). Surface roughness, biaxial flexural strength, hardness, osteoblast cells attachment and proliferation were evaluated. One-way analysis of variance (ANOVA) and Tukey's HSD pair-wise multiple comparisons were performed on all the tests. The GS group showed a slight decrease in hardness, but revealed the improvement of flexural strength (686.2 MPa). After sandblasting, the GS group had the highest surface roughness ($R_a=1.24 \mu\text{m}$) compared to the other groups, and supported an enhanced osteoblast cells response over the untreated zirconia. FE-SEM images of the glass infiltrated zirconia surface microstructure showed a smooth surface before sandblasting. After sandblasting, the new surface exhibited roughness with the formation of shallow irregularities. The results of this study indicated the beneficial influence of graded structures in the design of zirconia implants. The glass infiltrating process could be used as a promising method to enhance the mechanical properties with better surface roughness of zirconia implants for osteoblast cells response. Limitations of this study are related to the experimental conditions which may differ from the actual clinical situation.

Biography

Nguyen Thi Phuong Thao was graduated from Viet Bac High School in Langson, Viet Nam in September 2008 and from Guangxi Medical University, College of Stomatology at Nanning, China with a Bachelor of Science in Dentistry in September 2014. In 2014, she has received a Research Scholarship granted by the National Research Foundation of Korea and remained at Chonam National University to complete her Master of Science degree in Dentistry in August 2016.

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Oral health and nutritional status of early head start children in a selected area of Dhaka city

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Background: Food and nutrition affects the teeth during development and malnutrition and it may exacerbate periodontal and oral infectious diseases. However, the most significant effect of food and nutrition on teeth is the local action of diet in the mouth on the development of dental caries and enamel erosion.

Objective: The purpose of this study was to assess the oral health and nutritional status of early head start children aged 2 to 5 years who attended the clinical nutrition unit of IPHN (Institute of Public Health Nutrition).

Methods: A cross-sectional study was conducted conveniently among a total of 384 early head start children aged 2 to 5 years at IPHN (Institute of Public Health Nutrition). Data was collected by face-to-face interview. A pretested structured questionnaire was used and oral clinical examination was performed by following standard appropriate techniques and tools. Data were analyzed by the software namely SPSS version 16.0. Formal approval of the study was obtained from ethical review board of BADAS.

Results: The mean age of the respondents was 36 months with the standard deviation of ± 13 months. Majority (41%) of the children were in the age group around 24 to 59 months. Almost all (97.7%) the children cleaned their teeth regularly. Common oral health problems found among the children were Plaque (47%), gum bleeding (11%), gingivitis (14%), swelling of gum (3.9%) and pain or infection with gross caries (23.2%). About 17% of children had the history of previous gum bleeding. Regarding the nutrition level of the children, 6.2% boys and 6.8% of girls had normal nutritional status whereas rests of the respondents were malnourished. Among the malnourished children more than half (54.7%) of the girls and almost one third (28.9%) of boys were suffered from mild malnutrition. Significantly higher proportion of unclean teeth and gum bleeding were found among the children whose mother were illiterate ($p=0.001$), having low family income ($p=0.001$ and $p=0.005$) and having large family size ($p=0.001$ and $p=0.01$ respectively). But no significant association was found between nutritional status and oral health problems.

Conclusion: The study concludes that almost all the children clean their teeth regularly. Plaque, gum bleeding; gingivitis, swelling of gum, pain or infection with gross caries and history of previous gum bleeding were the principle oral health problems among the study subjects. Most of the children found to be suffered from malnutrition.

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Histopathological evaluation of response of primary teeth pulp after direct pulp capping with bioactive glass and mineral trioxide aggregate

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Background: Direct pulp capping is a conservative vital pulp therapy which has some limitations in primary dentition.

Aim: The aim of this study was to evaluate pulpal response of primary teeth after direct pulp capping with two biocompatible materials, MTA and BAG.

Materials & Methods: A total teeth of 22 healthy primary canines which were to be extracted for orthodontic reasons, were selected. The teeth were divided into two groups, each with 11 teeth and were treated with direct pulp capping. Then, the exposure sites were randomly capped with MTA or BAG in the two groups. After two months, the teeth were extracted and prepared for histo-pathologic evaluation. Data was analyzed by Fisher's exact test.

Results: In the BAG group, inflammation was seen in three cases and internal resorption and abscesses were not seen in any of the cases. In the MTA group, inflammation was seen in three cases and internal resorption and abscesses were not seen in any of the cases. Dentin bridge formation was seen in one sample in the BAG group.

Conclusion: Based on the results of this study, MTA and BAG can be used for direct pulp capping in primary teeth.

Biography

Roza Haghgoo has completed her Post-graduation from Dental School, Shahid Beheshti University of Medical Sciences in Tehran, Iran. Currently, she is a Professor, Head of Research Center and Head of EDO of Dental School, Shahed University, Iran. She has published more than 60 papers in reputed journals and has been serving as an Editorial Board Member of repute.

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Prevalence of oral impacts on daily performance among children in Moldova

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Objective: The objective of this study is to evaluate the prevalence of oral health impact on quality of life in children in the Republic of Moldova.

Methods: The sample included 619 children aged 12-15, who were clinically examined within the cross-sectional study: 297 children (48%) from urban areas and 322 (52%) from the countryside. Clinical data were collected according to WHO criteria and using the oral impacts on daily performances (OIDP) questionnaire. The written consent of children's parents was taken for the study. SPSS vs.16.0 was used for descriptive and inferential analysis.

Results: The prevalence of oral impacts on daily performances ranged between children in rural and urban areas (47.7-57.6%). The highest prevalence was recorded in children from rural areas (91 children-57.6%). Eating difficulty was a common impact in all groups of children, varying from 100 children (33.7%) in urban areas up to 124 children (38.5%) in rural areas ($p < 0.001$). The main oral causes having an impact on daily life were: Dental caries in 312 children (50.4%) and dental pain in 228 (36.8%) children. The impact of extracted teeth on social contacts and aesthetic function was found in 66 children (20.5%) in rural areas.

Conclusions: The prevalence of adverse effects of oral health on children's daily life was moderate, the severity of effects being reduced. The main causes of these effects were dental caries, toothache and tooth extraction. Oral health influenced the life quality of children and had some effects on food consumption, oral cleanliness, emotional stability and aesthetic function.

Biography

Aurelia Spinei has completed her PhD in 2001 and Post-doctoral studies in 2013 from Nicolae Testemitanu State University of Medicine and Pharmacy, Republic of Moldova.

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