

ABSTRACTS – ORAL PRESENTATIONS

Mi-Dent Conference 2023

## Category A – Undergraduates

**UOR-O3:** Employing augmented reality in the identification of child abuse in dentistry  
Keshika Saravanan <sup>1</sup>, Kirthikha Manivannan <sup>1</sup>, Laavanya Murugesan <sup>1</sup>, Gururajaprasad  
Kaggal Lakshmana Rao <sup>1</sup>

<sup>1</sup>Penang International Dental College, Malaysia

**Background:** Children may be exposed to multiple forms of abuse in their childhood. As a dental practitioner, we are trained in identifying behavioural inconsistencies and to catch on the evidence present on a child's body that points to abuse. However, history taking is a very important aspect of determining if a child has undergone any forms of abuse. Young children may struggle to communicate with the dental practitioner about the abuse endured, leading to inaccurate history taking. The presence of the abuser during the dental appointment may also lead to some hesitation from the patient's end in communicating about the abuse to the dental practitioner. **Aims:** Augmented reality (AR) can be used as a communication tool for paediatric patients to inform dental practitioners about the abuse experienced. Augmented reality can also be used as an educational tool for both dental practitioners and dental students to learn to identify the signs of child abuse and child neglect and allow for comparison with a non-abused child. This will help students to understand educational concepts as well as ease the teaching process in dental training facilities. **Methods:** In this study, we propose an AR system that bridges the communication gap between patient and practitioner. It would superimpose scars illustrations on the patient's body. **Results:** It is expected that patients will be able to better communicate with the practitioner about abuse with the use of AR. **Conclusion;** The use of augmented reality in the identification of child abuse in dentistry enables the practitioner to communicate with the patient effectively and can be employed as an educational tool in dental institutions to train dental students in identifying child abuse in a paediatric dental patient.

**Keywords:** augmented reality, child abuse, paediatric dentistry

## UOC-01: Metastasis to the mandible from distant sites

Anupama R John<sup>1</sup>

<sup>1</sup>Manipal College of Dental Sciences, Manipal

**Introduction:** Metastasis to the oral and maxillofacial region (MOMFR) is reported to account for 1% to 1.5% of all oral and maxillofacial malignancies. The presence of oral lesions is generally a manifestation of advanced-stage disease, with high probability of multiples metastases in other locations; which leads to a poor prognosis, with as high as 90% mortality. **Objectives:** This report presents three cases involving metastasis to the mandibular region from distant sites. The objective of this report is to study the case reports for biological mechanisms of metastasis, risk factors, clinical presentation, treatment modalities, prognosis, and current therapy modalities. **Materials & Methods:** Investigation methods used include panoramic X-ray findings, computed tomography (CT) findings, magnetic resonance imaging (MRI) findings and histopathological findings. **Results & Conclusion:** While treatment for metastasis to the mandible is effective, survival rate is not 100%. It is necessary to follow up patients after multidisciplinary therapy because of possible late complications of the teeth and jawbones, associated with therapy.

**Keywords:** Metastasis, Mandible, Radiation therapy, Biopsy

**UOR-O2: Panoramic images and ridge mapping vs CBCT - a comparative evaluation in dental implant selection**

Ahmad Irfan Bin Khoiri<sup>1</sup>, Amanda Lee Min Qi<sup>1</sup>, Daniel Antonio Ed<sup>1</sup>, Betsy Thomas<sup>2</sup>, Mohan Alexander<sup>3</sup>

<sup>1</sup>Faculty of Dentistry, MAHSA University, Bandar Saujana Putra Campus. Selangor, Malaysia

<sup>2</sup>Professor, Department of periodontics, Faculty of Dentistry, MAHSA University.

<sup>3</sup>Professor, Department of Oral and maxillofacial surgery, Faculty of Dentistry, MAHSA University.

**Background and Aim:** In the burgeoning field of dental implantology, proper selection of implants is of utmost importance. Various techniques are utilized to accomplish this but the most

frequently used are Panoramic Images, Panoramic images combined ridge mapping and cone beam computerized tomograms (CBCTs). Panoramic images have been the corner stone of implant selection for many decades but CBCTs with their ability to project 3 dimensional sections of the edentulous areas have become the investigation of choice for many implantologists. We decided to conduct a study to compare the advantages &

disadvantages of Panoramic Images with ridge mapping with those of CBCTs. **Methods:** 35 implant sites were selected in partially edentulous patients. Soft

tissue thickness was measured using K files and a panoramic image was taken with a metal ball of 4mm diameter in place. CBCTs were also taken of these areas and the vertical height

& mesiodistal dimensions of the areas were calculated in both modalities. **Results:** On comparing the 2 methods of measurements, the Wilcoxon Signed Rank Test yielded a p-value of 0.059, suggesting that there is no statistically significant difference between the two.

**Conclusion:** Our study suggests that using Panoramic images with ridge mapping is a good alternative to CBCT in selecting dental implants.

**Keywords:** Ridge Mapping, Implant Selection, Computed Cone Beam Tomography, Panoramic Images

## Category B – Post graduates and Researchers

**DVR O8:** Evaluation of the stress on peri-implant bone levels by varying Implant position and using different platform and abutment designs- An FEA Study.

Bharathi Poojary<sup>1</sup>

<sup>1</sup>Sharavathi Dental College and Hospital Shivamoga

**Introduction:** Implants can be usually placed at tissue and/or bone level. Evidence so far with decades of research has contradictory conclusions with regards to effect of implant placement level on the peri-implant bone loss. In addition, the abutment design type and the platform switching/platform matching of the implant abutment connection independently is implicated in the peri-implant bone loss, irrespective of implant placement level. **Materials and methods:** In this study we have attempted to evaluate the effect of the implant position vis-à-vis tissue/bone level on peri-implant bone levels. In addition, we have also included assessment of effect of platform switching/matching along with different abutment designs (Tri channel/Morse taper) on peri-implant bone levels. The grouping was done as follows :Group 1- tissue level implant with platform matched morse taper abutment, Group 2-bone level implant with platform matched morse taper abutment ,Group 3 - tissue level implant with platform matched Tri channel abutment, Group 4 -bone level implant with platform matched tri-channel abutment, Group 5 – tissue level implant with platform switched morse taper abutment, Group 6 – bone level implant with platform switched morse taper abutment, Group 7–tissue level implant with platform switched tri channel abutment, Group 8- bone level implant with platform switched tri channel abutment. **Results:** Peri-implant stress levels were least in Group 1 and highest in Group 3. **Conclusion:** From the results of the study, it can be concluded that placement of Implant at tissue level with matching platform can be a suitably viable option to alleviate the stresses at the peri-implant bone region.

**Keywords:** Tissue level, Tooth level, Platform switching, Platform matching, tri channel , morse taper

**DVRO4:** Efficacy of 2nd Generation autologous Platelet Rich Fibrin with Open Flap Debridement in managing Intra-bony defects - A Comparative study

Dr.Kanishk Gupta<sup>1</sup>, Dr.Vikram Bali<sup>2</sup>, Dr.Basem Mohammed Abuzenada<sup>3</sup>, Dr.Fawaz Pullishery<sup>4</sup>, Dr.Gufaran Ali Syed<sup>5</sup>, Dr.Vani Taneja<sup>6</sup>

<sup>1</sup>Associate Professor and Head, Department of Periodontology, Dentistry Program, Batterjee

Medical College,Jeddah, 21442, Saudi Arabia

<sup>2</sup>Professor, Principal and Head, Department of Periodontics and Oral Implantology, Desh

Bhagat Dental College,Desh Bhagat University, Mandi Gobindgarh, Punjab

<sup>3</sup> Associate Professor, Division of Operative Dentistry, King Abdulaziz University and Batterjee Medical College,Jeddah, Kingdom of Saudi Arabia

<sup>4</sup> Assistant Professor, Division of Dental Public Health, Dentistry Program, Batterjee Medical

College, 21442,Jeddah, Saudi Arabia

<sup>5</sup> Associate Professor, Department of Endodontics, Dentistry Program, Batterjee Medical

College, 21442 Jeddah,Saudi Arabia

<sup>6</sup> Assistant Professor, Department of Pediatric Dentistry, Dentistry Program, Batterjee Medical

College, Jeddah,21442, Saudi Arabia

**Introduction:** Periodontitis is an immune-inflammatory condition leading to progressive attachment loss. Regeneration of lost periodontal tissues is a complex procedure. Platelet rich fibrin is 2nd generation platelet concentrate containing fibrin, platelets, growth factors and cytokines which make it a biomaterial with excellent potential for hard and soft tissue regeneration. **Objectives-**Comparing the efficacy of autologous platelet-rich fibrin and open flap debridement with open flap debridement alone in the management of intra-bony defects.

**Materials and Methods:** Systemically healthy subjects (n=15) having at least 2 interproximal angular bone defects were selected for this split-mouth study. Treatment sites were divided randomly into control and test groups. Control group sites were treated only with open flap debridement. Test group sites were treated with open flap debridement and subsequent placement of autologous Platelet Rich Fibrin. Clinical parameters like pocket depth (PD), periodontal attachment level (PAL), gingival marginal level (GML) and intra-bony defect depth (IBD) were recorded before and after the surgical procedures and were repeated at 3 and 6 months. **Results:**

Both groups control and test, had statistically significant improvements in the clinical and radiographic parameters (PD reduction, PAL gain and IBD reduction and radiographic bone-fill). However, it was found that the magnitude of improvement was significantly higher for test group. **Conclusion:**Clinical efficacy of 2 nd generation autologous platelet rich fibrin along with open flap debridement is higher than open flap debridement alone in management of intra-bony defects.

**Keywords:** Periodontitis, Platelet Rich Fibrin, Intra-bony defects, regeneration

**DVRO2:** A cross-sectional study for the correlation of dental caries experience with salivary pH, buffering capacity, and total anti-oxidant capacity among students attending special schools of Mangalore city, India.

Tom Peter Thermadam<sup>1</sup>

<sup>1</sup>Vancouver, Canada.

**Introduction:** The birth of a child is always eagerly awaited by family and friends alike, as it is an event of joy and happiness. But, when it becomes apparent that something is amiss with their newborn, their world is shattered. The maintenance of good general and oral health of these special children is slightly more challenging and hence the management of this task needs special effort on the part of the dental surgeon. **Objectives:** To correlate dental caries experience with salivary pH, buffering capacity, and total antioxidant capacity of students attending special schools. **Materials and Methods :** The study group consisted of 361 study subjects. After obtaining informed consent, dental caries experience and saliva samples were collected from the study subjects. Salivary pH, buffering capacity and total anti-oxidant capacity were assessed using biochemical methods. Statistical analysis was done to analyze the data. The level of significance was set at 0.05. **Results and Conclusions :** The study subjects were divided to normal, physically challenged, and mentally challenged. The mean number of decayed teeth was 1.57, 2.54, and 4.41 respectively. Among the mentally challenged students, salivary pH and Buffering capacity showed a negative correlation and salivary Total antioxidant capacity showed a weak positive correlation and these results were highly statistically significant ( $p < 0.001$ ) which could explain the increased caries experience compared to the normal study subjects.

**Keywords:** Dental caries experience, Salivary pH, Buffering Capacity, Total Antioxidant Capacity

## **DVRO6:** Laser assisted photodynamic therapy: la varita magica?

Deepthi Cherian<sup>1</sup>, Tim Peter<sup>2</sup>,

<sup>1</sup> Associate Professor, Sree Anjaneya Institute of Dental Sciences, Calicut, Kerala, India.

<sup>2</sup> Professor, KMCT Institute Of Dental Sciences, Calicut, Kerala, India

**Introduction:** Photodynamic therapy (PDT) is based on the concept that nontoxic photosensitizers can be preferentially absorbed by certain tissues and subsequent activation of these tissues by light of the appropriate wavelength can cause cytotoxic changes to cells of the target tissue. Studies have shown that the use of low level laser therapy with diode laser family can activate certain photodynamic agents. These primary results have led to a concept of laser assisted photodynamic therapy. **Aim:** The purpose of this in vitro study was to evaluate the antimicrobial effects of methylene blue (MB)-mediated PDT using diode laser in *p.gingivalis* culture, a proven periodontal pathogen. **Materials and methods:** *P.gingivalis* organisms were cultured in brain heart infusion broth and seeded on plate surface containing blood agar with a micropipette. The samples were then subjected for microbiological processing to count the total number of viable bacteria. The bacteria were stained with methylene blue dye 25µg/ml and 810nm diode laser light at an energy influence of 12 J/cm<sup>2</sup> was used for 2 minute . Following this, the samples were immediately subjected for microbiological processing and the total number of viable bacteria unit-forming colonies (ufc) was determined. Statistical analysis was done. **Results:** The ufc/ml before and after laser assisted PDT showed significant difference. The mean reduction was 1,263.4-335 ufc/ml (69.6% reduction). This difference was highly statistically significant (p = 0.002). **Conclusion:** Laser-assisted PDT can help to reduce the bacterial load, which is the main etiological factor in gingival and periodontal diseases. Further research may help to prove that it is a safe and suitable treatment modality in periodontitis patients. **Keywords:** Laser-assisted photodynamic therapy, *p.gingivalis*, periopathogens, photosensitizers periodontitis

### **DVRO3: Patient Compliance Using Myobrace Appliance**

Naeem J Moolla<sup>1</sup>, Elizabeth Thomas<sup>2</sup>

<sup>1</sup>Post Graduate Student, Department of Orthodontics, Sefako Makgatho Health Sciences

University, South Africa

<sup>2</sup>Specialist Consultant, Department of Orthodontics, Sefako Makgatho Health Sciences

University, South Africa

**Introduction:** Myobrace® (MB) is a preformed, removable orthodontic appliance used in interceptive orthodontic treatment. As with most removable appliance therapies, compliance during MB therapy is paramount in achieving desired treatment outcomes. Thus the factors that influence compliance with MB therapy must be explored to enhance treatment results.

**Objectives:** To determine factors influencing patient compliance in patients treated by Myobrace® (MB). **Materials and Methods:** Patients' age, gender, financial aspects of treatment, reasons for noncompliance and improvement in quality of life, were all considered when assessing patient compliance via a survey. Comparative analysis of compliant and non-compliant groups was carried out. Statistical tests included the t-test and Fisher Exact Test and were two-sided; p values  $\leq 0.05$  were considered significant. **Results:** Patients were categorised into compliant and non-compliant groups. The compliant group found an improvement in their quality of life ( $p = 0.0018$ ). Forgetfulness was a major non-compliance factor especially among females ( $p < 0.001$ ). Males found the appliance aesthetically displeasing compared to females ( $p = 0.001$ ). For increased appliance wear, the younger age group ( $p = 0.0055$ ) and males ( $p = 0.0125$ ) favoured a different colour. In privately funded patients, compliance rates were high ( $p = 0.014$ ). In patients whose treatment was partly covered by medical aid, compliance rates were lower ( $p = 0.029$ ). **Conclusion:** There are various factors that affect patient compliance in MB therapy. By tailoring these factors to each patient's unique needs, compliance and treatment results can be enhanced in patients who wear MB.

**Keywords:** Myobrace®, compliance, removable appliance therapy, orthodontic treatment

**DVRO7:** A clinical evaluation of coronally advanced flap versus Bidirectional positioned flap surgery for treatment of isolated Gingival recession

Ashita S. Uppoor<sup>1</sup>

<sup>1</sup>Professor and Dean, Department of Periodontology, Manipal College of Dental Sciences,

Mangalore, Manipal Academy of Higher Education, Manipal, India

**Introduction:** An array of root coverage procedures is now available for the treatment of gingival recession, although with varying degrees of success. The present study compares the treatment of isolated gingival recessions using Bidirectional Positioned Flap (BPF) and coronally advanced flap (CAF) in Miller's class I gingival recessions. **Materials and methods:** Sixteen patients with mean age of 41.18 years with sixteen isolated Miller's class I recessions were selected for this study performed over a six-month period. The clinical parameters plaque index (PI), modified sulcular bleeding index (mSBI), recession height (RH), probing depth (PD), clinical attachment level (CAL), keratinized tissue height (KTH), gingival thickness (GT) & Visual Analog Scale (VAS) were recorded. After 6 months, both treatments resulted in significant root coverage ( $P < 0.01$ ), reaching an average of 2.5 mm in BPF group and 2.38 mm in CAF group. There were no statistically significant differences between the treatments in RH, PD, CAL, KTH and GT. **Conclusion:** The study results suggest that both treatment groups showed root coverage improvement over a 6-month period and BPF is effective for the treatment of isolated recession coverage.

**Keywords:** Gingival recession, Surgical Flaps, Coronally Advanced Flap (CAF), Bidirectionally Positioned Flap (BPF), Root Coverage Procedures

## **DVR09:** Operculitis – The Youngsters Agony

Marcus Cheah Wye Shin<sup>1</sup>, Noorun-nisaa Rahmatullah Suhotoo<sup>1</sup>, Yasmine Lee Kai Wen<sup>1</sup>, and M.S Shareif<sup>2</sup>

<sup>1</sup>Faculty of Dentistry, Malaysian Allied Health Sciences Academy (MAHSA) University

<sup>2</sup>Department of Oral and Maxillofacial Surgery, Faculty of Dentistry, Malaysian Allied Health

Sciences Academy (MAHSA) University

**Introduction:** Operculitis is defined as soft tissue inflammation around the crown of a partially erupted tooth due to the accumulation of plaque and bacteria between the tooth and overlying flap which leads to pain, swelling, radiating pain to the ipsilateral ear, dysphagia and trismus. **Objectives:** This retrospective study aims to assess the occurrence of operculitis according to age, gender, race, associated third molars, presence of opposing third molar, and angulation of impaction. **Materials and methods:** Patients who reported with operculitis in MAHSA Dental Clinic within 4 years (2018-2021) were examined. Records and orthopantomograms of 108 eligible patients were collected. The data was analysed to determine the correlation of operculitis with age, gender, race, associated third molar, presence of opposing third molar and angulation of impaction. **Results:** Operculitis was appreciated most in individuals who are from the 18-27 years old age group (60.58%), and was predominant in female patients (54.81%). It also showed prevalence among the Chinese (53.85%). Besides that, operculitis was more frequently seen in the third quadrant (56.73%). The opposing 3rd molar was present in most of the cases (78.85%) and operculitis was prevalent in mesio angular-impacted mandibular third molars (50.96%). **Conclusion:** Our study analysed the epidemiology of operculitis among MAHSA Dental Clinic patients over a 4-year period. A comparison of these statistics with similar studies might go a long way in predicting the likely incidence and prophylactic measures to be taken.

**Keywords:** Operculitis, Impaction, Angulation, Race.