



The 18th Symposium of Iranian Academy of Periodontology

17-19 October 2018, Tabriz, Iran

ABSTRACT 1

Immediate Implants and Immediate Loading in the Esthetic Zone

Juan Blanco-Carrion

Professor in Periodontology at the University of Santiago de Compostela (USC)

ABSTRACT

Implantology is the treatment of choice in the majority of the edentulisms. However, there are new challenging clinical scenarios such as patients with failing dentition that claim for a fix and rapid solution. According to recent scientific evidence (pre-clinical and clinical studies), it is possible to manage these patients with implants placed in fresh extraction sockets and immediately loaded. The short-term survival rates and clinical outcomes of this technique are similar and comparable to those of implants placed in healed alveolar ridges. In addition, the advantages of immediate implant placement have been reported to include reductions in the number of surgical interventions and in the treatment time required.

In this conference, we are going to show the results of our experimental pre-clinical "in vivo" studies dealing with immediate implants and immediate loading, where the main objectives were the evaluation of the resorption of the buccal bone plate and the influence of immediate loading in healing (osseointegration) time. In addition, we will deal with analysis of risk factors (biological, surgical, and prosthetic) that can negatively affect the treatment outcome particularly in the aesthetic zone, and we shall present different clinical cases addressing the rationale of the treatment planning.



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ABSTRACT 2

Ortho-perio Treatments

Juan Blanco-Carrion

Professor in Periodontology at the University of Santiago de Compostela (USC)

ABSTRACT

In past decades, the inter-relationship between 'perio' and 'ortho' disciplines has become fundamental in obtaining ideal long-term success in partially edentulous patients and those with chronic periodontitis. Clinical situations such as bite collapse, pathologic teeth migration, and occlusal rehabilitation in these kind of patients require interdisciplinary treatment approach.

On the other hand, periodontists can collaborate and help orthodontists to resolve challenging and specific clinical problems such as gingival recession, impacted canines to be repositioned, and anterior upper frenulum with inter-incisal diastema. In all these situations, both periodontist and orthodontist must be familiar with physiology of the mucogingival complex and the etiopathogenesis of its pathology.

In this lecture, we are also going to deal with several clinical cases that illustrate the perio-ortho connection.

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ABSTRACT 3

Endodontic Consideration for Implant Therapy

Amir Azarpazhooh

Associate Professor in Dental Public Health and Endodontics at the University of Toronto

ABSTRACT

This presentation aims to review the endodontic considerations for implant therapy. In particular, it aims to use the best level of evidence to debate whether endodontic disease can be an etiological factor for implant biological complications, in particular, retrograde peri-implantitis and the role of endodontist in the treatment of such complications.



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ABSTRACT 4

Why to Bother with EBD?

Amir Azarpazhooh

Associate Professor in Dental Public Health and Endodontics at the University of Toronto

ABSTRACT

Scientific evidence is a crucial underpinning of clinical practice. Evidence-based dentistry (EBD) can be summarized by three main pillars: the best current research evidence, the clinician's expertise, and the patient's values and preferences, the latter being paramount in clinical decision making. In particular, recent research suggests that patients prefer active and collaborative engagement (44% and 40%, respectively), in contrast to passive participation (16%) in decision making in dentistry. This may be partially a result of a society where dental care is a market-driven service, a service which many cannot afford. This presentation aims to provide oral health care professionals with the fundamental concepts of EBD and guidance on how to use evidence in their clinical practices. To implement EBD in a clinical setting, the clinician must have the skills required to critically appraise the literature to identify the best evidence for decision making; in doing so, the validity, reliability, and applicability must be assessed.

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ABSTRACT 5

Periodontally Compromised Tooth: Clinical Decision Making on Tooth Retention or Replacement with a Dental Implant

Jim Yuan Lai

Professor in Periodontology at University of Toronto

ABSTRACT

A key goal in periodontal therapy is preservation of clinical attachment level and tooth retention. However, there is a critical time point when a clinician needs to determine if a patient with periodontitis is not responding to treatment and the more appropriate decision is to extract the tooth to optimize implant therapy. This session will identify various clinical situations and differentiate which patients will benefit from tooth retention through periodontal therapy or from tooth extraction followed by implant therapy.



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ABSTRACT 6

Basic Principles for Predictable Guided Bone Regeneration

Jim Yuan Lai

Professor in Periodontology at University of Toronto

ABSTRACT

Guided Bone Regeneration is an essential part of implant therapy for patients with inadequate ridge width or height. This session will review fundamental principles that are critical in achieving predictable outcomes for guided bone regeneration. Cases will be presented to demonstrate flap designs to obtain proper surgical closure and how to use the periosteum to achieve stability of the graft.

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ABSTRACT 7

Oral Presentations

Management of Implant Loss and Failure

David Chvartzaid

Prosthodontist and Periodontist, Assistant Professor at the University of Toronto

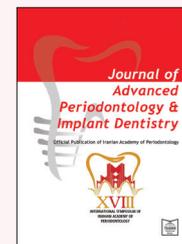
ABSTRACT

Dental implants may fail or may need to be removed for a variety of reasons. This presentation will explore methods of implant removal, management of the patient post-implant removal, and determinants of such management.



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ABSTRACT 8

Implant Success, Survival, and Failure

David Chvartzaid

Prosthodontist and Periodontist, Assistant Professor at the University of Toronto

ABSTRACT

The concepts of osseointegration, success, failure and survival are critical to the clinical application of dental implants and interpretation of the scientific literature. This presentation will highlight the key clinical applications of these concepts, will articulate determinants of implant success, and will discuss diagnosis and aetiology of implant failure. The presentation will conclude with a review of frequent errors in scientific reporting of implant treatment outcomes.

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ABSTRACT 9

The Integrated Treatment Plan: From Diagnosis to Timing in Complex Clinical Cases

Mauro Merli

Professor of Periodontology at the University Politecnica of Marche

Oral Presentations

ABSTRACT

To achieve a thorough assessment of the challenges and solutions in Implant-Prosthetic Therapy, the diagnostic and therapeutic process must be reconsidered and developed into an integrated treatment plan that promotes, firstly, an interaction between the various disciplines to ensure treatment supported by high quality scientific evidence and, secondly, the active participation of the patient.

The clinical-scientific community has begun to attribute importance to the aesthetic assessment of the face, leading to the smile and then intraoral evaluation.

This type of evaluation will influence the choice of the prosthetic rehabilitation (facially generated treatment plan), broadening the traditional paradigms of the "ideal" treatment plan, which was limited to exclusively taking into consideration the intraoral, dento-gingival and/or dento-labial aspects. An aesthetic chart that can be used for both conformative rehabilitation (not involving labial tissue or the lower third of the face) as well as reorganizational rehabilitation (where a complete aesthetic dento-facial aesthetic restoration is necessary) will be proposed.

This workshop will illustrate the management and treatment of complex clinical cases through an interdisciplinary approach in varying degrees of edentulism, integrating prosthetic solutions that best serve the patients' requests.

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ABSTRACT 10

New Trends in Bone Reconstruction and Soft Tissue Management

Mauro Merli

Professor of Periodontology at the University Politecnica of Marche

ABSTRACT

The aim of this presentation is to evaluate surgical techniques for bone reconstruction in severely atrophic jaws where implant placement has been planned, as well as to focus on the many complex aspects regarding soft tissue handling in dental implant surgery.

The objective of the clinician is to follow a procedure that reduces invasiveness and provides patient satisfaction. Recently, a new surgical procedure, the “fence technique”, has been developed where the volume of the bone augmentation is planned in advance. This technique allows for the formation of large quantities of bone in both the horizontal and vertical dimension with limited discomfort for the patient. Space making is obtained and maintained by osteosynthesis plaques and collagen membranes, to be filled with autologous bone alone or the combination of bone substitute/autologous bone.

In addition, the presentation deals with the management of peri-implant soft tissue in terms of techniques applied prior to or during abutment connection, while peri-implant plastic surgery aims to correct and harmonize peri-implant supracrestal structures after abutment connection using soft tissue surgical techniques refined for periodontal applications, with the intention of providing not only esthetic but also a biological benefit.

A critical analysis of the most recent scientific literature regarding the various surgical procedures available will be presented along with the results of clinical research compiled by a team of multidisciplinary professionals with the aim of guiding the clinician to make the most rational choice for the specific case.

The concepts discussed will be supported by anatomic illustrations as well as static and dynamic clinical images.

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ABSTRACT 11

Biomaterials and Tissue Engineering in Dentistry

Keyvan Moharamzadeh

Multi-specialist in Periodontics, Prosthodontics, Endodontics and Restorative Dentistry at the University of Sheffield, United Kingdom

ABSTRACT

Over the past decade, we have developed biomaterials for tissue engineering and 3D models of human oral mucosa for biocompatibility testing of dental materials, osseointegrated implants, oral care products, and modelling of human oral diseases. This lecture will review biological aspects of biomaterials used in dentistry and will introduce advanced bio-engineering techniques such as 3D-printing for the assembly of tissue-engineered models of human oral mucosa and alveolar bone.

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ABSTRACT 12

Lasers and Implantology: Diode Lasers or Erbium Family One?

Emad Kosarieh

Periodontist, Fellowship in Laser Dentistry, Aachen, Germany

ABSTRACT

Dental lasers, as a modern technology, are used commonly during daily practice. They can be used safely in different fields of implant dentistry. Diode lasers are small, cheap, and the more available type of dental lasers in comparison to other types and are used increasingly in dental practice. They can be used for implant uncover, low-level laser therapy (LLLT), peri-implantitis treatment, photodynamic therapy, and so forth. On the other hand, Erbium family lasers as soft and hard tissue (all tissue) lasers are used mainly in periodontics, endodontics, implantology, restorative, and pediatric dentistry.

In this lecture, the indications and benefits of two group of lasers in implantology will be covered to answer the following question: Which one is more suitable to be used in implant dentistry? Diode lasers or the erbium one.

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ABSTRACT 13

Clinical Application and Benefits of Digital Dentistry for a Periodontist

Reza Molla

Periodontist, Fellowship in Laser Dentistry, Aachen, Germany & Fellowship in Esthetic Dentistry, Genova, Italy

Oral Presentations

ABSTRACT

Over the past few years, our prospects of dental treatments as practitioners have changed more than anytime as a result of integration of digital devices and technology in routine dental treatment plans. This change is moving forward so fast and the general users' mind is going to get confused in relation to their digital knowledge.

For many of the practitioner, this confusion works as a strong deterrent to stop them using digital technology. But the key point is that, in this situation, you use digital dentistry as a tool for improving treatments accuracy and speed exactly to what patients expect from dentistry.

We may claim that it is inevitable for many clinicians to learn the knowledge and skills and bringing such equipment and facilities to the general dentistry settings. In the field of periodontology, the equipment and facilities have modified or changed the process of the periodontics treatment planning or treatment plans relying on dental implants.

The shift to digital whether in a diagnostic phase or during the treatment or evaluation of the treatment results helps both clinicians and the patients in improving end point result of treatment process.

In the upcoming topic, our effort is to give general knowledge of available digital features useful in daily practice for a periodontist.

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ABSTRACT 14

Periimplantitis Prevention Program: A Strategy for Long-term Success of Dental Implants

Mahdi Kakhodazadeh

Professor of Periodontics, Shahid Beheshti Dental School

ABSTRACT

Peri-implantitis is not an uncommon complication following implant therapy. A higher prevalence of peri-implantitis has been identified for patients with presence or history of periodontitis and for smokers. Dental implants have 90% or higher survival rates at 10-15 years, but peri-implantitis may be as high as 14%. Peri-implantitis can create failures in clinical success and financial burdens to patients and clinicians.

Most biological complications are initiated by incipient stages of inflammatory processes, which lead to peri-mucositis and peri-implantitis. The main aim of a supportive implant therapy program is to maintain a healthy peri-implant mucosa and prevent the development of peri-implantitis. In cases in which plaque-induced peri-implant mucositis has occurred, a well-designed supportive implant therapy program can help return the mucosa to a healthy state.

There is no consensus on the optimal interventions for the treatment of peri-implant mucositis. However, all effective supportive implant therapy programs emphasize comprehensive oral hygiene practices, careful peri-implant examination, determination of risk factors, and periodic removal of microbial deposits.

Identification of risk factors associated to this inflammatory condition is essential for the establishment of prevention protocols. When patients with implant-supported restorations are strongly recommended to comply with a 3-month recall, considerably high rates of compliance can be achieved. Early diagnosis and adequate treatment of peri-implantitis are important in patients with a prior history of periodontitis and in smokers to minimize the risk of advanced peri-implantitis.

This presentation reviews the types and appropriate frequency of supportive care in dental implant therapy, as well as the strategies for management when recurrent disease develops during the maintenance phase.

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ABSTRACT 15

New Techniques and Guidelines for Immediate Molar Implant (IMIs) Placement

Mohammad Ketabi

Professor of Periodontology, Isfahan Azad University

Visiting Professor of Toronto University

Oral Presentations

ABSTRACT

There are some obvious advantages for patients and clinicians in providing immediate replacement of molar teeth with implants. These include fewer and potentially less invasive surgical procedures, greater patient acceptance, less chair time/lower treatment fees, shorter treatment times, and potentially fewer risks. Another advantage is that immediate molar implants (IMIs) may reduce maxillary sinus pneumatization following molar extraction. However, not every molar site will be suitable for this treatment approach and as with all surgical procedures, operator skills and experience will affect the outcomes.

Proper case selection includes considering the reason for tooth extraction, the socket anatomy remaining after extraction, the dimensions of the inter-radicular bony septum, the appropriate implant shape, length and diameter, the depth and 3D positioning of implant insertion, the size of peri-implant gaps, and the appropriateness of including soft tissue grafting at sites with a thin and/or narrow gingival biotype.

We will systematically review all the necessary step by step procedures and new techniques to do a successful immediate molar implantation.



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ABSTRACT 16

Laser Safety and its Hazards

Seyed Masoud Mojahedi (Md.sc, DDS, MS.c, Ph.D)

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Faculty Member at Bonn University, Germany
Senior Research Fellow at Bonn University, Germany

ABSTRACT

When safety procedures and sound surgical principles are followed, the possibility of complication or undesired side effects from the surgical use of laser equipment is negligible. The surgeon with both an appreciation of the physics of laser energy and in depth understanding of the biologic effect of the laser will protect the patients and the team from potential side effects. The usual undesired side effects and complications associated with laser surgery are related to the extremely high levels of thermal energy used. This lecture gives an understanding of the potential hazardous situation when using lasers. A great amount of emphasis has been put on the environmental and tissue hazards as they are obviously more dangerous and common, nevertheless the others still pose as potential complications and this awareness is crucial. We will mention the safety regulations and possible hazards in the dental setting to give a better idea and view for laser users; patients, dentists, and technicians; so they can use lasers in the dental clinic in the most safe manner possible, minimizing the possible hazards in all dental fields.

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ABSTRACT 17

Guided Bone Regeneration: How Can We Make It More Predictable?

Amir Moeintaghavi

Professor of Periodontics, Mashhad University of Medical Sciences, Mashhad, Iran

Oral Presentations

ABSTRACT

Implantation in atrophic alveolar ridge is a big challenge in implantology. Different techniques have been proposed for lateral and vertical augmentations. Bone gain is dependent on various factors. For success, at first, clinicians should select the patient carefully and then they must choose the right technique. Surgeon skill is a factor that could have an important effect in the success of the technique employed. Complete flap closure, lack of membrane exposure, preparing the site for better angiogenesis through decortication, space making and maintaining using grafting material or titanium reinforced membrane or mesh, and finally a stable clot are the most important factors which make the results more predictable. The key words to this lecture included guided bone regeneration and bone graft.

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ABSTRACT 18

Esthetic Disasters in Implant Dentistry: Prevention and Managements

Omid Moghaddas

Assistant Professor, Periodontics Department, Islamic Azad University, Dental Branch, Tehran, Iran

ABSTRACT

In this presentation, we will discuss limitations in esthetic reconstructions, including:

- management of papilla loss,
- midfacial recessions,
- implant malpositions,
- and management of vertical deficiencies.

We will also present multidisciplinary approaches in treating the complications.

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ABSTRACT 19

New Concepts in Implant GBR

Saman Nasiri

Assistant professor, Department of Periodontology, Lorestan University of Medical Science Khorramabad, Iran

Oral Presentations

ABSTRACT

Various guided bone regeneration (GBR) techniques for horizontal and vertical ridge augmentation has been presented in modern implantology. Sausage technique for lateral ridge augmentation has been presented by Istvan Urban.

Sausage technique is a new and effective GBR method, completely immobilizing bone graft (autogenous and xenograft) by the collagen membrane and stretching out with multiple mini-tacks in a special manner by secure fixation of the membrane on both the lingual/palatal and the vestibular side, which eventually looks like a little sausage.

Sausage technique is an interesting and unique form of GBR that immobilizes the graft material, allowing for the formation of the desired amount of bone and leading to a better results compared with similar techniques. In this lecture, a new and applicable technique for lingual flap advancement in ridge augmentation is presented.

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ABSTRACT 20

How to Achieve Successful Bone Augmentation Considering Bone Engineering Principles

Behzad Houshmand

Professor of Periodontics at Shahid Beheshti Dental School

ABSTRACT

Tissue engineering technology applies the basics of biology, chemistry, physics, and engineering to develop substitutes that replace, repair, or enhance biological functions of diseased and damaged human body parts by manipulating cells via their extracellular microenvironment. Once considered a distant dream and only experimental in nature, tissue engineering is now clinically applicable in periodontics using four principles: cells, bioscaffolds, signaling molecules, and blood supply. The challenge lies in regenerating adequate volume of hard and possibly soft tissue. Recombinant human platelet derived growth factor and recombinant human bone morphogenic protein (BMP)-2 may be used for implant site preparation. Regardless of certain limitations, our ability to provide regenerative therapeutics continues to evolve using latest signaling molecules like CGF, BMPs, IGFs, etc. as well as newly introduced methods of therapy like cell-therapy, gene therapy, and application of composite bioscaffolds. So, we need to continue to improve our understanding of the physical and biological requirements necessary for specific tissue regeneration.

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ABSTRACT 21

Maxillary Sinus Floor Elevation With or Without Bone Grafting Materials

Siamak Yaghobi

Associate Professor of Periodontics, Tehran University of Medical Sciences, Tehran, Iran

Oral Presentations

ABSTRACT

Sinus floor elevation procedures are performed routinely to provide the required height for proper and stable bone around inserted dental implants. Various grafting materials and bone substitutes have been proposed and used in maxillary sinus floor elevation surgery, including autologous bone, xenogeneic bone, demineralized or mineralized allogeneic bone, and alloplasts. These bone substitutes may have potential for osteogenesis, osteoconduction, or osteoinduction.

Based on some of the published literature, bone formation in the maxillary sinus does not require the presence of biomaterials. Some researchers propose that the maintenance of space for blood clot formation accompanied by the resorption and deposition of bone cells derived from the sinus periosteum or cancellous bone of the maxilla would be responsible for bone formation in this region, so there is no need for bone grafting or additional material like growth-factors, peptides, PRF and so on.

This lecture reviews these controversial concepts while trying to reach a practical conclusion for use in the daily practice.



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ABSTRACT 22

Effect of Soft Tissue Biotype on Treatment Planning and Outcomes of Routin Perio-implant Procedures

Reza Amid

Associate Professor of Periodontics at Shahid Beheshti Dental School

ABSTRACT

Different studies have used various entities such as gingival thickness, soft tissue phenotype, biotype, or even morphotype, to explain the morphological characteristics of soft tissue around natural dentition and dental implants. Among the factors that may impede success, gingival biotype is of critical concern, particularly affecting the outcomes of plastic surgery and dental implants in the esthetic zone. Different tissue biotypes respond differently to inflammation and to surgical and restorative treatments; consequently, it is crucial to identify tissue biotype before treatment. There are some instruments and devices for determination of soft tissue thickness including direct measurement, visual examination, probe transparency, and soft tissue cone beam computed tomography. During the treatment planning process, it is important to recognize that differences in gingival tissue can affect treatment outcomes. Special care should be taken when treating cases with a thin gingival biotype. It seems soft tissue morphotype dictates different protocols for periodontal procedures and implant site preparation. With appreciation of these differences, preparatory steps can be taken to achieve more ideal and stable outcomes in periodontal plastic surgery, ridge augmentation, and esthetic zone implant procedures.

This presentation reviews the characteristics of various soft tissue biotypes and the main considerations which should be in mind during perio-implant interventions. Greater risk for soft tissue recession, bone loss after mucoperiosteal flap reflection, premature opening of wound edges, esthetic failure of implant-borne fixed prostheses in the long term, and even implant loss are some of the topics that will be discussed based on evidences.

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ABSTRACT 23

Esthetic Crown Lengthening

Amirreza Moayer

DDS, MSc in Periodontics, Private Practice

ABSTRACT

Excessive gingival show exerts a negative influence on patients' satisfaction with how they look when they smile. Different interdisciplinary approaches have been suggested to equilibrate the gingival display with dental esthetics. This presentation is a brief review of different surgical techniques applied to treat the gummy smile. Furthermore, we discuss how to plan a balanced smile and how to communicate it in a multidisciplinary teamwork.

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ABSTRACT 24

Management of Implant Failures in the Esthetic Zone

Gholam Ali Gholami

Professor of Periodontics in Shahid Beheshti Dental School

ABSTRACT

The definition of failure for dental implants has evolved from lack of osseointegration to increased concern for other aspects, such as esthetics. However, esthetic failure in implant dentistry has not been well defined. Based on objective indices, esthetic failures in implant dentistry can be categorized as 'pink-tissue failures' and 'white-tissue failures'. This presentation will discuss esthetic failures, the factors involved in these failures, and their prevention and treatment.

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ABSTRACT 25

Evaluation of Osseointegrated Dental Implants in Growing Children

Maryam Rahimkhoob, Nasrin Atoofi, Zahra Hosseinpour

Dentistry Students, Tehran University of Medical Sciences, Tehran, Iran

Poster Presentations

ABSTRACT

The aim of this work was to review the influence of maxillary and mandibular skeletal and dental growth on the osseointegration of implants in growing children.

Congenital partial anodontia and traumatic tooth loss are frequently encountered in pediatric patients. In these cases, oral rehabilitation is required even before skeletal and dental maturation has occurred. The use of implants in young patients creates special problems because their jaws are in a period of active and dynamic growth.

Implants inserted into pediatric patients do not follow the regular growth process of the craniofacial skeleton and are known to behave similar to ankylosed teeth, which produces an infra-occlusion and lack of alveolar growth in the affected area. Therefore, implants cannot participate in the maxillary growth processes of drift and displacement, and as such, result in unpredictable implant dislocations

The mandibular anterior area seems to hold the greatest potential for early use of an implant because the closure of symphysis suture occurs during the first 2 years of life, so it presents fewer growth variables. Therefore, implants in the mandibular anterior region can be placed to support an overdenture, from the around the age of 6 years, when the median sutures of the mandible are closed.

The vertical growth of the maxilla exceeds all other dimensions of the growth; therefore, premature implant placement can result in the repetitive need to lengthen the transmucosal implant connection which leads to poor implant-to-prosthesis ratios and potential load magnification.

The survival rate of implants placed in the anterior mandible are shown to be consistently higher than those placed in the maxilla because of the growth variables in maxilla. Therefore, the insertion of implants in the growing maxilla should be avoided until early adulthood.

Implant location, the sex of the patient, and the skeletal maturation level are the most important factors in the final decision of when to place implants.

It is still recommended to wait for the completion of dental and skeletal growth except for severe cases of ectodermal dysplasia.

Keywords: Alveolar bone growth, Dental implant, Growing children



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ABSTRACT 26

Relationship Between Osteoporosis and Periodontitis

Farid Vafadar¹, Elnaz Farhodi²

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²Assistant Professor, Department of Periodontics, Faculty of Dentistry, Ardabil University of Medical Sciences, Ardabil, Iran

ABSTRACT

Osteoporosis is a systemic disease of bone structures resulting in low bone mass and its micro architectural deterioration. Osteoporosis and osteopenia are characterized by reduction in bone mass resulting from imbalance between the rate of bone formation and resorption, whereas periodontitis involves local inflammatory bone loss, following an infectious breach of the alveolar cortical bone and it may result in tooth loss.

Many of the risk factors for osteoporosis are environmental. Therefore, established risk factors include older age; female; postmenopause; low body mass index (BMI); cigarette use; alcoholism; inadequate calcium and vitamin D intakes; physical inactivity; taking medications such as glucocorticoids and anticonvulsants; and anorexia nervosa. Although there are lots of factors that mentioned as periodontal risk factors such as gender, tobacco use, diabetes and nutrition, BMI, socioeconomic status and access to dental care. On the other hand, periodontal disease is a chronic destructive disease which can occur in adults, young people and children but osteoporosis impacts half of the elderly over 65.

As a consequence, since both osteoporosis and periodontal are bone destructive disease and they share common etiological agents, it can considered that osteoporosis could be a risk factor for progression of periodontal disease and it has been hypothesized that the breakdown of periodontal tissue may, in part, be related to systemic conditions that also predispose the patient to osteoporosis/osteopenia.

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The 18th Symposium of Iranian Academy of Periodontology

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ABSTRACT 27

Oral Health Knowledge, Attitudes, and Behavior Among Iranian Adults

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ABSTRACT

The aim of this study was to assess the knowledge, attitudes, and behavior of Iranian adults towards oral health and dental care and also evaluate the factors that determine these variables. The studied population completed questionnaires that aimed to evaluate adults' behavior, knowledge, and perception of their health and dental treatment. Study population showed higher awareness of caries compared to periodontal conditions. Almost all of the middle-aged surveyed claimed that they brushed their teeth every day and used toothpaste during tooth brushing, but awareness about periodontal diseases was lacking. Adults in this study also recognized the importance of the effect of oral health on the well-being of the rest of the body. Respondents had poor knowledge of oral health but positive attitudes towards it, which necessitates improvement through methods like providing a basis for more community-based oral health education programs, especially targeting adults with lower levels of education and fewer socio-economic advantages.

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ABSTRACT 28

Classification of Periodontal and Peri-implant Diseases and Conditions: The Evolvement From AAP 1999 to New World Workshop Classification

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ABSTRACT

A proper classification scheme for periodontal and peri-implant diseases is necessary in order to provide an appropriate diagnosis and treatment for the patients. Moreover, investigating the etiology, pathogenesis, and the treatment of the diseases need to be based on a proper classification. In the last world workshop of periodontology in 2017, the former classification in 1999 has been updated and a similar scheme has been developed for peri-implant diseases and conditions. The new workshop classification is based on strongest available scientific evidence; however, the lower level evidence and expert opinion has been used in case of insufficient research data. This new introductory overview presents the schematic tables for the new classification and highlights the changes made to the 1999 classification.

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ABSTRACT 29

Cone Beam Computed Tomography (CBCT) in Periodontology

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ABSTRACT

Radiographic evaluation plays a decisive role in confirming and establishing diagnoses of periodontal diseases by providing information on the type and severity of damage to the alveolar bone. In the dental practice, two-dimensional periapical and panoramic radiographs are routinely used for assessing alveolar bone status. However, two-dimensional image modalities have shown limitations in the diagnosis, treatment planning, and follow-up of periodontitis. To this end, three-dimensional imaging modalities such as CBCT are currently being investigated as possible complementary diagnostic tools in periodontal therapies. CBCT has no geometric overlapping of anatomical structures; it is relatively accessible; and its radiation dose is lower, as compared to medical computed tomography. Furthermore, the ability to view the alveolar bone in three dimensions and to make measurements at any location could significantly improve periodontal diagnosis. The objective was to identify the best available external evidence for the indications of CBCT for periodontal diagnosis and treatment planning in specific clinical situations.

A literature review of the PubMed-Medline database along with the reference lists of relevant articles was performed up to December 31, 2017. The following search terms were used: "periodontal disease", "computed tomography", "imaging", "furcation defect", "alveolar bone loss."

Within their limits, the available data suggest that CBCT may improve diagnostic accuracy and optimize treatment planning in periodontal defects, particularly in maxillary molars with furcation involvement, and that the higher irradiation doses and cost-benefit ratio should be carefully analyzed before using CBCT for periodontal diagnosis and treatment planning.

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ABSTRACT 30

The Role of Ridge (Socket) Preservation Procedures in Dental Implant Treatment in the Esthetic Zone

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ABSTRACT

Augmentation of the extraction socket (ridge preservation) is increasingly being advocated in anticipation of implant placement. The purpose of our study was to review the evidence on ridge preservation procedures and improvement in dental implants outcomes. The literature was reviewed for a comparison between these techniques with other alternatives such as implant placement and simultaneous lateral augmentation.

An electronic PubMed search was conducted using search terms relevant to assessing treatment outcomes in association with ridge preservation. Titles were screened and full-texts were obtained where relevant. Further, full-texts of papers yielded from the original search analyses were also obtained. Twenty-two papers were finally selected for analysis.

Ridge preservation techniques results in minimizing post-extraction alveolar ridge contraction. However, there is insufficient evidence to suggest that the use of these techniques in conjunction with dental implant treatment improves implant treatment outcomes. Furthermore, ridge preservation does not necessarily eliminate the need for further simultaneous augmentation at the time of implant placement. The delayed healing associated with ridge preservation using socket grafting necessitates a commitment to a delayed placement protocol. The extended treatment time, compromised healing, and the expense related to ridge preservation suggests a more cautious approach with regards to the indication of such techniques.

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ABSTRACT 31

A Clinical Review of Oroantral Fistula Management: (Prevention, Reasons, Diagnosis, Sequela, Treatment)

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ABSTRACT

Background: Oroantral communication (OAC) is the space created between the maxillary sinus and the oral cavity, which, if not treated, will progress to oroantral fistula (OAF) or chronic sinus disease. Several systematic reviews have shown that OAF is a common complication after maxillary molars extraction, and in some cases, a sequelae of implant surgery, radiation therapy, infection, trauma, and removal of tumors or maxillary cysts. Patients suffer from pain, drainage, and purulent discharge in the maxillary sinus. One of the methods to diagnose OAC is nose blowing test; albeit with controversy. Surgical closure is advisable within the first 48 hours of OAC incidence. If larger OACs are left untreated and allowed to stay patent, patients will experience sinusitis after 48 hours in 50% of the cases and after 2 weeks in 90% of cases.

Methods: We searched PubMed, EMBASE, CINAHL, and Cochrane databases up to June 2018 to select relevant studies that cover the different objectives of this review, including the diagnosis of OAC, several techniques to treat OAC and OAF, and how to prevent OAC.

Conclusion: Dental extraction (first molar) is major reason in OAC incidence. Preoperative radiographic examination and sectioning divergent roots may aid in preventing OAC. Overall, studies do not suggest nose blow test to diagnosis OAC. The buccal fat pad (BFP) application is a safe and successful procedure for closing OAC/OAF. This technique could reduce or avoid postsurgical OAF and promote bone healing in the affected area. However, it must be considered that BFP method can only be used once and limitations exist concerning the potential size of the defects to be covered.

Keywords: Sinus, buccal fat pad, oroantral communication, oroantral fistula.

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ABSTRACT 32

Esthetic Reconstruction in Implant Surgery

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ABSTRACT

Implant dentistry has been established as a predictable treatment with excellent clinical success to replace missing or nonrestorable teeth. A successful esthetic implant reconstruction is predicated on two fundamental components: the reproduction of the natural tooth characteristics on the implant crown and the establishment of soft tissue housing that will simulate a healthy periodontium.

Peri-implant plastic surgery has been adopted to improve the soft tissue and hard tissue profiles, during and after implant placement. Providing an esthetic restoration in the anterior region of the mouth has been the basis of peri-implant esthetics. To achieve optimal esthetics, in implant supported restorations, various patient and tooth related factors have to be taken into consideration.

Interdental papilla is one of the most effective items in esthetic. The absence of the interimplant papilla cause an interimplant black triangle thus leading to cosmetic deformities, phonetic difficulty and food impaction. This resultant implant papilla is the product of soft tissue depth and volume and has to be skillfully surgically created. However, reconstructing a predictable peri implant papilla is the most complex and challenging aspect of implant dentistry.

Bone support is the foundation for any soft tissue existence; techniques such as socket augmentation, orthodontic extrusion, guided bone regeneration, onlay graft and distraction osteogenesis are often used for this purpose. Soft tissue grafts as well as esthetic restorations can also be used to enhance the esthetic outcomes. In fact, maintaining and restoration of soft tissue around dental implants is an integral part of implantology.

It is difficult to arrive at a definitive conclusion due to scarcity of well-designed studies in the literature. Reliable evidence is lacking to suggest the ideal soft tissue augmentation preservation techniques.

Keywords: Dental implant, gingiva, peri-implant plastic surgery, esthetic, interimplant papilla.

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ABSTRACT 33

Effects of Lasers on Treatment of Peri-implantitis

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ABSTRACT

Peri-implant disease, the most common complication in implant dentistry, could be treated with non-surgical or surgical techniques. Various non-surgical methods have been proposed to disinfect the contaminated implant surface including plastic, carbon fiber, and titanium hand instruments; ultrasonic tips; lasers; chemicals (tetracycline hydrochloride paste); and local or systemic antimicrobials. Surgical management of peri-implant diseases involves both resective and regenerative approaches. In this review, we discuss the advantages and disadvantages of lasers in treatment of peri-implant lesions. Different types of lasers (Nd:YAG, Er:YAG, CO₂ and Er,Cr:YSGG lasers) have been studied in treatment of peri-implant diseases. A challenging issue in re-osseointegration of peri-implant defects refers to decontamination of the infected implant surfaces.

Different laser systems with many different operational settings have been studied. In spite of the promising results of CO₂ laser in surgical treatment of peri-implantitis, there is limited information regarding its use. Er:YAG and Er,Cr:YSGG lasers can decontaminate implants surfaces without thermal effects leading to the minimal bone damage. They had no alteration on the implant surface and provide a favorable environment for re-osseointegration. In vitro microbiological studies, have demonstrated promising outcome resulting in the ablation of more than 95% of biofilm micro-organisms on all types of titanium surfaces. In addition, short term clinical studies, have shown reduction in BOP, PD and gain of CAL. In spite of the short-term clinical superiority, long-term similar outcome was measured. In regenerative treatments, Er:YAG have resulted in the highest amount of re-osseointegration (44.8%) in submerged healing compared to plastic currettes with metronidazole gel and ultraviolet device. The combined use of photodynamic therapy (660 nm diode laser in combination with a photosensitizer) with mechanical debridement have shown significant reduction of peri-implant inflammation and clinical attachment loss. Whereas no significant promising results were observed for probing depth, bleeding on probing and plaque score Nd:YAG have been contraindicated around implants because it produced morphological changes on the titanium surfaces. In conclusion, no long-term clinical superiority could be accounted for laser based treatments in comparison to conventional treatments of peri-implantitis. In addition, there is a need for more well-designed longitudinal randomized controlled clinical studies.



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ABSTRACT 34

Ridge Preservation with Modified “Socket-Shield” Technique

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ABSTRACT

After tooth extraction, the alveolar bone undergoes a remodeling process, which leads to horizontal and vertical bone loss. These resorption processes complicate dental rehabilitation, particularly in connection with implants. Various methods of guided bone regeneration (GBR) have been described to retain the original dimension of the bone after extraction. Most procedures use filler materials and membranes to support the buccal plate and soft tissue, to stabilize the coagulum and to prevent epithelial ingrowth. It has also been suggested that resorption of the buccal bundle bone can be avoided by leaving a buccal root segment (socket shield technique) in place, because the biological integrity of the buccal periodontium (bundle bone) remains untouched. This method has also been described in connection with immediate implant placement. It was demonstrated that the bone was clinically preserved with this method.

Keywords: Shield technique, ridge preservation.

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ABSTRACT 35

The Relation Between LDH Level and Chronic Periodontitis

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ABSTRACT

Aim: Saliva as a diagnostic fluid can be used in dental products as an indicator of periodontal disease. The aim of this study was to measure the LDH enzyme in the saliva of patients with chronic periodontitis, referring to the section of Periodontology, Mashhad Dental school.

Methods: The current study was an analytical, prospective cohort study which was randomly performed on 30 patients. Inclusion criteria was attachment loss with a depth of 3-5 mm. Samples of saliva (3mL) were collected by Spitting method help and based on the guidelines by Navazesh then immediately placed in micro tubes whose temperature was -20°C after that transferred in to laboratory and placed in -80°C tubes. Before starting the tests, the samples were centrifuged for 5 minutes at around 3000 g and the supernatant clear liquid was used for analysis. Samples were collected before treatment, including scaling & root planning and health education, and 4 weeks after treatment. Data obtained were analyzed by SPSS software with using t-test.

Results: The study showed that the level of LDH in patients before treatment was 8.57 ± 1484 and the average level of LDH in patients after treatment was 4.25 ± 1112 micrograms per liter and the level of saliva LDH before and after treatment was significant different ($P = 0.01$).

Conclusions: LDH enzyme level is considerably higher in the saliva of patients with periodontal pretreatment than post-treatment, which is due to pathological processes that happened in periodontal tissues, leading to the release of intracellular enzymes.



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ABSTRACT 36

New Dental Biomaterials for Periodontal Regeneration

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ABSTRACT

Periodontal regeneration developed in the last few decades includes soft tissue grafts, bone replacement grafts, root surface biomodifications, guided tissue/bone regeneration (GTR/GBR) and delivery of growth factors or gene therapies. Various types of materials are used in the treatment. An ideal graft material should be biocompatible, safe, non-allergenic, non-toxic and have no risk of disease transmission. They should be strong enough to maintain space and the rate of degradation should be appropriate.

Different treatment modalities have been suggested to regenerate the periodontal tissues damaged in cases of both gingival recession and periodontitis. All of these strategies aim to correct defects due to disease, and regenerate new periodontal tissues. Periodontal regeneration is defined as the regeneration of the tooth-supporting tissues including cementum, periodontal ligament (PDL) and alveolar bone. The development of new cementum with PDL fibers connected to alveolar bone is the main goal of periodontal regeneration. The development of biomaterials for tissue engineering has considerably improved the available treatment options above. They fall into 2 broad classes: ceramics and polymers. The available ceramic-based materials include calcium phosphate, calcium sulfate and bioactive glass. The bioactive glass bonds to the bone with the formation of a layer of carbonated hydroxyapatite in situ. The natural polymers include modified polysaccharides (e.g., chitosan,) and polypeptides (collagen and gelatin). Synthetic polymers [eg, poly(glycolic acid), poly(L-lactic acid)] provide a platform for exhibiting the biomechanical properties of scaffolds in tissue engineering. The materials usually work as osteogenic, osteoconductive and osteoinductive scaffolds. Polymers are more widely used as a barrier material in GTR. An attempt to overcome the problems related to a collapse of the barrier membrane in GTR or epithelial down growth is the use of a combination of barrier membranes and grafting materials.

This article reviews various biomaterials including scaffolds and membranes used for periodontal treatment and their impacts on the experimental or clinical management of periodontal defect.

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ABSTRACT 37

Correlation Between Keratinized Tissue Width and Periodontal Indices Around Implant Supported Fixed Prosthesis

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Poster Presentations

ABSTRACT

Background: The role of keratinized mucosa (KM) on peri-implant tissue health was undetermined and it was discussed controversially in literature. The width of KM which result in long term implant success was insecure. The aim of this cross-sectional study is to determine whether a correlation exists between the width of KM and the health of implant supporting tissue.

Methods: Seventy-three functional dental implants which support fixed prosthesis were examined and periodontal parameters include plaque index, gingival Index, bleeding on probing, probing pocket depth, marginal recession, width of KM and radiographic marginal bone level were evaluated and measured. All data were collected and analyzed by t test and chi-square test in SPSS 20.

Results: The mean gingival index score, plaque index score and marginal recession were higher for implants which have less than 2 mm of KM, but this difference were not statistically significant ($P > 0.05$). There was no significant difference in periodontal pocket depth and marginal bone level between implants with wider than 2 mm of KM and implants with less than 2 mm of KM. Thus, we did not find any correlation between KM and measured parameters.

Conclusion: Even though the present results suggest that there is no correlation between width of KM and implant-supporting tissue health, longitudinal randomized studies are necessary.

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ABSTRACT 38

Bone Physiology, Metabolism, and Biomechanics in Implant Therapy

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ABSTRACT

The complexity of the bones in the upper and lower jaws affects implant treatment planning and sequencing, as well as the outcome of therapy. The maxilla tends to be loaded in compression, leading to thinner vertical cortical plates and the mandible, in contrast, undergoes complex torsional loading that leads to thicker cortical plates and minimal trabecular bone; this provides an osseous structure in which an implant can often be placed. Before placing an implant, the dental practitioner must recognize that the immediate postoperative support for the implant will be dead bone, devitalized to a depth of about 1 mm by the surgical procedure. The exposed endosseous surface, not in contact with dead lamellar bone, is a site for new woven bone formation. Therefore, during the early stages of healing, the osseous interface of the implant is a composite of either dead lamellar bone or poorly mineralized woven bone. As healing advances, the entire osseous interface will be remodeled into lamellar bone. Because the interface at first may be weak, the dental practitioner must have a clear understanding of loading, healing time, and control of occlusion both during the initial healing period and over the long term. However, if the implant is placed in high-quality lamellar bone, the initial dead bone interface may be able to sustain immediate loading, because the implant remains stable as the interface undergoes step-wise remodeling. The dental practitioner also must exercise caution in placing implants into extraction sockets, especially in a thinner biotype, because the bundle bone present is lost in time. After placement the implant interface undergoes a progressive remodeling or turnover process guided by an interaction between a set of osteoclasts, which remove damaged bone tissue, and a highly organized set of osteoblasts, which subsequently lay down replacement bone. This complex interaction, or basic multicellular unit, is vital to maintaining the functional dental implant interface.

The preparation of the implant's surface plays a key role both in the initial healing process and in the long-term turnover process. Dental practitioners must have a clear understanding of the fundamental changes that occur in bone tissue after dental implant placement so that they can communicate these important facts to their patients and their restorative colleagues.

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ABSTRACT 39

Cantilever in Implant

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Poster Presentations

ABSTRACT

Objective: The prosthodontic literature has documented the use of cantilever restorations on teeth. The specific guidelines for the use of cantilevers in conventional fixed prosthodontics can be found in traditional prosthodontic text books (Schillenburg, etc). The use of a single cantilevered tooth off of a natural tooth is permitted from a maxillary canine to replace a maxillary lateral incisor. Other cantilevers require either double or triple abutting in order to provide adequate support. The considerations are: The arch, the tooth, the length and diameter of the supporting endosseous implant, the opposing occlusion, the edentulous ridge morphology, soft tissue profiles, the esthetic and overall expectations of the patient. In some instances the motivating factor for the cantilever is cost, the patient does not wish to pay.

Methods: An electronic literature search was conducted in the PubMed database by 2 reviewers (LTM and AM) for articles written in English from June 2003 to January 2013 that were prospective human clinical trials with the clear purpose of appraising the effect of implant-supported fixed partial prostheses on peri-implant bone level and prosthetic complications. Data from the selected studies were extracted to carry out the statistical analysis.

Conclusion: In the anterior maxilla or mandible the use of cantilevers also requires careful attention to the occlusion. The cantilevered tooth should be kept out of centric occlusion contact and not be utilized in any excursive movements for discussion. Lateral forces on the cantilevered tooth will serve to torque or rotate the supporting implant and result in the complications mentioned above. In instances where there is insufficient room for a second implant or the patient is not amenable to a three unit fixed partial denture, the cantilevered restoration will provide years of service if the careful attention to the aforementioned criteria are followed incisors off of each other. Posterior cantilevers should be avoided at all costs if they are single abutted.



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ABSTRACT 40

Immediate Implant Placement and Restoration

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ABSTRACT

Background: In the esthetic zone, a key challenge for the restorative dentist is to provide patients with a crown and peri-implant mucosa that is in harmony with the adjacent teeth, thus restoring both function and esthetics. From a surgical perspective, the current concept is to plan for implants to be placed in a position to optimize the emergence profiles of the restoration, thereby achieving proper soft tissue form and symmetry (Belser et al.1998).

Methods: Review articles were searched via PubMed, Elsevier, Scencedirect, International Journal of Periodontics, Journal of Prosthodontics, the International Journal of Oral & Maxillofacial Implants, Scandinavian Journal of Plastic And Reconstructive Surgery.

Results: Implants placed into extraction sockets may be expected to integrate with a high degree of predictability. This suggests that the rate of osseointegration in extraction sockets may vary depending upon the conditions of the socket, the wound-healing potential of the individual and the surface characteristics of the implant used. Delayed restoration resulted in initial papilla loss taking up to 1 year to attain comparable height as for immediate restoration.

Conclusion: It can be suggested that immediate placement and restoration of a single implant can be a valid and successful option of treatment in the case of single com-promised teeth. Moreover, this treatment protocol eliminates the need for removable provisional restoration and seems to maintain the preexisting architecture of soft and hard tissues in most cases.

Keywords: Immediate implant, immediate restoration, dental implant, single tooth.

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ABSTRACT 41

The Effect of Antimicrobial Photothermal Therapy Against Biofilm of *Porphyromonas gingivalis* Attached to Surface of Titanium Dental Implant Discs

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ABSTRACT

Background: The purpose of this study was to evaluate the effect of antimicrobial photothermal therapy (aPTT) using indocyanine green (ICG) and a diode laser as a light source on biofilms of *Porphyromonas gingivalis* attached to surface of titanium dental implant discs *in vitro*.

Methods: aPTT was performed using ICG (at final concentration of 1.0 mg/mL) with 810 nm wavelength of diode laser at fluencies of 31.2 J/cm² on biofilm of *P. gingivalis* ATCC 33277 attached to surface of titanium dental implant discs. The anti-biofilm potential of ICG-aPTT were determined via colony forming unit (CFU)/mL and scanning electron microscope (SEM).

Results: ICG-aPTT showed the significant reduction (85.3%) on CFU/mL of *P. gingivalis* strain compared to control group (untreated group). In SEM images, increased bacterial death was observed when discs were exposed to ICG-aPTT.

Conclusion: ICG-aPTT as an antibacterial approach is effective in reducing the viability of *P. gingivalis* attached to surface of titanium dental implant discs *in vitro*.

Keywords: Antimicrobial photothermal therapy, Indocyanine green, *Porphyromonas gingivalis*.



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ABSTRACT 42

Use of Platelet Rich Fibrin for the Management of Extraction Sockets: A Review Article

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ABSTRACT

Background and aim: Past decades research has shown that the main cause accelerating dimensional changes post-extraction, most notably on the thin buccal bony walls, is mainly due to the lack of blood supply resulting from periodontal ligament loss which contains the majority of blood supply.

Lots of materials such as barrier membranes, bone grafts and biological agents has been used to overcome dimensional bone changes following tooth extraction.

Platelet concentrates have a long history of development. More recently, a new generation of platelet concentrates called platelet rich fibrin (PRF) has been introduced as a potential biomaterial to minimize dimensional changes. PRF has ideal properties for tissue regeneration because of its ability to form a clot during socket healing. Our objectives were to indicate the prominent effects of utilizing PRF either as a sole grafting material or in combination with bone grafts to limit dimensional changes post extraction.

Methods: Randomized clinical studies describing the use of PRF for the management of extraction sockets which has been published in English between 2013 and 2017 were reviewed.

Conclusion: In summary, there is benefit to utilize PRF for the preservation of the alveolar ridge, although the indications for when to use the material alone versus when to perform in combination with a bone grafting material should be investigated. It must be noted that despite its use, changes in the extraction socket are still observed irrespective of the material used. Furthermore a cost/benefit analysis favour PRF's use versus more commonly utilized bone grafts and/or barrier membranes. Moreover PRF has anti-bacterial effect due to its leukocyte content, reduces postoperative surgical extraction pain, and infection.

Keywords: Platelet-rich fibrin, tooth extraction, tooth socket, bone regeneration.

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The 18th Symposium of Iranian Academy of Periodontology

17-19 October 2018, Tabriz, Iran

ABSTRACT 43

A Review of Peri-implantitis: Etiology and Management

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ABSTRACT

Background: There are several reasons for the failure of dental implants that peri-implantitis is one of the most important of them. This lesion is a severe pathologic inflammation peri-implant, leading to progressive bone loss along with soft tissue inflammatory condition.

Aim: The purpose of this paper is to summarize the peri-implantitis etiology and management

Methods: This study reviewed articles about peri-implantitis in PubMed.

Results: The results of this overview shows that various factors can cause peri-implantitis including smoking, bone loss, the implant and its surface, surgical technique, plaque accumulation around the implant (poor oral hygiene), Implant reconstruction methods (aspects of prosthodontic), systemic disease such as diabetes mellitus, history of periodontal disease and disease severity, titanium penetration in the gingival fluid around the implant in the first months after prosthesis placement, etc.

Conclusion: Occurrence of peri-implantitis can be prevented by clinician and patient. The treatment plan and materials used must be appropriate to the systemic and anatomical conditions. The patient is also required to observe high oral hygiene and leave his/her harmful habits. It seems, treatment is generally based on the severity of lesion is divided into surgical procedures (removal of implants and bone graft) and non-surgical procedures (laser, administration of topical /and systemic antibiotics, antimicrobial mouthwash, etc.).

Keywords: Dental implant, risk factors, peri-implantitis.



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ABSTRACT 44

Effect of Mucoadhesive *Nigella sativa* on Treatment of Chronic Periodontitis

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ABSTRACT

Background: The goal of this study was to compare the clinical effectiveness of mucoadhesive *Nigella sativa* extract with mucoadhesive thymoquinone as an adjunct topical treatment accompanied by scaling and root planning; as well as comparing them with the outcomes from scaling and root planning alone in treating chronic periodontitis.

Methods: This study was a randomized-triple blinded clinical trial and was conducted on 20 patients suffering from chronic periodontitis. Immediately after the scaling and root planning for all regions, first sextant was applied with placebo, second one was applied with mucoadhesive *Nigella sativa* extract gel, third mucoadhesive thymoquinone gel and last one has no adjunct treatment. Investigated indexes including gingival index, bleeding index, plaque index, pocket depth, and clinical attachment loss were assessed before and in one week, two weeks, one month and three months after treatment.

Results: The findings from this study supported the effectiveness of both mucoadhesive *Nigella sativa* and mucoadhesive thymoquinone, in company with scaling and root planning, in improving gingival index, bleeding index, plaque index, pocket depth, and clinical attachment loss in all of the time periods under investigation; bleeding index and plaque index has not significant different in long term in none of the groups. In the end of the study *Nigella sativa* (NS) group with 1.7 degree reduction in gingival index and it was fewest measure ($P < 0.004$) but it has not significant different in compare with thymoquinone group (TQ) with 1.3 degree reduction. About pocket depth NS with 2.25 mm reduction has fewest measure ($P < 0.001$) but it has not significant different in compare with thymoquinone group with 1.45mm reduction. About clinical attachment loss NS with 1.38 mm reduction has fewest measure ($P < 0.001$) but it has not significant different in compare with thymoquinone group with 0.87mm reduction. Moreover, findings of this study indicated that time can affect the effectiveness of each of the variants of this study.

Conclusion: The findings from this study indicated that the use of adjunct treatment to mechanical debridement is more effective in treatment of chronic periodontitis compared to mechanical treatment alone; furthermore, mucoadhesive *Nigella sativa* and mucoadhesive thymoquinone have not significant different in long-term and the main treatment effect of *Nigella sativa* is because of its thymoquinone probably.

Keywords: Chronic periodontitis, mucoadhesive, *Nigella sativa*, Thymoquinone.

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ABSTRACT 45

Long-term Maintenance of Dental Implants: A Comprehensive Review on Available Methods

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ABSTRACT

Background: Although dental implants are proven to be a predictable long term treatment for patients, it is important to realize that not all implants that survive are necessarily successful. Dental implants require lifelong maintenance and care. Success is defined by biologic factors (absence of inflamed soft tissue surrounding dental implants and radiographic changes in the crestal bone levels) and mechanical factors (stability of the implant fixture and implant supported restoration, etc). Most implant failures are initiated by incipient stages of inflammatory processes which lead to peri-implant mucositis and peri-implantitis. Long-term post insertion care for dental implants requires meticulous oral hygiene practice, careful peri-implant examination, thoughtful analysis of risk factors and periodic removal of microbial deposits from the implants. There are 2 methods for long term peri-implant caring, home care and office care methods. This presentation includes necessary evidence-based information about the mentioned oral hygiene techniques.

Methods: All English articles from June 2013 to November 2017 from PubMed and Google Scholar databases were included. We have searched the following keywords: maintenance, dental implants, office care, home care.

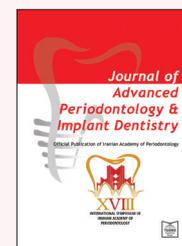
Results: We found near 150 articles which were relevant to our presentation and we chose near 45 of the them (clinical trial, case series) and reviewed them.

Conclusion: There are several techniques for implant-maintenance that can divide into 2 sub-groups: home care (toothbrushing, dental floss, mouthwash, water pik, interdental cleaning devices, etc) and office care (titanium brush, laser, ultrasonic, mouth washes, antibiotics, etc).



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ABSTRACT 46

Periodontal Ligament Widening

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ABSTRACT

Periodontal ligament (PDL) is a soft connective tissue between the alveolar socket and the roots. Radiographically, the distance ranges from 0.15 mm to 0.21 mm is the normal with for PDL. The most important change is widening of PDL but in some cases such as fibrous dysplasia and with age and initially tooth movement, the space may appear to be narrow. Widening of PDL may be related to abnormalities. Detection of regular or irregular shape of PDL and presence of lamina dura is important. The conditions make widening of PDL including history of para-functions, occlusal trauma, tooth movement, malignancies, locally aggressive lesions and etc. Widening from orthodontic movement shows intact lamina dura. In contrast malignancies and aggressive lesions can grow to space, resulting lamina dura destruction. The generalized condition is observed with periodontitis, para-functions, progressive systemic sclerosis and orthodontic treatment. Irregular form is found in inflammatory lesions and malignancies.

Traumatic occlusion is defined as an excessive pressure on tooth. PDL widening, thickening of the lamina dura, increased number and size of trabeculae and bone loss are radiographic features. Continuous force causes tooth movement that is marked initially by PDL narrowing. In the secondary period of tooth movement, the PDL is considerably widened. Hypercementosis and root fracture may be found.

PDL widening at the apex or inter-radicular area is an important evidence for periodontal disease.

PDL widening was the first radiographic finding in the most cases of pulpoperpical lesions may followed by discontinuity of the lamina dura and hyperostosis.

Early osteosarcoma and chondrosarcoma may show a symmetrically PDL widened of teeth, without other radiographic findings. Widening of the PDL could be observed asymmetrically.

Half of patients under orofacial radiotherapy show PDL widening as an early radiographic change and detection may be last few years after radiation.

Inflammation, traumatic occlusion and other causes of PDL widening are more common than malignancies. Though PDL widening is not a pathognomonic sign for malignancies, attention should be paid to this identifiable finding in images for early diagnosis.

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ABSTRACT 47

Comparison of Interleukin 10 Levels in Gingival Lavage in Patients with Peri-implants Mucositis and Peri-implants with Healthy People

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ABSTRACT

Background: Nowadays because of progress of implantology science, osteointegrated implants have considerable endurance, but like other treatment method, accession of unwanted complications and consequents is inseparable part of treatment. Among these complication ,infection peri-implant has more significance and sensitivity. Peri-implant disease is an inflammatory disease which originating of micro-organisms. Considering inflammation amount and interaction of tissues around implant, peri-implant diseases are divided into peri-implant mucositis and peri-implantitis. Today role of many inflammatory mediators in innate and acquired immune system in periodontal diseases has been indicated, but studies on other mediators are continued. Interleukin 10 (IL-10) is a pre-inflammatory cytokine which has an important role in inhibit activation of macrophages and regulated the hemostatic immune reactions.

Purpose: Aim of this study was to determine and compare the level of IL-10 in patients with mucositis and peri-implantitis and individuals with healthy implants.

Methods: Among patients of 35-65 years with implant which passes at least one year after loading, 17 patients with mucositis, 17 patients with peri-implantitis, and persons with healthy implants were selected. After clinical examination, GCF sampling was carried out by paper cons number 25, for 4 minutes and IL-10 level in samples was measured by ELISA reader in laboratory.

Results: The analyzes indicate that the mean of IL-10 levels is significantly different between the three groups ($P < 0.001$) was significantly higher in the mucositis group than in healthy subjects and in the case group with peri-implantitis significantly more than in the group with mucositis ($P < 0.001$).

Conclusion: The results of this study indicate that IL-10 concentrations in the surrounding diseases of the implant have increased and the highest concentration of this interleukin is seen in peri-implantitis and is more common in mucositis around the implant than in healthy implants.

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ABSTRACT 48

Postoperative Maxillary Cyst and Diagnostic Images

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ABSTRACT

Sinus augmentation is performed in patients with severe atrophy of the maxillary alveolar for preparing suitable bone height for implant. Some complications are documented on occasion. However, reports of postoperative maxillary cyst (POMC) arising after sinus augmentation are rare. Another cause of POMC is endonasal surgery. The patients being at risk of infraorbital nerve injury even during endoscopic procedures. Most of POMCs resulted from operations for sinusitis, particularly the Caldwell-Luc approach. Other POMC cases have been reported a variety of causes such as gunshot injuries, mid-facial fractures, infection and orthognathic surgery. POMC is considered to be a delayed complication that occurs decades after surgical intervention in the maxillary sinus. Chief complaints are pain, swelling, or discomfort in the maxillary region.

In the images it is found as a well-defined unilocular or multilocular cyst in post-operative maxillary sinus with causes bony expansion or perforation but the most of the POMC show unilocular cystic lesion.

It shows discontinuity of the inferior wall of the maxillary sinus on the panoramic images and thinning, loss, or expansion of the lateral wall of the sinus on panoramic and Waters' radiographs. A previous surgical intervention is essential for diagnosis.

POMC are evaluated by conventional, CT and MR images. Panoramic and Waters' views are used for evaluation of maxillary sinus disease. However, each view has its own limitations. CT is the main imaging modality for bony evaluation; therefore, CT has become a necessary method for complete evaluation of POMC. The border and extension of cysts is better seen on MR images owing to the superior ability of MRI to distinguish tissues and substances and to the absence of artifacts from dental restorations that occur on CT images. However, bony changes cannot be distinguished on MR images owing to poor visualization of bony structures of the sinonasal area. Treatment includes enucleation or marsupialization.

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ABSTRACT 49

Does Timing of Implant Placement Affect Esthetic Results in Single Tooth Implants?

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Poster Presentations

ABSTRACT

Objectives: Timing of implant placement is a challenging issue regarding esthetic outcome in the dental community. Late implantation was dominated in implant dentistry. Later, early and immediate implant placements were considered but some serious esthetic complications were reported along. This study sought to assess the maxillary single-tooth implants in the esthetic zone using the modified pink esthetic score (mPES).

Methods: This cohort study was conducted on 146 implants (54 immediate, 43 early, 49 late implantation), who received maxillary single-tooth implants in the anterior region (44 central, 43 lateral, 16 canine, 43 first premolar) during the past five years. Patients were clinically examined and their mPES as well as patient- and implant-related parameters were determined. The correlation of different parameters (amount of keratinized gingiva, presence of defect and GBR, tissue type, implant diameter, plaque index and VAS) with mPES was assessed by simple and multiple regression analyses.

Results: the most clinically excellent results were noted in late implantation (late 49.0%, early 25.6%, immediate 24.1%); nevertheless the fewest clinically unacceptable results were observed in early implantation (late 16.3%, early 4.7%, immediate 14.8%). Mean keratinized tissue in patients with clinically excellent results (5.18 ± 1.35) were significantly more than clinically acceptable results (4.43 ± 1.17) and It was significantly more than clinically unacceptable results (4.00 ± 1.46). Cases with bone defect at the site of implant which conducted GBR have fewer clinically excellent (21.2% against 39.8%) and more clinically unacceptable results (19.2% against 8.6%).

Conclusion: Within the limitations of this study, it may be concluded that late implant placement is applicable, reliable and esthetically acceptable for both patients and clinicians. Early implant placement remains the safest method to prevent unaesthetic appearance. Widths of keratinized gingiva (more than 3mm) could play a significant role on implant esthetic results.

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ABSTRACT 50

Local Risk Factors With the Surgical Placement of Immediate Dental Implants in Esthetic Zone

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ABSTRACT

The initial report in the literature regarding the placement of an implant immediately following tooth extraction was published by Schulte in 1976.

The placement of immediate dental implants can provide a similar success/survival outcome as that of early and delayed placement protocols, as long as attention is given to several critical guidelines. These guidelines can be considered as indications and contraindications for immediate placement and are represented by a number of clinical and anatomic challenges with which the patient may present.

In concerning risk assessment, a number of local factors involving dental and anatomic issues must be assessed before surgical placement of immediate dental implants. Failure of the dentist to thoroughly address these localized issues may result in an outcome that is deemed unsatisfactory with regards to esthetics or function and may prevent the implant from achieving osseointegration. Quite often, both the dentist and the patient become too focused on replacing a failing tooth with an immediate implant to accelerate the treatment process, only to arrive at the endpoint with an unforeseen complication that could have been avoided with a better understanding of the treatment complexities. This lecture will focus on the local risk factors commonly encountered with the surgical placement of immediate dental implants.

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ABSTRACT 51

Stress and Strain Distribution Patterns in Bone Around Splinted Standard and Short Implants Placed at the Crestal Level and Subcrestally Using 3-Dimensional Finite Element Analysis

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Poster Presentations

ABSTRACT

Aims: Short implants can be used as alternatives to standard implants to prevent invasive surgical procedures. However, due to existing concerns regarding complications caused by less bone-implant contact area, researchers have focused on biomechanical properties of short implants and methods to promote them. Splinting has been suggested to decrease the limitation of short implants. This study aimed to compare the pattern of stress and strain distribution in bone supporting splinted standard and short implants positioned at crestal and sub crestal levels.

Methods: An edentulous posterior mandible was using computer-aided design. Five models of different combinations of splinted short (4x6 mm) and standard (4x10 mm) implants placed at the level of crestal bone or subcrestally mesial and distal to the edentulous region with a pontic in-between them were designed by CATIA software program. ANSYS software was used for finite element analysis (FEA). In each model, 100N and 300N loads at zero (parallel to the long axis of implants) and 30° angles were applied to implants. Maximum stress and strain, for each of the 5 models, equivalent stress, shear stress and strain in periimplant cortical and cancellous bone were calculated and stress distribution pattern in different models were recorded.

Results: The highest stress was caused by 300N load applied at 30° angle followed by 300N load applied axially and 100N load applied at 30°. This order changed in model 1 where the highest stress was noted under 300N load at 30° followed by 100N load at 30°. Maximum stress in peri-implant bone occurred under oblique (30°) load. Maximum stress was noted when two splinted short implants were placed subcrestally. Also, stress in bone around crestal-level splinted short implants was lower than that around standard implants. Combination of short and standard implants had no biomechanical advantage.

Conclusion: Application of load parallel to the long axis can significantly decrease stress in peri-implant bone. Although Combination of short and standard implants has no biomechanical advantage, Crestal-level placement of splinted short implants is a suitable treatment plan.

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ABSTRACT 52

Immediate Implant Placement in Esthetic Zone

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ABSTRACT

The placement of implants into extraction socket was introduced in the late 1970s. This approach has been reviewed extensively during the late decades, and seems promising. Several recent papers have presented clear clinical guidelines for patient selection and/or for an optimal outcome. The majority of studies reported survival rates above 95%. There are some studies, however, reported detailed results about the esthetic outcomes. Recession of the facial mucosal margin was a common observation in several studies with immediate implants. It should be noted, however, that these studies did not select patients for immediate implant placement with inclusion criteria based on the hard and soft tissue characteristics associated with the extracted teeth. Today we know, immediate implant placement is considered a complex procedure and should only be performed by experienced master clinicians.

For studies of immediate implants, different combinations of surgical protocols (flap vs flapless surgery), grafting (bone and/or connective tissue grafts) and loading protocols (immediate loading vs early/conventional) were identified, which made it hard to draw a clear guideline procedure.

The primary objective of implant therapy in the esthetic zone is an optimal esthetic treatment outcome with high predictability and a low risk of complication. Then result must be viewed from a mid- to long-term perspective.

This review indicating some highlights of this technique and reveal the evidence for questions like:

What are the objective criteria for immediate implant placement?

Flapless or flap procedure, when why, where?

The effect of placing a bone graft in the gap at immediately placed implants. do we need or we do not?

Hard and soft tissue alterations in esthetic post extraction sites and immediate implant placement.

Bone modelling at fresh extraction sockets immediate implant placement and how does the timing of implant placement to extraction affect outcome?

Today what is the long-term result of immediate implant placement in esthetic zone?

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ABSTRACT 53

Use of Laser for Treating Peri-implantitis : A Review

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Poster Presentations

ABSTRACT

Background: Several methods have been introduced for implantitis treatment and some additional methods including antibiotics, antiseptics, and laser were proposed to enhance the results of nonsurgical treatments. Since laser is highly capable to eliminate microorganisms and bactericidal effects and has high detoxification functionality, it is known as one of the best techniques for the treatment of implantitis.

Aim: The aim of this study was to collect articles related to use of laser for the so-called treatment.

Methods: To access the related available articles, an electronic search was performed on several websites, including PubMed, Google Scholar, ScienceDirect, InterScience, and Scopus.

Conclusion: According to the results of collected papers: CO₂, diode, and erbium:yttrium, aluminum, garnet (Er:YAG) lasers could be useful for implant surface radiation. In case of applying low power Nd:YAG laser radiation, it could be used for implant surface detoxification (Inhibition of lipopolysaccharide). The key role of lasers in peri-implant treatment is bactericidal. Based on the clinical observations, Er:YAG lasers were inefficient for nonsurgical peri-implant treatment. According to the results of animal studies, use of laser was successful in surgical treatment, in terms of re-osseointegration. Use of photodynamic therapy is promising in treatment. The appropriate use of laser parameters during radiation on implant surface is important in the efficacy and safety of treatment.

Clinical Significance: The impact of lasers on titanium implants is different from zirconium implants. According to the available evidence, laser is used as an alternative method to the treatment of peri-implant tissues and its poignant antibacterial effect, with no alteration in implant surface, is the most salient feature of laser (in case of appropriate use).

Keywords: Dental implants, laser, peri-implant tissue disease, peri-implant tissue inflammation.

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ABSTRACT 54

Dental Implants in the Esthetic Zone

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ABSTRACT

Nowadays, dental implants are used for the rehabilitation of a single tooth, regional edentulous and complete edentulous. The use of dental implants is increasing from day to day because of its high rate of success, no need to carve the adjacent teeth, preventing the alveolar bone recession, poor function of fixed and removable prosthesis and also increasing the mean age of the elder people. In addition to function, esthetic is an essential factor for dental implants in the esthetic zone. In human mouth, esthetic zone is considered from canine to canine in both the maxilla and mandible; especially in the maxilla. However, based on the smile width, this area may be extended to the first or even second premolars. Also, esthetic demands have increased and patient satisfaction is a key factor in the success of implant therapy, especially in the anterior maxilla; therefore, rehabilitation of anterior teeth is still a challenge for the dentists who are active in this field. Because of the various perceptions of the dentist and patient to evaluate dental implant in the esthetic zone, it is important to compare their evaluations and make clear the differences of their evaluation about the dental, gingival and osseous esthetic risk factors and consider them in the coming treatments. Consequently, dental implant treatments will be more successful.

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ABSTRACT 55

Knowledge and Practice of Dental Implants Among Dental Students

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ABSTRACT

High survival rates of dental implants have led to their esthetic use in recent decades. Multiple factors influence the clinical success with dental implants, including systemic patient health (such as diabetes), patient habits (smoking), occlusal loads and type of implant (cement retained restoration [CRR] or screw retained restoration [SRR]). The selection of implant type is a critical choice and is influenced by factors like mechanical complication, esthetic outcomes, maintenance and financial implications.

Therefore, it is necessary to train dental students adequately as the future dentists; so they can have enough knowledge about the mentioned factors and required potency for dental implant treatments. Accordingly, the dental students' point of view about the instructions given to them should be measured and necessary changes should be done to their educational program. Thereupon, the problems of the use of dental implants, especially in the esthetic zone, will decrease and high satisfaction rate will be obtained.



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ABSTRACT 56

The Effect of Type 2 Diabetes on the Dental Implant Prognosis: A Review

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ABSTRACT

Objectives: Assessing the dental implants prognosis and peri-implant changes in patients with type 2 diabetes in comparison with non-diabetic individuals.

Methods: We searched in the PubMed database for original articles relevant to dental implants prognosis in diabetic patients published from 2000 to 2018. In vitro Articles were excluded.

Results: According to this present review there are no significant differences between long-term survival rate of moderately controlled diabetic (HbA1C \leq 8%) and non-diabetic patients. As well as, total survival for non-diabetic patients was 93.2% (6.8% failures) which was almost similar with diabetic group, 92.2% (7.8% failures). In other hand, when immediate insertion was used, the number of implant failures, increased in diabetic patients; furthermore, a study showed the female sex and smoking are risk factors that can threaten implant survival. Also results shows that, long-term peri-implant bone loss in diabetic patients is comparable with non-diabetics. Unlikely, if glycemic control of patient is poor, the rate of marginal bone loss (MBL) and pocket depth (PD) around implant will be higher. Delayed insertion of posterior teeth implants had the least marginal bone loss. In A Parallel Group Randomized Clinical Trial study bone loss was compared in two following groups of controlled type 2 diabetic who had conventional full thickness flap and flapless surgery; the results revealed no statistically different crestal bone loss between two groups after 6 and after 12 months. In 2014 one study revealed that, marginal bone loss increases in relation to elevation in HbA1c levels and greater bleeding on probing was observed in higher HbA1c levels.

Conclusion: Implant therapies for diabetic patients can be predictable, providing these patients fall within controlled ranges of glycaemia over time, assessed by monitoring HbA1c levels.

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The 18th Symposium of Iranian Academy of Periodontology

17-19 October 2018, Tabriz, Iran

ABSTRACT 57

Dental Implants in Osteoporotic Patients: A Review

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Poster Presentations

ABSTRACT

Aim: To evaluate the amount of osseointegration and survival rate of dental implants placed on osteoporotic patients

Methods and Materials: This search was performed in PubMed, Google Scholar, Cochrane database including keywords "Osteoporosis AND Dental implants AND Osseointegration," which 56 articles were selected and animal and invitro studies were excluded and 11 articles were remained.

Results: Primarily, in osteoporotic patients, failures were due to loss of osseointegration. Posterior maxilla and mandibular regions are the frequent places which undergo implant breakdown. Therefore arch location can result in implant failure. Bisphosphonate treatments used in these patients didn't have a negative influence on implant success but further investigations are needed to assess the definitive result. In addition studies showed that bone to implant contact (osseointegration) determines similar outcomes in osteoporotic and non-osteoporotic subjects and osseointegrated implants were surrounded with healthy bone tissue.

Conclusion: Osteoporosis is not a contraindication for dental implant therapy. Also, arch location and bisphosphonate could be considered as factors for implant survival in osteoporotic patients.

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ABSTRACT 58

Complications in Sinus Lift. How to Categorize? How to Manage?

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ABSTRACT

Background: Sinus lift is an effective procedure to gain bone height for implant placement in an atrophic posterior maxilla. Sinus diseases are prevalent in patients scheduled for sinus lift procedures and their presence increase the difficulties and the risk of postoperative complications. Complications could be divided into intraoperative and postoperative events.

Objectives: The aim of this comprehensive literature review was to examine the categorization of different complications of sinus lift and discuss methods to manage them.

Methods: The search was done in electronic databases, including PubMed, Scopus, and Google Scholar, using the keywords "sinus lift", "sinus lift complications", "bone augmentation" and "sinus diseases" or combinations from 2000 to 2018.

Results: Most important complications include sinus membrane perforation, massive hemorrhage, sinus infection and migration of the implant. These complications could be managed for instance; small perforations could be repaired by collagen membrane or sutures and some other materials. For >10 mm perforations the surgery should be terminated

Conclusion: Complications in sinus lift are very important because of their effect on the survival rate of implants and should be managed carefully.

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ABSTRACT 59

Bruxism and Dental Implants Survival Rate: A Review of Literature

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Poster Presentations

ABSTRACT

Aim: This study aimed to assess the relationship between bruxism and dental implant failure and factors decreasing the rate of the bruxism for dental implant survival.

Methods: A MEDLINE (PubMed) database search from 2000 to 2016 was conducted. The search strategy was a combination of MeSH terms, all fields and the key words: dental implant and bruxism. Randomized controlled trials, case-control, review and meta-analysis studies were included and cohort and case report studies were excluded.

Results: From 16 selected articles, 7 studies showed bruxism as a risk factor that contributes to dental implant failure. By contrast, 1 study stated that bruxism is not a risk factor for dental implant failure. On the other hand, 6 studies concluded that further studies are needed to evaluate the roll of bruxism in dental implant failure. Also some studies found out that there are some methods like the use of nightguard, rigid occlusal stabilization and Botulinum Toxin Type A to reduce bruxism rate that improves implant survival. However ,other solutions can be found.

Conclusion: There are controversies between the results of different studies. But totally we can suppose that bruxism is a factor that affects dental implant survival and some precautions must be taken.



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ABSTRACT 60

Regenerative Potential of Leucocyte- and Platelet-Rich Fibrin

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ABSTRACT

Aim: The objective of this study was to show the potential of leucocyte- and platelet-rich fibrin (L-PRF) on bone regeneration procedures and osseointegration.

Methods: An electronic and hand search were conducted in 3 databases (MEDLINE, EMBASE and Cochrane). Only randomized clinical trials were selected and no follow-up limitation was applied.

Results: A total of 14 articles were included and processed. Three subgroups were created depending on the application: sinus floor elevation (SFE), alveolar ridge preservation and implant therapy. In SFE, for a lateral window as well as for the trans-alveolar technique, histologically faster bone healing was reported when L-PRF was added to most common xenografts. L-PRF alone improved the preservation of the alveolar width, resulting in less buccal bone resorption compared to natural healing. In implant therapy, better implant stability over time and less marginal bone loss were observed when L-PRF was applied. Meta-analyses could not be performed due to the heterogeneity of the data.

Conclusions: L-PRF enhances periodontal wound healing and might have a positive effect on bone regeneration and osseointegration.

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The 18th Symposium of Iranian Academy of Periodontology

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ABSTRACT 61

Emerging Regenerative Approaches for Periodontal Reconstruction

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ABSTRACT

Periodontitis is defined as a chronic inflammatory condition, characterized by destruction of the periodontium. In severe cases, reduced periodontal support can lead to tooth loss, which requires tissue augmentation or procedures that initiate a repair, yet ideally a regenerative response. However, mimicking the three dimensional complexity and functional integration of the different tissue components via scaffold- and/or matrix-based guided tissue engineering represents a great challenge.

A comprehensive search of the electronic bibliographic database PubMed was conducted to identify different emerging therapeutic approaches reported to influence either biologic pathways and/or tissues involved in periodontal regeneration.

However, it is believed that the contemporary approaches described in this review collectively represent the current efforts that have reported preclinical or clinical methods to successfully enhance regeneration of the periodontium. Today's challenges facing periodontal regenerative therapy continue to stimulate important research and clinical development, which, in turn, shapes the current concept of periodontal tissue engineering. Emerging technologies—such as stem cell therapy, bone anabolic agents, genetic approaches, and nanomaterials—offer unique opportunities to enhance the predictability of current regenerative surgical approaches and inspire development of novel treatment strategies. To conclude, future directions regarding advanced biomaterials and additive biomanufacturing technologies for applications in regenerative periodontology are highlighted.



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ABSTRACT 62

Esthetic Failure in Implant Dentistry

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ABSTRACT

Osseointegrated endosseous dental implants are appreciated for their innocuous and predictable rehabilitation in replacing dentition of patients with complete or partial edentulous as well as those with a single missing tooth. It has generally been shown that more than 90% of multiple-implant designs are survived. However, the success rate of such implants depends on many factors which have changed over time. The criteria for implant success established in 1979 permitted 1 mm or less of mobility with some radiographic radiolucency and bone loss, while at the present it neglects any mobility, radiographic radiolucency, and minimal bone loss. However, patient and clinicians' needs and an increased certainty of osseointegration have created new parameters to be currently used to assess implant success. These parameters may include peri-implant soft-tissue level, prosthesis level, and patient's subjective assessments which must be considered by dentists in evaluating the success or failure of implant dentistry. The focus is shifting from implant survival to the creation of lifelike implant restorations with natural-looking peri-implant soft tissues. Patients today seek esthetics and therefore not only imply an improved function is needed but a normal appearance is also expected.

This abstract aims to describe the importance role of esthetics in any implant placement and demonstrates the failures and preventive methods. It is crucial for implants to be placed in the anterior maxilla. An anterior single implant-supported crown restoration should possess a high quality esthetic characteristic to be well matched with the adjacent natural teeth at an immediate comparison in particular in the esthetic zone which is revealing on smiling. Based on objective indices, the esthetic failures in implant dentistry may be classified into pink-tissue and white-tissue failures. The former failures are important in the esthetics which may include facial recession, gingival asymmetry, papillary deficiency, and graying of the gingival tissue.

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ABSTRACT 63

Comparative Evaluation Periodontal Health Around Non-submerged & Submerged Implants

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ABSTRACT

Introduction: The quality of the soft tissues is one of key factors for the success of the implantation. Beauty can be strongly influenced by the tissue surrounding the implant.

Methods: This cross-sectional study was performed on 40 patients who need single anterior dental implants in the maxilla and mandible with contra lateral tooth 20 patients the implantation was done with submerged method and in other 20 patients the non-submerged method had used. Then biologic width interdental papilla index mucosal thickness surrounding implants and teeth were indicated.

Results: In this study the average of biologic width in non-submerged implants group was 1.6 ± 0.5 mm and the average of biologic width in contra lateral natural teeth in the patients of this group was 1.8 ± 0.4 mm. But in other group the average of biologic width in submerged implant was 1.7 ± 0.4 mm and the average of the biologic width in contralateral natural teeth in the patients of this group was 1.9 ± 0.53 mm. The average of mucosa thickness in non-submerged implants group was 2.2 ± 0.4 mm and this average in teeth in this group was 2.3 ± 0.3 mm. But in other group the average of mucosa thickness was 2.0 ± 0.4 mm and this average in teeth in this group was 2.2 ± 0.4 mm.

Conclusion: In comparison of mucosa thickness and papilla index in submerged implants group with teeth of this group a significant statistical different have been seen and also. Papilla index in non-submerged implants in comparison to natural teeth slightly significant statistical difference have been seen. Other comparison analysis in other indexes did not have significant statistical difference in this study.

Keywords: Non-submerged implants, Submerged implants, Biologic width, Papilla

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ABSTRACT 64

Evaluation the Effect of Adjuvant Therapy With Ciprofloxacin in Non-surgical Treatment of Periodontal Diseases

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ABSTRACT

Background: Periodontitis disease is one of the chronic microbial infection among adults which has been known as an inflammatory disease with bacterial source. This disease has effect on dental protecting tissue. Ciprofloxacin is an antibacterial drug which can be used as a systemic drug in periodontic treatment. Current study has been done with the purpose of evaluation the effect of ciprofloxacin antibiotic as a systemic drug associated with scaling and root planting (SPR) in chronic periodontitis treatment of patients.

Methods: This double blind clinical trial study has been tested on 80 in patients with chronic periodontitis having study standards in both control and case groups. First the satisfaction forms have been filled by patients and GBI, PPD and CAL parameters have been measured and recorded in related informative forms. Scaling and root planting (SPR) have been done in all patients completely and health education has been equally given to all patients and they have been asked to avoid any kind of antibacterial mouthwash during study process. Patients and prescribing person had no information about type of drug. The parameters have been recorded in first month before treatment and in second and fourth month after treatment.

Results: All groups were included of 55% of women and 45% of men. The average age in Ciprofloxacin group was 44.47 and 47.3 in control group. In both groups, all patients had dental bleeding before treatment. Immediately after (SPR) process all patients have been randomly divided to two equal test and control groups by Block randomization method. Ciprofloxacin antibiotic 500 mL has been prescribed twice a day for 7 days for test group and placebo capsule has been prescribed with the same dosage and time sequence for the other group. In test group of ciprofloxacin in second and fourth month, the number of patients with dental bleeding obviously decreased comparing with control group. In both test and control groups the amount of GBI, PD and CAL has been decreased during first until third months also the amount of recovery in GBI, PD and CAL parameters was better in test group comparing with control group during time while there was no difference between men and women about the amount of PD and CAL in all studied groups.

Conclusion: The usage of ciprofloxacin associated with scaling and root planting is effective in treating patients with chronic periodontitis.

Keywords: Periodontitis, nonsurgical treatment, Ciprofloxacin.

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ABSTRACT 65

Autologous Dental Pulp Stem Cells in Regenerating Periodontal Tissue

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Poster Presentations

ABSTRACT

Background: Periodontal ligament tissue is demonstrated as a specialized connective tissue. the focus of periodontal therapy has been concentrated on controlling periodontal infection and preservation of healthy dentition long-life. Due to major tooth loss, although, dentists have failed to restore the whole damaged tissues, conventional periodontal treatment is failed to restore true periodontal structures. in last years, tissue engineering has been considered for regenerative therapy. Dental pulp stem cells have regenerative potential, colonogenic cells. These cells could be banked up for years, are easily accessible and ex vivo expendable. So, the aim of this study is characterizing Dental Pulp Stem Cells (DPSCs) as a novel source for future applications in the clinic.

Methods: Published articles were accomplished by PubMed, Google Scholar, Wiley, Springer, ScienceDirect, and Elsevier from 2004 to July 2018. Entirely, 48 articles were found and reviewed.

Results: Dental stem cells are interested because of easily accessible and noninvasively collecting with low morbidity. DPSCs are colonogenic cells that produce odontoblastic cells in vivo and osteoblastic and chondrocyte cells in vitro. Also, they are capable differentiate neural and endothelial cell lineages. Studies investigated that DPSCs also can form well-vascularized lamellar bone after grafting. Compared to BM-MSCs, even though to autologous DPSCs, their significant immunomodulatory features, low immunogenicity and immunosuppressive effects on T and B cells, make the allogeneic DPSCs as an appropriate fortune for periodontal tissue regeneration.

Conclusions: Dynamicity of periodontal diseases risk, scarce efficient methods, lack of immune resistance to periodontal tissue pathogens or oral cavity, enhance clinical researchers to collaborate with specialists and open the knowledge boundaries to optimistic studies on DPSCs as a novel, reliable and attractive cell source for periodontal regeneration and periodontium reconstruction with superior efficacy and predictability.

Keywords: DPSCs, regenerative, tissue engineering, periodontium.

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ABSTRACT 66

Effect of Dental Implant Nanotopography on Osseointegration

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ABSTRACT

Osseointegration is the consequence of a cascade of molecular and cellular events that leads to the apposition of newly-formed bone directly onto the implant surface. Systemic and environmental conditions that affect bone metabolism seem to impair osseointegration, delaying bone healing and reducing the bone-implant contact. The behavior of cells of osteogenic lineage is affected by microtopography and nanotopography of an implant surface. Features of titanium and implant surface are an important topic of biomedical research, and great efforts are being made to obtain products that are even more biocompatible and osteoinductive/osteoconductive, and less susceptible to bacterial infection. Surface features play an additional role in the preservation of the cellular tissue equilibrium, maintenance of osseointegration, and re-establishment of lost osseointegration. Data on the cellular-substrate interaction, as well as in vivo studies assessing the response to these novel surfaces, are reviewed in the present study

The application of modern surfaces in dental clinical practice should be encouraged so as to increase and accelerate implant osseointegration, but also to reduce the occurrence of peri-implant bone loss and to favor the re-osseointegration of affected surfaces.

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ABSTRACT 67

Investigation of Improving Implant Treatment Outcomes in Ridge Preservation Following Tooth Extraction

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ABSTRACT

Background: Our primary aim was investigation of efficacy of alveolar ridge preservation (ARP) on implant procedure results such as placement feasibility, need for further augmentation, survival and success rate and marginal bone loss, and comparison of these outcomes with unassisted socket healing (USH). Study's secondary aim was estimation of the size effects of these outcomes in three different procedures (GBR, socket filler, socket seal).

Methods: Electronic (MEDLINE, EMBASE, Cochrane Central Register LILACS; Web of Science) and hand search was conducted up to July 2014. Randomized controlled trials (RCT), Controlled clinical trials (CCT) and prospective cohort studies with USH as controls were eligible in the analysis for first aim. RCTs, CCTs and prospective case series, with or without USH as control, were eligible for second aim.

Results: Ten (8 RCTs, 2 CCTs) and 30 studies (21 RCTs, 7 CCTs, 2 case series) were included in the analysis for first and second aim, respectively. The risk for bias was unclear or high in most of them. First aim: Implant placement was feasible in ARP-treated and USH sites. These implants presented similar survival/success rates and marginal bone levels. The need for further augmentation decreased when ARP was performed (Relative risk: 0.15, 95% CI: 0.07–0.3). Second aim: The size effects for implant placement feasibility was 98.5% (95% CI: 96.4–99.6) in GBR and 96.2 (95% CI: 93.1–98.2) in socket filler group. The size effects for need for further augmentation was 11.9 (95% CI: 5.6–19.9) for GBR and 13.7% (95% CI: 5.0–25.6) for socket filler groups. GBR and socket filler presented similar size effects for survival/success rates and average marginal bone loss.



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ABSTRACT 68

Analogy the Methods of Oral Hygiene, Over Hanged Removal and Restoration – Changing on Periodontal Health

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ABSTRACT

Objective: Conservative restoration principles that accurately reduce plaque accumulation are the goal of restorative dentistry. Correct and perfect restoration has an important effect on health of periodontious tissues. This study was done to compare the methods of oral hygiene, over hanged removal and restoration changing on periodontal health and alveolar bone height of rest orated mandible molars with proximal over hanged amalgam.

Methods: All patients with over hanged amalgam restoration were randomly divided into three groups. In order to survey the effect of over hanged removal on gingival and bleeding indices and alveolar bone height adjacent to mandible molar teeth, these indices were determined according to re-current radiographical early signs of alveolar bone loss during three months. Sixty patients, 20 in each group, were studied. In the group I over hanged were removed with ultrasonic scale or bur and oral hygiene methods as usual were continued. In the group II, over hanged were left, but plaque controls as prophylaxis and flossing were done. In the group III, restoration was changed and oral hygiene was done as usual. Plaqueindex and bleeding index were measured in the beginning of study and 3 months later.

Results: Statistical analysis of studied indices in the beginning and three months after treatment using paired-test have shown significant differences in gingival inflammation, in all groups. Statistical analysis of indices using Tukey HSD test have also shown significant difference on decreasing gingival inflammation measure when the over-hanged restoration was removed. While there is no difference between other 2 groups.

Conclusion: The results showed that plaque control causes subside of gingival inflammation and increasing of alveolar bone support, and it is more effective when the over-hanged restoration is changed.

Keywords: Amalgam, over-hanged margins, gingival health, alveolar bone height.

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ABSTRACT 69

A Review on Dental Bio-films: New Research Studies

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Poster Presentations

ABSTRACT

There have been many efforts to improve high effective techniques to remove dental biofilms, of which some recent approaches are highlighted in this review, as elimination of the dental biofilm will notably prohibit the expansion of caries and gum diseases.

In order to the fact that the better dental hygiene the long-term health of dental and gingival conditions it appears so critical to detect and remove dental biofilm with better and more efficient methods as soon as possible. Including these attempts, efforts to produce Modified implant surface, better interdental brushes, enhance Effectiveness of tooth wipes, suggest new creative chemical methods and physical techniques and manufacture newer instrument detecting and reducing biofilm are outstanding.

Regarding this fact, this review article performed to gather recently different variety novel techniques and materials having remarkable dental plaque removal property based on published Information from Pub Med, and some dental databases.

As a result of this study, although some newer technologies significantly have been developed to identify and selectively remove the dental calculus, none of these conventional methods or devices seemed effective in completely eliminating all the calculus from the diseased root surfaces. Finally to have more effective methods further investigations are required.

Keywords: Biofilms, technology, implant.



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ABSTRACT 70

Lingual Flap Advancement: A Novel Technique for Vertical Ridge Augmentation in Mandible

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ABSTRACT

Vertical ridge augmentation (VRA) procedures are technique sensitive that requires enough knowledge and surgical skill to minimize complication and promote success. Flap management is a crucial part of this procedure to allow for passive flap closure. Limited access and poorer blood supply do this, more complicated in posterior atrophic mandible. Anatomical structures potentially jeopardize intraoperative adverse event such as bleeding or neurosensory disturbances that need more attention. The attachment of the mylohyoid often compromises lingual flap advancement. This technical review summarizes the critical factors to be assessed prior to VRA for posterior mandible and provides a sequenced approach to bone regeneration.

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ABSTRACT 71

Common Surgical Complications in Dental Implant

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Poster Presentations

ABSTRACT

Background: The use of dental implants has increased over the past decade. The ever increasing application of implant treatment modalities has confronted us to increasing cases of failure and complications. This calls for evidence-based preventive efforts or managements.

Methods: The most relevant literature published up to 2017 in the field of Implant related surgical complications has been reviewed using combinations of following keywords: dental implant, failure, implant surgery, surgical complication. The presented article focuses on the results obtained from this review.

Results and Conclusion: Implant surgical complications have been attributed to many factors; the factors could be categorized into pre-operative, intra-operative, and post-operative conditions. The treatment plan, patients' anatomical characteristics, surgical procedure, and bone density are among these factors. Management of these complications requires conscious diagnosis, and enough knowledge on their prevention and treatment plans. This literature review addresses various implant complications, their prevention, and suggested treatment.



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ABSTRACT 72

Nonsurgical Approach for Interdental/Interimplant Papilla Reconstruction

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Dentistry Student at Tehran University of Medical Sciences

ABSTRACT

Open gingival embrasures, also called “black triangles,” are often the result of attachment loss in the interproximal area, or may be due to surgical trauma or extraction of teeth. Interdental papilla deficiency affects the aesthetics, food impaction and speech. Moreover, the interdental papilla is involved in complex physiological functions acting as a biological shield to protect periodontal tissues.

Obtaining predictable and aesthetically pleasing interdental/interimplant papilla is challenging in dental reconstruction.

In this research we discussed two nonsurgical techniques for reconstruction of interdental/interimplant papilla. Injectable hyaluronic acid (HY) gel has been studied as a promising treatment for enhancing papillary esthetics. Patients expressed satisfaction with the obtained improvement and dissatisfaction with the associated procedure discomfort and complained swelling, tenderness and burning sensation on the lip next to the injection area. The symptoms lasted for up to 7 days. symptoms resolved without any signs of skin or mucosal necrosis or any permanent damage. So the use of a commercially available hyaluronic acid gel for the treatment of esthetic interdental papilla deficiency is somewhat effective.

Also papilla regeneration is possible with temporary abutment and a composite material crown that is properly contoured and polished. The provisional crown is important for maintaining gingival esthetics, preserving the contour and volume of the gingiva, and stabilizing the gingival margin.

This method of temporization in dental implantology could save time and money in chairside dental works. Composite filling material is reliable for crown temporization in dental implants and the papilla can grow and be shaped on the polished surface of the composite.

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ABSTRACT 73

Air Abrasion, a Nonsurgical Approach for Treatment of Peri-implantitis

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Poster Presentations

ABSTRACT

Osseointegrated dental implants have a long-term success rate of over 90%, but may be threatened by peri-implant mucositis and peri-implantitis, bacteria biofilm-induced inflammatory conditions. peri-implantitis is characterized by progressive inflammatory destruction of the crest of the alveolar bone supporting the implant, by increased peri-implant probing depths, and by bleeding and/or suppuration on probing. Nonsurgical therapy of peri-implantitis usually involve mechanical debridement of the implant surface using curettes, ultrasonic devices, air-abrasive devices or lasers, with or without the adjunctive use of local antibiotics or antiseptics. Surgical therapy of peri-implantitis is indicated when nonsurgical therapy fails to control the inflammatory changes. Selection of the surgical technique should be based on the characteristics of the peri-implant lesion

Air powder abrasive treatment is a nonsurgical implant surface cleaning method for peri-implantitis. In vitro cleaning efficiency of this method is reported to be high. The method resulted in minor surface changes on titanium specimens. Although the air powder abrasive-treated specimens showed sufficient levels of cell attachment and cell viability, the cell response decreased compared with sterile discs. The results allow the clinician to consider the method as a promising option for implant surface cleaning in peri-implantitis treatment.

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The 18th Symposium of Iranian Academy of Periodontology

17-19 October 2018, Tabriz, Iran



ABSTRACT 74

Does the Horizontal Distance Influence the Embrasure Fill and Papilla Height of 2 Adjacent Implants?

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ABSTRACT

The aesthetic outcome after placement the implants has become a key issue in the evaluation of the overall treatment success. An important factor is about interproximal papillas, is influenced by a variety of factors. However, previous clinical studies have pointed to a strong relationship between the inter-implant mucosa fill and the horizontal distance between two adjacent implants. The aim of this systematic review was to investigate the level of clinical evidence regarding the inter-implant mucosa fill related to the inter-implant horizontal distance. A comprehensive and systematic search of PubMed database was conducted. Subjects in the included study must have had at least two adjacent osseointegrated dental implants restored with implant-supported crowns, with a minimum of 12 months of follow-up. 4 studies included in the final analysis to be reviewed. General information of the studies were conducted, number of implants and patients, and patient-related factors. Information regarding implant site characteristics, implant type, timing of implant placement, and loading were also extracted. Clinical and radiographic measurements were done. All of the included studies used periapical radiographs to evaluate the horizontal inter-implant distance, but the reference points differed from implant neck in a study to implant-abutment junction in another study. The mean distance measured at the implant neck varied between 3.0 and 3.8 mm. whereas at the height of implant-abutment junction a wider distance ranging between 2.01 to 4.0 mm was indicated. The studies used Jemt's index score for inter-implant mucosa fill evaluation. Jemt's score of 0, pointing to the absence of the inter-implant mucosa. When considering an aesthetically acceptable outcome (Jemt's scores 2 to 3), in 21 to 88.5% of the cases, inter-implant-mucosa filled more than half of the inter-implant space. When interpreting results of inter-implant mucosa fill, time of implant placement (immediate or delayed) and restoring (immediate or conventional) were taken into consideration. A tendency towards incomplete interimplant mucosa fills at a distance of <3 mm was noted in the 3 included studies. Just one of the studies found this trend to be statistically significant. Based on the available evidence, it is not possible to define a precise threshold for the optimal horizontal distance between two adjacent implants.

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ABSTRACT 75

Comparison of Flapless Versus Conventional Flapped Implant Placement: A Literature Review

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Poster Presentations

ABSTRACT

Background: Recent improvements in the field of implant treatments have led to an ever-increasing application of these treatment plans. The placement of implants in the alveolar bone can be accomplished by either flapped or flapless approaches. The aim of this article is to investigate flapless vs. conventional flapped implant placement approaches, indications of each approach and their advantages and disadvantages and to compare the clinical results of these two methods.

Methods: The most relevant literature published up to 2018 in the field of dental implant placement approaches has been reviewed using combinations of following keywords: dental implant, flapless, flapped. Database searches were performed through PubMed and Google scholar.

Results: More than 25 articles were included. Various factors including: implant success and long-term survival rate, marginal bone loss, postoperative side-effects, duration of operation and healing period, inflammatory reaction in the periodontal tissues surrounding the implant, and other factors were assessed to compare the clinical results of these approaches.

Conclusion: Most of studies have demonstrated that dental implant success rate increases by the means of flapless approach. However, different factors including patient-related factors and operator skills can affect the procedure. Further improvements in this technique are expected.

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ABSTRACT 76

Management of Soft Tissues for Dental Implants

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ABSTRACT

Dental implants are usually placed by elevating a soft tissue flap, but in some instances, they can also be placed flapless reducing patient discomfort. Several flap designs and suturing techniques have been proposed. Soft tissues are often manipulated and augmented for aesthetic reasons. It is often recommended that implants are surrounded by a sufficient width of attached/keratinized mucosa to improve their long-term prognosis.

All randomized controlled trials (RCTs) of root-form osseointegrated dental implants, with a follow-up of at least 6 months after function, comparing various techniques to handle soft tissues in relation to dental implants. Outcome measures, according to the different hypotheses, were: prosthetic and implant failures, biological complications, aesthetics evaluated by patients and dentists, postoperative pain, marginal peri-implant bone level changes on periapical radiographs, patient preference, ease of maintenance by patient, soft tissue thickness changes and attached/keratinized mucosa height changes.

There is limited weak evidence suggesting that flapless implant placement is feasible and has been shown to reduce patient postoperative discomfort in adequately selected patients, that augmentation at implant sites with soft tissue grafts is effective in increasing soft tissue thickness improving aesthetics and that one technique to increase the height of keratinized mucosa using autografts or an animal-derived collagen matrix was able to achieve its goal but at the price of a worsened aesthetic outcome (0.5 mm of recession). There is insufficient reliable evidence to provide recommendations on which is the ideal flap design, the best soft tissue augmentation technique, whether techniques to increase the width of keratinized/attached mucosa are beneficial to patients or not, and which are the best incision/suture techniques/materials. Properly designed and conducted RCTs, with at least 6 months of follow-up, are needed to provide reliable answers to these questions.

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ABSTRACT 77

Regeneration Methods in Dental Implant

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ABSTRACT

MSCs can successfully induce significant formation of new bone, with no untoward sequelae. The addition of collagen matrix on top of standard GBR procedure did not increase the soft tissue thickness and dense connective tissue formation at 8 weeks of healing. Bone regeneration was not affected by the addition of collagen matrix. The maxillary sinus augmentation procedure has been well documented, and the long-term clinical success/survival (>5 years) of implants placed, regardless of graft material(s) used, compares favorably to implants placed conventionally, with no grafting procedure, as reported in other systematic reviews. Alveolar ridge augmentation techniques do not have detailed documentation or long-term follow-up studies, with the exception of GBR. However, studies that met the inclusion criteria seemed to be comparable and yielded favorable results in supporting dental implants. The alveolar ridge augmentation procedures may be more technique and operator-experience-sensitive, and implant survival may be a function of residual bone supporting the dental implant rather than grafted bone. More in-depth, long-term, multicenter studies are required to provide further insight into augmentation procedures to support dental implant survival. The presence of hard tissue dehiscence and thin periodontal biotype in the esthetic area is a challenge that can jeopardize function and aesthetic outcome of implants.



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ABSTRACT 78

Dental Implants—To Graft or Not?

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ABSTRACT

Objectives: Autogenous bone grafts in oral implantology—is it still a “gold standard”?

Methods: Data collection has been done by searching phrases “graft dental implant” and “autologous bone augmentation dental implant” in PubMed .

Results & Conclusion: The method of bone grafting with intraoral bone blocks harvested from the retromolar region is an effective and safe method to treat localized defects of the anterior and posterior maxilla and mandible prior to rehabilitation with dental implants and can lead to long-term success.

The high graft success rate and the low early implant failure rate in a surveillance proves that intraoral and extraoral autologous bone grafts could be further considered as the “gold standard” preprosthetic dentoalveolar reconstruction. The presence of hard tissue dehiscence and thin periodontal biotype in the esthetic area is a challenge that can jeopardize function and aesthetic outcome of implants.

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ABSTRACT 79

Immediate Implant Placement Into Fresh Sockets Versus Delayed Implants Into Healed Sockets

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ABSTRACT

Background: Generally, there are two methods for dental implants: "Gold standard" protocol (Implants inserted in healed sockets) and immediate implant (inserted in fresh socket). The survival rate of delayed implants is greater than immediate implants. In return immediate implant reduces total treatment time which takes 3-6 months using the conventional protocol.

Objectives: The aim of this comprehensive literature review was to address the question: Is the fresh socket implant less successful than implants inserted in the bone?

Research methodology: An electronic search was performed on data bases, including PubMed, Scopus and Google Scholar, using keywords "dental implants", "fresh socket", "healed socket" and "immediate implant" or combinations from 2000 to 2018.

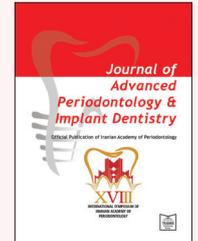
Results: Immediate insertion reduces treatment time, surgical interventions and rehabilitation time associated with tooth replacement in dental implants. It also leads to more patient satisfaction but it has lower survival rates than conventional protocol.

Conclusion: Immediate implant placed in fresh socket should be performed with caution because of the significantly lower survival rates than implants inserted in healed sockets.



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ABSTRACT 80

Immediate Placement of Implants into Infected Sites: A Systematic Review

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ABSTRACT

Objectives: Traditionally, before placing dental implants, the compromised teeth are removed and the extraction sockets are left to heal for several months. To preserve the alveolar bone level from the collapse caused by healing and to reduce treatment time in situations in which tooth extraction precedes implant placement, some clinicians began to install the implant immediately into the post extraction socket without waiting for the site to heal.

Purpose: The purpose of this study was to review the literature regarding treatment outcomes of immediate implant placement into sites exhibiting pathology after clinical procedures to perform the decontamination of the implant's site.

Methods: An electronic search in PubMed was undertaken in March 2013. The titles and abstracts from these results were read to identify studies within the selection criteria. Eligibility criteria included both animal and human studies, and excluded any review and case reports articles. The publication's intervention had to have been implant placement into a site classified as having an infection (periapical, endodontic, perio-endodontic, and periodontal).

Results: The search strategy initially yielded 706 references. Thirty-two studies were identified within the selection criteria, from which nine were case reports and review articles and were excluded. Additional hand-searching of the reference lists of selected studies yielded five additional papers.

Conclusions: The high survival rate obtained in several studies supports the hypothesis that implants may be successfully osseointegrated when placed immediately after extraction of teeth presenting endodontic and periodontal lesions, provided that appropriate clinical procedures are performed before the implant surgical procedure such as meticulous cleaning, socket curettage/debridement, and chlorhexidine 0.12% rinse. However, more randomized controlled clinical trials with a longer follow-up are required to confirm this procedure as a safe treatment. Moreover, the outcome measures were not related to the type of infection; the classification of infection was often vague and varied among the studies. The benefits of antibiotic solution irrigation and systemic antibiotic administration in such conditions are not yet proved and remain unclear.

Keywords: Dental implants, immediate implant placement, infected extraction sites, infection, tooth socket.

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