



Keynote Forum



4th International Conference on Prosthodontics

April 19, 2022 | Webinar

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Nirvana Khalaf Mansour

Ministry of health and population, Egypt

Effect of injectable-platelet rich fibrin on marginal adaptation of bioactive materials used as direct pulp capping; An experimental animal study

Vital pulp therapy has been known as one of the treatment options to preserve pulp vitality after being exposed by trauma or caries. Aim: This experiment explored the effect of injectable-Platelet Rich Fibrin on marginal adaptation of two pulp capping agents (Mineral Trioxide Aggregate and Bioactive Bone Graft). A total of 64 teeth were used out of 8 healthy male beagle dogs. The teeth were randomly assigned into four groups, they were exposed and capped with different capping agents. Group A; capped with mineral trioxide aggregate (MTA), Group B; capped with MTA+ i-PRF, Group C; capped with bioactive bone graft (BBG), Group D; capped with BBG+i-PRF. Finally the access cavity was restored with intermediate restorative material (IRM). At each predetermined interval, the dogs were sacrificed (1 month, and 3 months). The samples were then prepared for electron microscopic scanning evaluation. To compare between the gap percentage of four groups at each interval, Kruskal-wallis test; was used. Mann-Whitney U test; was used to pair-wise comparison when Kruskal-wallis test is significant. Bonferroni's correction was utilized for the pair-wise comparisons. Statistical significance was considered at $P < .05$. The data revealed that after one and three months the best values were recorded in groups B (MTA+ i-PRF) and D (BBG+ i-PRF), in relation to the lowest gap area between the capping materials and dentin, followed by group C (BBG), with the least value recorded in group A (MTA). The findings from the current study suggested that i-PRF provided a better marginal adaptation of either MTA or BBG to the pulp and dentin, which improved with time from one month to three months.

Recent Publication:

1. Fava L, Saunders W. Calcium hydroxide pastes: Classification and clinical indications. *Int Endod J* 1999; 32: 257–282.
2. Hilton T. Keys to Clinical Success with Pulp Capping: A Review of the Literature. *Oper Dent* 2009; 34: 615–625.
3. Torabinejad M, Hong C, McDonald F, Pitt Ford T. Physical and chemical properties of a new root-end filling material. *J Endod* 1995; 21: 349–353.

Biography

Nirvana Khalaf Mansour is an endodontic specialist and graduated from Cairo University in 2009 with a bachelor degree. She earned her master degree in endodontic 2016 and doctorate in 2021. She was worked for five years in suez military hospital 2014-2019. And works as Endodontist private practice in Cairo area Egypt and founder of dr.nirvana dental clinic. Currently member of scientific committee of princess Fatma Academy and lecture in ministry of health, Egypt.

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Ibtissem Grira

Sahloul Hospital, Tunisia

Deep margin elevation: A literature review

The aim of this review was to summarize the existing scientific literature investigating on cervical margin relocation technique performed prior to the adhesive cementation of the indirect restorations. An electronic search with no date restriction was conducted in the MEDLINE database, accessed through PubMed. The following main keywords were used: “cervical margin relocation”, “coronal margin relocation”, “deep margin elevation” and “proximal box elevation”. A total of 11 clinical reports investigating on CMR are taken into consideration for the present review. The most frequently investigated parameter was the marginal adaptation of the indirect restorations. One study additionally assessed the influence of CMR on the fracture behavior of the restored teeth and one study assessed the bond strength of the indirect composite restoration to the proximal box floor. Clinical reports provided documentation with a detailed description of the treatment protocol. More research is needed to validate the deep margin elevation technique. There is no strong scientific evidence that could either support or discourage the use of CMR technique prior to restoration of deep subgingival defects with indirect adhesive restorations. Nonetheless, this technique is an alternative approach for patients who cannot afford more invasive procedures. It conforms to the main goal of dentistry: the conservation of tooth structure.

Recent Publication

1. Dorsaf Touil, Rabeb ben Fraj, Ibtissem Grira, Tlili Mohamed, Nabiha Douki, Dental Implants in A Patient with History of Zoledronate Therapy: A Challenging Case, J Dental Sci Res Rep, 2021, Volume 3(2): 1-4 ,
2. Naima Ayari, Ibtissem Grira, Sarra Nasri Soua, Anissa Ben Moussa, Zohra Nouira, Dalenda Hadyaoui, Belhassen Harzallah, Mounir Cherif, Deep margin elevation for indirect bonded restorations: A case report, International Dental Journal, Volume 71, Supplement 2, September 2021, Page S50
3. Ibtissem Grira, Naima Ayari, Yosra Gassara, Anissa Ben Moussa, Belhassen Harzallah, Mounir Cherif, Adhesive Rehabilitation of a Severely Worn Dentition: A Case Report, International Dental Journal. Volume 71, Supplement 2, September 2021, Page S41

Biography

Ibtissem Grira is a Prosthodontics specialist and graduated from faculty of Dental medicine of Monastir, She is working as Prosthodontist at Sahloul Hospital, Sousse, Tunisia. She is currently working in the fixed prosthodontics and dental restoration researches.

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Scientific Tracks & Abstracts



Sessions

Dental Implants | Prosthetic dentistry | Fixed Prosthodontics | Dental ceramics

Session Chair: Nirvana Khalaf Mansour

Ministry of health and population

Egypt

Session Introduction

Title: Treatment planning dental implants in partially edentulous implants. Impact of optimal soft tissue and bone dimensions on dental implant success

Nkem Obiechina | Columbia University | USA

Title: Using the flapless computer-guided surgery for rehabilitation of edentulous maxilla according to the "All-on-four" concept

Hasan Nazha | University of Miskolc | Hungary

Title: Fractographic analysis of monolithic and bilayered zirconia after thermo-mechanical fatigue and fracture strength test

Abdulmuein Ahmad Alzhairi | MSA University | Egypt

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Treatment planning dental implants in partially edentulous implants. Impact of optimal soft tissue and bone dimensions on dental implant success

Nkem Obiechina

Columbia University, USA

Treatment planning dental implants for partially edentulous patients can present with challenges for dentists due to having to replace multiple teeth that have been missing for a long period of time and have potential for severe loss of bone and soft tissue coinciding with the prolonged time without replacement. For partially edentulous patients, dental implants offer major advantages over removable and conventional fixed bridges in ability to preserve bone in the edentulous site, as well as ability to offer implant supported restorations which are superior in occlusion, support, and overall function and are not subject to potential for caries or tooth fracture from long span restorations long term. Dental Implants typically have higher overall longevity in the mouth than conventional fixed or removable prosthesis. Due to the amount of time that the teeth have been missing, there is often a significant loss of bone and soft tissue, and bone quality and quantity in the edentulous site plays a major role on implant success. We will ways of correcting deficiency in tissue dimension and volume prior to implant placement. Often, as a result of prolonged tooth loss, changes can also occur in mesiodistal span and there is also a potential for extrusion of opposing teeth. These factors in addition to inadequate tissue volume can translate to implant restorations that are subjected to lateral forces or dental implant overload. To prevent potential complications, meticulous attention is required during the treatment planning phase to ensure success of dental implant placement and restoration for partially edentulous patients. The goal of this seminar is to review potential risk factors that can occur in the maxilla and mandible when replacing partially edentulous sites with dental implants and ways of mitigating them for implant success. It also reviews surgical aspects of planning implants in the partially edentulous maxilla and mandible and impact of adequate volume of bone and soft tissue on implant success.

Recent Publication

1. Nkem Obiechina, Osteotome Technique: A Minimally Invasive Way to Increase Bone for Dental Implant Placement in The Posterior Maxilla and Prevent Sinus Membrane Perforation for Single and Multiple Teeth Replacements, *J Med - Clin Res & Rev.* 2019; 3(3): 1-6.
2. Nkem Obiechina, Treatment Planning Dental Implants in the Anterior Maxilla. Risk Assessment for Successful Esthetic and Functional Clinical Outcomes. *Oral Health Dental Sci.* 2019; 3(2): 1-9.
3. Nkem Obiechina, Periodontal microbiota and clinical periodontal status in a rural sample in southern Thailand, *European Journal of Oral Sciences:* 110(5), 2002, Pg 345-352.

Biography

Nkem Obiechina completed her training in periodontics and implant dentistry from Columbia University. She received her doctorate from University of Pittsburgh in 1998. She is the recipient of the Melvin Morris Award for clinical excellence in 2001 from Columbia University, and Northeast regional board award for excellence in periodontics. She is published in *Dentistry Today*, *Oral Health and Dental Science*, *Oral health and Dental Management*, *Journal of Medical Clinical Research and Reviews*, as well as *European Journal of Oral Sciences*. She works in Periodontics private practice in Washington DC area San Francisco and is also a continuing education provider that continues to offer seminars and courses to dentists.

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Using the flapless computer-guided surgery for rehabilitation of edentulous maxilla according to the "All-on-four" concept

Hasan Nazha

University of Miskolc, Hungary

Statement of the Problem: Rehabilitation of edentulous maxilla with severe bone resorption in the posterior area represents a clinical challenge especially in the placement of implants. The "All-on-4" concept removed the need for complex surgical interventions such as sinus elevation and bone grafting. This study aimed to evaluate the clinical and radiographic outcomes of the "All-on-4" concept in fully edentulous maxilla by using R2GATE software planning for flapless computer-guided surgery and immediate loading.

Methodology & Theoretical Orientation: A prospective study was conducted between April 2019 and April 2021. Ten fully edentulous maxilla adult patients aged between 35 and 60 years. All patients were treated in the oral and maxillofacial department at Damascus University. The flapless computer-guided surgical procedure according to the "All-on-4" concept was performed under local anesthesia. All implants were immediately loaded with screw-retained provisional acrylic resin prosthesis on the same day of surgery, and the final prosthesis was delivered 4 months after surgery. All the clinical and radiographic outcomes were evaluated for all patients at 4 and 12 months post-operatively.

Findings: The overall implant survival rate was 95%. The mean marginal bone level was 0.35 and 0.66 mm after 4 and 12 months of follow up respectively. Mechanical complications were most common (Fixed provisional prosthesis fracture and abutment, prosthesis screw loosening).

Conclusion & Significance: The "All-on-4" concept for rehabilitation of edentulous maxilla with the placement of immediate fixed prosthesis by using flapless computer-guided surgery could be an effective and predictable treatment with a high survival rate. This technique offers less discomfort and mechanical complications after surgery.

Recent Publication

1. Paulo MA, Migual DE, Armando LO, Ana FE, Mariana NU. The All-on-4 concept for full-arch rehabilitation of the edentulous maxillae: A longitudinal study with 5-13 years of follow up. Clin Implant Dent Relat Res 2019; 29: 538-549.
2. Armando LO, Miguel DE, Diogo SA. The workflow of new dynamic navigation system for the insertion of dental implants in the rehabilitation of edentulous jaws: report of two cases. J Clin Med. 2020; 9: 421.
3. Reda R, Zanza A, Mazzoni A, Cicconetti A, Testarelli L, Di Nardo D. An Update of the Possible Applications of Magnetic Resonance Imaging (MRI) in Dentistry: A Literature Review. J. Imaging 2021; 7: 75.

Biography

Hasan Nazha has his expertise in linking material, mechanical, and biomedical engineering in dental applications to improve the health and wellbeing of humanity. His passion made him obtain two patents registered in the SPO; the first one titled "Temporary cosmetic teeth painting veneers", and the second one titled "Design of the safe abutment of one-piece zirconia implants". He also has IELTS academic (6.5), more than 20 original articles, and I ranked the first out of the postgraduate students nationwide and was honored by the Minister of Higher Education (in Syria), and recently qualified for the finals in the Challenge and Innovation Forum (CIF) Qatar 2021.

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Fractographic analysis of monolithic and bilayered zirconia after thermo-mechanical fatigue and fracture strength test

Abdulmuein Ahmad Alzhairi
MSA University, Egypt

Monolithic zirconia was developed to solve the bilayered zirconia dilemmas, such as chipping and delamination, and to achieve the greatest strength within the ceramic restoration. Fractographic analysis provides reliable facts about the fracture component in order to investigate the circumstances surrounding a failure event with the expectation of eventually explaining the cause of failure. So, the objective of this research was to study the fractographic analysis of monolithic and bilayered zirconia after thermo-mechanical fatigue and fracture strength test. A first upper premolar tooth was prepared and duplicated into epoxy resin die. Twenty-one crowns were fabricated and divided into three groups according to type of ceramic material; super high translucent monolithic zirconia group (A), super translucent monolithic zirconia group (B), and zirconia core with hand-layered veneering porcelain group (C). Crowns were cemented with self-adhesive resin cement. All samples were first subjected to thermal cycling (5°C-55°C/10,000 cycle) and then to chewing simulator (240,000 cycles, 50N). After fracture resistance test, fractographic method was used to analyze the fractured samples. The fracture origin of all studied groups was similar with crack origin located at occlusal surface (cone crack). Crack origins were indicated with mirror regions with appearing lines of hackle. The fracture origin was found to be dependent on the fracture resistance technique rather than the material itself.

Recent Publication

1. Scherrer SS, Lohbauer U, Bona AD, Vichi A, Tholey MJ, Kelly JR, Noort RV, Cesar PF. ADM guidance— ceramics: guidance to the use of fractography in failure analysis of brittle materials. *Dent Mater.* 33(6): 599-620.
2. Elgamma MA, Othman HI, Mohamed HR. Effect of two preparation designs and methods of construction on the fracture resistance of glass ceramic laminate veneers. *Al-Azhar J Dent Sci.* 21(4): 313-319.
3. Aqlan S, Elnaggar G, Kheiralla L. Fracture resistance of thin occlusal veneers made from hybrid ceramic (Cerasmart)- *in vitro* study. *Al-Azhar J Dent Sci.* 21(3): 293-297.

Biography

Abdulmuein Ahmad Alzhairi was master's graduate in conservative and esthetic dentistry, working on various new studies and continuously seek out knowledge and new techniques that allow him to remain aware and knowledgeable about new dental practices and technology. His mission is to enhance the research investigation in prosthodontics and to add to the body of knowledge of this valuable science.

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Sessions

Dental prosthetics | Dental anatomy | Biocompatible Substitutes

Session Chair: **Ibtissem Gira**

Sahloul Hospital

Tunisia

Session Introduction

Title: Evaluation of a novel fixed-space maintainer made of light-cured acrylic resin: An *in vitro* study

Yasser R Souror | Al-Azhar University | Egypt

Title: Interception of masticatory functional atrophies

Amel Belkhiri | University Hospital of Beni Messous | Algeria

Title: Maxillofacial prosthesis with stages connected by magnets for large midface defect: Case report

Mohamed Azhari | Mohamed V University | Egypt

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Evaluation of a novel fixed-space maintainer made of light-cured acrylic resin: An *in vitro* study

Yasser R Souror

Al-Azhar University, Egypt

Statement of the Problem: Untimely loss of primary molars may produce teeth movement, leading to loss of space and arch deficiency.¹ Following this, space loss could produce or exaggerate existing malocclusions, such as crowding, ectopic eruption, extreme both overjet and overbite, and opposed molar contacts.² The amount of space loss in the mandible is greater than that lost in the maxilla next to the lost primary tooth.^{3,4} However, after premature loss of the primary second molar in the early mixed dentition stage, the space loss has been reported to be very large in either maxilla or mandible.

Methodology & Theoretical Orientation: To evaluate a fixed-space maintainer made of light-cure acrylic resin (LCAR) for its flexural and shear bond strength using different bonding systems to the enamel. 45 extracted primary teeth were selected. They were randomly divided into three equal groups (n=15) along with the type of adhesive system (Tetric Flow, Transbond XT, and Fuji Ortho LC) used for bonding (LCAR) to the tooth surface. Surfaces were treated; LCAR was attached to the treated surfaces using a split Teflon mold. For flexural strength testing, ten bars of LCAR were made using another Teflon-split mold. Shear bond strength and mean flexural strength values were evaluated by a universal testing machine.

Conclusion & Significance: The highest values of bond strength were recorded for Transbond XT, followed by Tetric Flow, while the lowest values were for Fuji Ortho LC. Various groups had a significant difference as investigated by ANOVA. ARI scores showed no significant difference in debond sites. Mean value and standard deviation of flexural strength for LCAR were 82.83 ± 5.2 . LCAR has superior mechanical properties and could be an alternative to currently-in-use space maintainer though *in vivo* and *in vitro* trials are needed to progress the ultimate design of LCAR.

Recent Publication

1. Fawaz Pullishery, Hajer Ayed Alhejoury, Mohammed Turkistani, Yasser Refay Souror Is Zinc Oxide Eugenol Cement Still Impeding the Use of Resin-based Restoration? A Systematic Review, Dentistry and Medical Research, Volume 9, Issue 2, July-December 2021.
2. Ahmed S Waly, Yasser R Souror, Salah A Yousief, Waleed M S Alqahtani, Mohamed I El-Anwar, Pediatric Stainless-Steel Crown Cementation Finite Element Study, European Journal of Dentistry Eur J Dent. 2021 Feb;15(1):77-83.
3. Ahmed Mohamed Elmarakby, Mahmoud Darwish, Yasser R. Souror, Ahmed Waly, Surface Roughness of Bulk Fill Composite after Simulated Toothbrushing with Different Dentifrices Open Access Macedonian Journal of Medical Sciences 8(D):166-172 (2020).

Biography

Yasser R Souror believes that teaching is not only to deliver knowledge and skills to the students but also to teach them a sound scientific way of thinking that enables them to develop independent scientific opinions. He spent more than 13 years helping students to build up their career by providing lectures and developing their clinical skills and professional values, as well as establishing assessments in Pediatric Dentistry. He obtained a B.Sc., a master's degree, and a doctorate from Al-Azhar University from 2004 to 2015. He also hired as a consultant of Pediatric Dentistry in governmental and private hospitals in Egypt.

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Interception of masticatory functional atrophies

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In a normally balanced individual, masticatory cycles should be symmetrical in shape, amplitude and energy expended. A masticatory function, which is carried out in a correct and effective way, produces growth stimulations which, in the child, allow the normal development of the masticatory apparatus. Any chewing that usually occurs asymmetrically or exclusively on one side of the mouth is functionally abnormal. As this dysfunction is at the origin of the appearance of malocclusions (masticatory atrophies), early, preventive and interceptive treatments must be quickly initiated.

Recent Publication

1. Amel Belkhiri, Contribution of electromyographic examination to neuro-occlusal rehabilitation, International Journal of Applied Dental Sciences 2018; 4(3): 296-299.
2. Amel Belkhiri, Obstructive sleep apnea syndrome (OSAS) in children and the contribution of orthodontist in the treatment, International Journal of Applied Dental Sciences 2021, Vol. 7 Issue 2, Part D.

Biography

A Belkhiri is a lecturer at the University of Algiers, Algeria. In September 20, 1995 got a graduation in dental surgery, 23 December 1995: exercise of the function of general dental surgeon in the health sector of the wilaya of illicit (Algeria) for two years, June 2001: obtained the diploma of higher medical studies as a specialist in dentofacial orthopaedics, August 18, 2001: exercise as a public health specialist in ODF in a dental clinic in Algiers., January 02, 2012: exercise as a teacher-assistant in ODF at the University of Blida, June 25, 2018: exercise as a class b lecturer at the university of Blida and October 23, 2019: exercise as a class a lecturer at the University of Algiers.

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Maxillofacial prosthesis with stages connected by magnets for large midface defect: Case report

Mohamed Azhari

Mohamed V University, Morocco

After surgical excision of the tumors, sitting at the level of the middle facial stage and in case reconstruction is not started, is complicated by a defect which can be isolated at the extra oral or intraoral level, as one can have a communication between the two defects, which will complicate prosthetic rehabilitation. Challenge of prosthesis is a restoration of aesthetics, function and improving quality of life of patients. The case study aims to show the utility of the maxillofacial stage rehabilitation, allowing restoration of the facial stages after an extensive maxillectomy resulting in a loss of intra oral substance communicating with the nasal fossae and projecting to the facial level by so-called extra-oral mutilations. Through a clinical case, we describe the contribution of prosthetic rehabilitation in the management of combined intraoral and extraoral defects. Prosthetic rehabilitation allows restoring esthetics, functioning and improving quality of life. In addition, removable character of restoration allows control of site of lesion. On the other hand, prosthesis has drawbacks such as difficult maintenance and need to take prosthesis every two years because of biodegradability of silicones and wear of magnetic attachments. Maxillofacial prosthesis is not only a complementary solution to surgery but a real therapeutic possibility makes it possible to solve the problems of the defects of large extent.

Recent Publication

1. Mohamed Azhari, Hassnae Rokhssi, Faiza Benfdil, Nadia Merzouk Et Oussama Bentahar. The prosthetic rehabilitation of a hard and soft palate defect: case report, Actual. Odonto-Stomatol. 2017; 286: 2.
2. M. Azhari, H. Rokhssi, F. Benfdil, N. Merzouk, O. Bentahar. Prosthetic care of oral and facial clefts at the neonatal period, Actual. Odonto-Stomatol. 2017; 284: 3.
3. El Hawari W, Rokhssi H, Azhari M, Merzouk N, Bentahar O. Radiotherapy and Management in Maxillofacial Prosthodontic: Part 2 - During and After Radiotherapy. Integr J Med Sci 2021 Jan. 18 Vol. 8.

Biography

Mohamed Azhari is an assistant professor Mohamed V University, faculty of dental medicine, Rabat, Morocco. He has a national diploma in dentistry, maxillofacial prosthesis; Mohamed V University, faculty of dental medicine, Rabat, Morocco. He has a certificate of higher studies in Odontology prosthetics, option: joint prosthesis, Paul Sabatier University, faculty of dental surgery, Toulouse, France (2016). He has a certificate of higher studies in Odontology prosthetics, maxillofacial prosthesis, Paul Sabatier University, faculty of dental surgery, Toulouse, France. He has University diploma in pediatric odontology and prevention: Hassan ii University, faculty of dental medicine, Casablanca, Morocco. (2014). He is a doctor of dental medicine mention: very honourable with congratulations from the jury. Mohamed V University, faculty of dental medicine, Rabat, Morocco (2007). He is an author of 41 international publications and animation of several conferences and scientific events.

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Sessions

Fixed dental prosthetics | Rehabilitation Maintenance Of The Oral Function | Prosthetic Dentistry

Session Chair: Nirvana Khalaf Mansour

Ministry of health and population

Egypt

Session Introduction

Title: Miniplates with a new design as skeletal anchorage for intrusion of posterior maxillary segment during correction of skeletal anterior open bite (a cohort clinical study)

Maha Mostafa | Al-Azhar University | Egypt

Title: Soft tissue dehiscence associated with a titanium patient-specific implant, a prosthetic solution as an alternative to soft tissue grafting

Sharaf Eldeen M Abbas | Cairo University | Egypt

Title: Comparative study of the anaesthetic efficacy of 4% articaine (1:100,000) versus 2% lidocaine (1:80,000) with adrenaline during extraction of mandibular molars

Guruva Vishal | Bareilly International University | India

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Miniplates with a new design as skeletal anchorage for intrusion of posterior maxillary segment during correction of skeletal anterior open bite (a cohort clinical study)

Maha Mostafa
Al-Azhar University, Egypt

This study aimed to evaluate the effect of newly designed miniplates that used as skeletal anchorage for maxillary molars' intrusion during correction of skeletal anterior open bite. A sample of 22 patients with an age range from 14 to 22 years, suffering from skeletal anterior open bite with increased posterior maxillary vertical height. A new designed custom-made miniplate used after adaptation on 3D model of maxilla for every patient. They were used as buccal skeletal anchorage for maxillary molars' intrusion. Measurements, including maxillary dento-alveolar heights (mm), buccal crestal alveolar bone heights (mm), bucco-palatal angulations (B-P°) of right and left maxillary first permanent molars, 3 months after intrusion commencement. The dento-alveolar height as well as the buccal crestal alveolar height decreased significantly ($p \leq 0.001$ and $p \leq 0.05$, respectively) after intrusion. Similarly, the B-P angulations increased significantly ($p \leq 0.01$) after intrusion. New custom-made pre-adapted miniplates' designs were effective for posterior maxillary molar intrusion in cases of SAOB. Both the posterior maxillary dento-alveolar and buccal crestal alveolar bone heights diminished significantly.

Recent Publication

1. Ross VA, Isaacson RJ, Germane N, and Rubenstein LK. Influence of vertical growth pattern on faciolingual inclination and treatment mechanics. *Am J Orthod.* 1990; 98: 422 – 9.
2. Sankey WL, Buschang PH, English J, and Owen AH. Early treatment of vertical skeletal dysplasia: the hyperdivergent phenotype. *Am J Orthod Dentofacial Orthop.* 2000; 118: 317 - 27.
3. Baccetti T, Franchi L, Schulz SO, and McNamara JA. Treatment timing for an orthopedic approach to patients with increased vertical dimension. *Am J Orthod Dentofacial Orthop.* 2008; 133: 58 – 64.

Biography

Maha Mostafa is working as professor in Al-Azhar University, Egypt and also continues in the dental research in the field of orthodontics. She currently pursues dental practice in Cairo.

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Soft tissue dehiscence associated with a titanium patient-specific implant, a prosthetic solution as an alternative to soft tissue grafting

Sharaf Eldeen M Abbas
Cairo University, Egypt

A 23-year old male patient presented with soft tissue complication following the placement of a 3D printed titanium patient-specific implant. This implant was implemented simultaneously with the resection of a calcifying cystic odontogenic tumor related to the maxillary arch. Later, soft tissue dehiscence and implant exposure were encountered with subsequent food impaction and infection. fabricating removable partial denture. The prosthesis was planned to be retained by bar and clip attachment on the patient-specific implant side. While on the other side, the removable prosthesis was allowed to engage two abutments with an embrasure clasp assembly in addition to covering the palatal tissues to offer protection for the soft tissue dehiscence against food impaction. Soft tissue dehiscence and implant exposure are among the frequently reported complications associated with the patient-specific implant. The resulting infection complicates the prognosis of the implemented implant and necessitates, in some occasions, its removal. The selection of the removable prosthesis to cover soft tissue dehiscence was a conservative alternative to the implant removal as it protects the exposed titanium surface from food impaction while maintaining the implant functionality. Patient specific implants may be regarded successful in terms of fixation and stability, nevertheless soft tissue dehiscence is a serious complication that should be anticipated and managed early during the treatment. The use of detachable overlay prosthesis can be considered a promising solution to conservatively overcome the hygiene related complications while fulfilling the patient's aesthetic and functional demands.

Recent Publication

1. Ciocca L, Mazzoni S, Fantini M, Persiani F, Marchetti C, Scotti R. CAD/CAM guided secondary mandibular reconstruction of a discontinuity defect after ablative cancer surgery. *J Craniomaxillofac Surg* 40: 511-515.
2. Mounir M, Abou-ElFetouh A, ElBeialy W, Mounir R. Patient-specific alloplastic endoprosthesis for reconstruction of the mandible following segmental resection: A case series. *J Craniomaxillofac Surg* 48:719-723.
3. Wong WW, Martin MC. Reconstruction of extended orbitomaxillectomy and hemimandibulectomy defects with fibula flaps and patient-specific implants. *J Craniofac Surg* 27:380-384.

Biography

Sharaf Eldeen M Abbas is working in the Cairo University, Egypt, since the beginning of his clinical career; his passion was directed towards the implant prosthodontics and oral rehabilitation. He is running a dental practice in his home country limited to surgical implant placement and prosthodontics.

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Comparative study of the anaesthetic efficacy of 4% articaine (1:100,000) versus 2% lidocaine (1:80,000) with adrenaline during extraction of mandibular molars

Gaurav Vishal

Bareilly International University, India

There are various anaesthetic agents that are being used in dentistry for the extraction of teeth in which lidocaine hydrochloride is the most common one. Now a days articaine came into picture due to its longer duration of action and its versatility. As there are insufficient studies showing the effect of articaine on various systems, present study is planned to compare the anaesthetic effect of articaine and lidocaine with adrenaline during the extraction of mandibular molars. 80 patients were divided randomly in two groups (40 each) and clinical variables such as duration and onset of anaesthesia, oxygen saturation, pulse rate, blood pressure and pain perception were recorded at different time intervals. Statistical analysis was done by using SPSS version 22.0. Mean and standard deviations, frequency distribution analysis, and the chi squared test were performed to calculate variables and $p < 0.05$ was considered significant. Statistically significant differences were seen in mean time of onset of anaesthesia ($p < 0.001$), mean duration of the anaesthetic effect ($p < 0.001$), and pain perception for the articaine group. No significant difference were found for oxygen saturation, pulse rate or blood pressure. Deposition of articaine leads to less pain as compared with lidocaine. Articaine showed to achieve increased anaesthetic success in dental procedures which may be due to its faster time of onset, less pain, longer duration, attributed owing to its greater diffusion properties.

Recent Publication

1. Vishal G, Dandriyal R, Indra N, Singh H.P, Chaurasia A. Response letter to the "Letter to editor:" to our article – A Comparative study of the anaesthetic efficacy of 4% articaine versus 2% lidocaine with adrenaline during extraction of mandibular molars using an inferior alveolar nerve blocking technique. BJOMS. 2021; 59: 783-787.
2. Shahnawaaz K, Vishal G (2021), Rahat A, Bisht J, Priyadarshni P, MandalTK. Evaluation of Static Load – bearing Capacity and the Failure Mode of EndodonticallyTreated Maxillary IncisorsRestored with Complete Crowns Made of Experimental Composite Resin with Short Fiber Fillers, With and Without Root Canal Posts.J ResAdv Dent 2021;12(5):1-4.
3. Shahnawaz K, Verma G, Priyanka, MandalTK, Vishal G, Ahmed S. Evaluation of Extra Roots, Root Canals and C-Shaped Canals in Mandibular Second Premolars in North Bihar Population: A Cone Beam Computed Tomography (CBCT) Based Study. J Res Adv Dent 2021; 11: 3: 392-397.

Biography

Gaurav Vishal is an oral and maxillofacial surgeon fellow in oral oncology and reconstructive surgery. He completed M.D.S- Oral and Maxillofacial surgery from Institute of Dental Sciences, Bareilly International University and Bareilly in 2020 and B.D.S from Rajasthan University of Health Sciences, Jaipur in 2016. He is an expert in the field of facial Trauma, Surgical Pathology, Oral Oncology and Reconstructive Surgery. He has several International and national publications to his credit. He is a member of Association of Oral and Maxillofacial Surgeons of India.

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Accepted Abstracts



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Comparison of internal and marginal fit of PMMA 3-unit interim prosthesis fabricated with milling and 3D printing

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As an important part of clinical fixed prosthodontics, interim (provisional, temporary) restoration is indicated during the period of time between tooth preparation and the final restoration cementation. The major advantage of interim restorations is gingival and pulpal tissues protection. Interim prostheses are fabricated either directly in a dental clinic or indirectly in a laboratory. These prostheses can be made by CAD/CAM system in two ways: subtractive and additive. CAD/CAM milling is a subtractive method by which different shapes are cut from a block or disk. 3D printing is an additive method through which geometric shapes are designed and formed layer by layer. Fitness, durability, aesthetics, mechanical stability, and health of the surrounding tissues are among the factors that play a crucial role in the success rate of manufacturing fixed dental prostheses. Absence of any of these factors can lead to various outcomes. In their study, Alharbi et al. reported that restorations made by 3D printing had a lower gap in all regions compared with those made by milling. Moreover, they stated that internal and marginal gaps was significantly influenced by the method of fabrication. However, Lee et al. reported no statistically significant difference between milling and 3D printing in the internal fit of crowns. Recent studies reported that restorations made by 3D printing had a lower gap in all regions compared with those made by milling. Moreover, they stated that internal and marginal gaps was significantly influenced by the method of fabrication. This study aimed to compare the internal and marginal fit of polymethylmethacrylate (PMMA) 3-unit interim prosthesis fabricated with milling and 3D printing. According to results in this study, fabrication method had a statistically significant effect on marginal, occlusoaxial, and occlusal gap. Therefore, clinicians are recommended to indicate PMMA interim crowns made by 3D printing with 50 microns thickness. However, it is noteworthy that the marginal and internal gaps of interim crowns made by milling fell in the accepted range, but were larger compared with those of interim crowns made by 3D printing.

Recent Publication

1. Wu J, Xie H, Sadr A, Chung KH. Evaluation of Internal Fit and Marginal Adaptation of Provisional Crowns Fabricated with Three Different Techniques. *Sensors (Basel)*. 2021 Jan 22;21(3):740.
2. Peng CC, Chung KH, Yau HT, Ramos V Jr. Assessment of the internal fit and marginal integrity of interim crowns made by different manufacturing methods. *J Prosthet Dent*. 2020 Mar;123(3):514-522.
3. Homsy FR, Özcan M, Khoury M, Majzoub ZAK. Marginal and internal fit of pressed lithium disilicate inlays fabricated with milling, 3D printing, and conventional technologies. *J Prosthet Dent*.

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