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6th World Congress on

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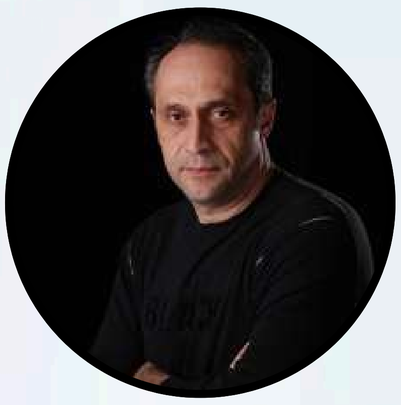
July 09-10, 2026 | Frankfurt, Germany



Dr Lari Sapoznikov

private clinic in Tel Aviv Israel, Israel

A novel porcine dentin derived bone graft material provides effective site stability for implant placement after tooth extraction: a randomized controlled clinical trial

Introduction

The objective of this clinical study was the assessment of the clinical performance of a porcine dentin-derived particulate bone graft material for bone regeneration after tooth extraction with implant placement at 4 months, in comparison to a commercially available porcine bone-derived graft.

Methods

The study was a randomized, parallel group, semi double-blinded clinical trial. Primary endpoints were the extent of new bone growth and bone-graft integration at 4 months.

Results

The dentin graft material had statistically significantly more new bone formation (60.75% vs 42.81%, p=0.0084, N=20 vs 16), better bone-graft integration scores (good integration in 85% vs 40%, p=0.0066) and higher mean radiodensity of the bone (981.5HU vs 727.7HU, p=0.0011) at the graft site compared to the bone-derived material. The mean implant insertion torque force was similar for the dentin and bone materials (34.75Ncm vs 34.06Ncm). Titanium implant placement was successful in 95% of patients with the dentin graft material compared to 81.25% for the bone graft. Both materials had similar clinical safety and tolerability as determined by adverse events and local site reactions. Physician assessed ease of grafting and ease of implant placement on a 10-point scale showed no statistical differences (8.78 vs 8.27, p=0.2355; 8.05 vs 8.75, p=0.1118, respectively).

Conclusion

It was therefore demonstrated that Ivory Dentin Graft™ has clinical safety, tolerability and performance for implant placement at 4 months after tooth extraction at least as good as a commercial bone-derived material. The availability of porcine dentin-derived bone graft material allows wider use of dentin-derived material which has so far only been available in the form of autologous dentin from the patient’s own teeth.

Biography

Dr Lari Sapoznikov has been running a private clinic in Tel Aviv Israel with emphasis on implantology and prosthodontics since 1992. He is a Member of IAOI (Israeli association of oral implantology), GAOI (German association of oral implantology), Fellow of ICOI (International Congress of oral implantology), MFDI (Member of the faculty of dentistry of the Royal College of Surgeons in Ireland, England and Scotland) and a Specialist in Basal Implantology at the University of Nice, France. He is the inventor of the "Smart Dentin Grinder" which allows chairside processing of the patient’s own teeth to provide autologous dentin particles for bone grafting. He has established the company Ivory Graft Ltd. to extend the availability of dentin-derived material for clinical use.

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Dr. Bingjing Zhao

Guangdong Medical University, China

Comparison of residual stress distribution between root-analogue implant and threaded cylindrical implant

Background

This study compares the residual stress distribution and stress-release deformation of root-analogue implants (RAIs) and traditional threaded cylindrical implants to assess their clinical applicability and optimization.

Methods

Three implant types (solid RAIs, mesh RAIs, and traditional threaded implants) were analyzed using contour cutting and finite element analysis to evaluate stress distribution and deformation trends after stress release.

Results

RAIs exhibited lower tensile and compressive stresses than threaded implants (T1: 26 MPa vs. 48 MPa, T2: 18 MPa vs. 74 MPa), but showed greater displacement (T1: 0.02 mm, T2: 0.012 mm, T3: 0.0025 mm), mainly in the apical region.

Conclusion

RAIs offer advantages in stress distribution but require further optimization to address deformation. Future research should focus on improving material selection and manufacturing processes to enhance implant stability and long-term success.

Biography

Bingjing Zhao, MD, Associate Chief Physician. She graduated from the Chinese People's Liberation Army Medical School in 2016, and specializes in orthodontic correction of all kinds of malocclusions for children, adolescents and adults. Research Interests.

My main research includes oromandibular myofunctional orthodontics and early interceptive treatment, digital design and clinical adaptation of customized dental implants. She also devotes herself to the biocompatibility evaluation of new dental biomaterials, as well as structural optimization, clinical translation and standardized R&D of functional orthodontic appliances.

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Yousra Aly Ibrahim, Amira Galal Ismail*, Manar M. Galal*, Shahinaz N. Hassan*, Hinar Hani Al Moghazy**

Associate Professor of Endodontics, Restorative and Dental Materials Department, Oral and Dental Research Institute, National Research Centre, Cairo, Egypt.
**** Associate Professor, Restorative and Dental Materials Department, Oral and Dental Research Institute, National Research Centre, Cairo, Egypt***
*****Associate Professor of Endodontics, Department of Endodontics, Faculty of Dentistry, Modern Science and Arts University, Cairo, Egypt.***

Adult Pulpotomy: A New Era in Modern Endodontics

Research question
post-endodontic pain can adversely affect the patient's overall quality of life. New conservative approaches such as adult pulpotomy, using recent modalities, if well applied may provide faster pain relief compared to root canal treatment.

Background
Success of Adult Pulpotomy depends on proper case selection, accurate diagnosis, strict aseptic and haemostatic protocols, as well as the use of materials capable of promoting dentin bridge formation and pulpal healing.

Purpose
To explore different modern modalities to control the pain after Adult Pulpotomy and to explore the effect of using bioceramic materials as a pulp sealing agent on adult pulpotomy success rates.

Methodology
To compare the effect of diode laser as hemostastic and cavity disinfectant agent on post operative pain in Adult Pulpotomy in lower first permanent molar diagnosed with symptomatic irreversible pulpitis (IP). The patients documented their levels of postoperative pain at the sixth hour, first day, and eighth day. Pain was scored on a Visual Analog Scale (VAS), with scores spanning from 0 mm (no pain-free) to 100 mm (highest level of pain).

Results
The least mean pain value was recorded in (Diode laser) group, with no statistically significant difference between both concentrations of NaOCl (2.5% and 5%) groups.

Conclusion
Modern disinfection modalities like Diode laser device, when used as hemostatic agent in pulpotomy of mature molar teeth with IP, exhibits promising results in terms of postoperative pain.

Keywords: Hemostasis, diode laser, pain, sodium hypochlorite

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Biography:

I am an Associate Professor in the field of endodontics, passionate about combining clinical practice with research innovation; with particular interests in regenerative endodontics and novel therapeutic strategies for hard tissue repair.

I was a member in two Dental Projects Team at the National Research Centre in Egypt from (2016-2019) and from (2019-2022).

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Berta Rivas-Mundiña

Grupo de Investigación en Odontología Médico-Quirúrgica (OMEQUI) de la Universidad de Santiago de Compostela (USC)

Rational Antibiotic Prescribing in Root Canal Infections

Antimicrobial resistance has increased dramatically in recent years and now represents a major global public health concern. Consequently, antibiotic prescribing in dentistry is being progressively restricted, emphasizing the need for evidence-based therapeutic decisions. Root canal infections constitute the primary source of odontogenic abscesses, which may extend to adjacent anatomical spaces and, in severe cases, lead to systemic complications.

This lecture addresses three main objectives. First, it critically examines the significant methodological limitations and sampling biases present in many published microbiological studies on root canal infections, which may compromise the reliability and external validity of their conclusions. Second, it highlights that, in our regional setting, facultative anaerobes-particularly Streptococcus spp-predominate in infected root canals, whereas strict anaerobes are identified only sporadically. Third, it demonstrates that beta-lactam antibiotics provide the most appropriate antimicrobial coverage according to local susceptibility patterns.

Importantly, the routine addition of clavulanic acid offers no clear therapeutic advantage, while resistance rates to metronidazole and macrolides remain considerably high. These findings reinforce the need for region-specific antimicrobial surveillance to guide rational prescribing in endodontic infections.

Keywords: antimicrobial resistance, antibiotics in endo, Streptococcus spp, root canals

Biography

Bachelor of Dental Surgery, University of Santiago de Compostela (USC), 2002
Graduate in Dentistry, USC, 2003
Master's Degree in Aesthetic Dentistry and Adhesion, USC, 2004-05
Master's Degree in Advanced Endodontics, USC, 2005-2006
Doctor of Dental Surgery, USC, 2007
Associate Professor, University of Santiago de Compostela (USC), since 2015
Professor, Master's Program in Advanced Endodontics, USC, since 2010
Professor, Master's Program in Special Needs and Pediatric Dentistry, since 2019

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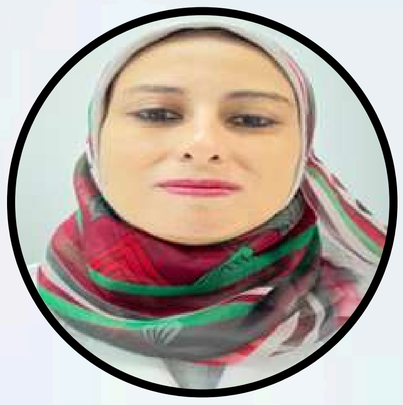

Nehal F. Hassib, Heba El-Sayed, Inas M.S. Sayed, Mohamed S. Abdel-Hamid

National Research Centre, Cairo, Egypt

Jalili Syndrome: The Rare retinopathy with Amelogenesis Imperfecta, Clinical Insights, novel variant and genetic Perspectives in four patients

Background

Jalili syndrome is a rare progressive retinal-ciliopathy disorder displayed with cod-rod dystrophy and amelogenesis imperfecta (AI) caused by CNNM4 gene. The onset of visual impairment starts in infancy or early childhood.

Purpose

We report on four Egyptian patients affected by Jalili syndrome, highlighting the clinical presentation and implications of the disorder. Additionally, we expand the molecular characterization of the CNNM4 gene by reporting a novel pathogenic variant, contributing to the understanding of its role in this rare condition.

Methodology

Four patients (P1-P4) from two unrelated families complained of eye problems and amelogenesis imperfecta were included in the study. The patients were subjected to detailed clinical and dental examination. WES was used for the molecular identification of the causative gene.

Results

Exome sequencing identified two different variants in CNNM4 gene of Jalili syndrome, one novel homozygous missense variant c.1423G>A (p.Val475Met) (P1) and a homozygous deletion of the entire exon 1 of the gene c.1-?_1403þ?del (P2-P4).

Conclusion

This study is focusing on Jalili syndrome, highlighting and expanding its clinical and genetic phenotypes. Moreover, the identification of a novel CNNM4 mutation enriches the genomic landscape of the syndrome, helping to guide future genetic testing and counseling efforts. Amelogenesis imperfecta is a hallmark evidence in the diagnosis of rare disorders. Finally, this research emphasizes the essential role of specialists, particularly dental geneticists, in the diagnosis and management of rare disorders.

Keywords: Jalili syndrome, CNNM4, amelogenesis imperfecta, retinopathy, cone-rod dystrophy

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Biography

Professor of Orodental Genetics department, National Research Centre. Her expertise lasts for 20 years dealing with dental genetics, particularly inherited tooth structure defects, their associated syndromes, and underlying molecular mechanisms. She is the principal investigators of many national projects related to oral abnormalities in rare disorders. She is a member in many national and international societies serving the rare inherited disorders. She has different international publications reporting various rare orodental anomalies in syndromes.

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Behzodxo'ja Shavkatxo'jayev[1], Dr. Riddhi Chawla[2]

[1]3rd year student, School of Dentistry, Central Asian University, Tashkent, Uzbekistan
[2]Professor, School of Dentistry, Central Asian University, Tashkent, Uzbekistan

The Alleged Harm of Chocolate Consumption on Teeth: A Myth or Reality

Introduction

Recent studies have focused on cocoa (dark chocolate) in dentistry as it has helpful compounds like theobromine, polyphenols, and flavonoids. These ingredients can enhance dental health by helping to strengthen tooth enamel, making it harder and enabling it to fight against harmful bacteria that cause caries. Theobromine has also been studied as a possible alternative to fluoride in enhancing enamel.

Objective

The aim of this article is to provide an extensive review of the effects of cocoa on dental health, comparing theobromine-dependent remineralization with fluoride therapy and considering the potential risk of overconsumption.
The key aim of the present research is to elaborate upon the influence of dark chocolate on oral health through the presentation of its capability for enamel remineralization, its antimicrobial quality, and enhancement of oral welfare.

Material and Methods

A review of research was conducted, examining dark chocolate's impact on enamel microhardness, antimicrobial activity, and cariogenic potential. Data were taken from in vitro, in vivo, and clinical studies, concentrating on the relationship between dark chocolate and dental health outcomes.

Results

Research shows that theobromine improves enamel remineralization by making stable hydroxyapatite-like structures, enhancing tooth hardness and resistance to acid. Cocoa polyphenols have antibacterial effects against Streptococcus mutans, reducing biofilm formation and plaque accumulation. Additionally, flavonoids were also found to promote gum health.

Conclusion

Dark chocolate can serve as a helpful addition to oral hygiene because it hardens enamel, fights bacteria, and reduces inflammation. However, we need to be mindful of its sugar content. Future studies should explore sugar-free forms that are rich in theobromine to achieve maximum dental benefits with minimal risks.

Keywords: Dark chocolate, theobromine, flavonoid, polyphenol, cocoa

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Biography

Behzod Shavkatxojayev was born in 2006 in Tashkent, Uzbekistan, into a family of doctors. In 2023, he entered Central Asian University, enrolling in the Faculty of Dentistry. He is currently a third-year student.

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You Duan

Department of Stomatology, People's Hospital of Chongqing Banan District, Banan Hospital of Chongqing Medical University, Chongqing 401320, China

Clinical Efficacy of Modified Gancao Ganjiang Decoction Combined with Vitamin B12 on Recurrent Oral Ulcer

Objective

To explore the clinical efficacy of modified Gancao Ganjiang Decoction combined with Vitamin B12(VB12) on recurrent oral ulceration(ROU).

Methods

A total of 124 ROU patients admitted to Chongqing General Hospital from August 2016 to August 2018 were selected as the research objects and were divided into an observation group and a control group, with 62 cases in each group, according to random number table. The control group was administrated orally with VB12, while the observation group was treated with Jiawei Gancao Ganjiang Decoction plus VB12. All patients were treated for 14 days. The clinical efficacy and safety between the 2 groups were compared.

Results

The overall effective rate of the observation group reached 96. 8% (60 /62) , much higher than 85. 5% (53 /62) of the control group(P < 0. 05) . Compared with those before treatment, the pain index, ulcer area and average ulcer period were significantly improved in the 2 groups after treatment(P < 0. 05) , peripheral blood CD3 + , CD4 + levels, CD4 + /CD8 + ratio, and the number of streptococcus and veillonella in saliva increased significantly(P < 0. 05) , peripheral blood CD8 + level decreased significantly(P < 0. 05) ; and the observation group improved more significantly than the control group in indicators(P < 0. 05) . There were no obvious side effects in both groups. Follow-up for 6 months, the recurrence rate of the observation group was 11. 3% (7 /62) significantly lower than that of the control group [25. 8% (16 /62)] (P < 0. 05) .

Conclusion

The overall curative effect of Jiawei Gancaoganjiang Decoction combined with VB12 in the treatment of ROU is definite and may be related to its significantly correction of the immune imbalance of peripheral blood T lymphocyte subsets and maintaining the homeostasis of the oral microenvironment.

Keywords: Recurrent oral ulceration; Modified Gancao Ganjiang Decoction; Vitamin B12; T-lymphocyte subsets; Oral microenvironment; Recurrence risk; Mechanism of action; SafetyQ

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Sompop Bencharit, DDS, MS, PhD, FACP

Austin Institute of Dental Medicine, Austin, Texas, USA

Building a More Accurate Implant Guide: Evidence-Based Strategies for Static Guided Implant Surgery

Background

Static computer-guided implant surgery has become an integral component of modern implant dentistry, improving restorative-driven treatment planning and surgical precision. However, deviations between planned and actual implant positions remain unavoidable due to cumulative errors throughout the digital workflow. Understanding the factors that influence accuracy is critical for improving clinical outcomes.

Objective

To review current evidence on factors affecting the accuracy of tooth-supported static guided implant surgery and provide practical strategies for improving implant placement predictability.

Discussion

Implant accuracy is influenced by guide design, manufacturing, anatomy, and surgical technique. Manufacturing factors such as printing resolution, build orientation, and material properties affect guide stability and dimensional accuracy. Guide design also plays a significant role, with evidence supporting the use of sleeveless and closed-sleeve concepts to reduce deviation. Surgical factors are equally important. Minimizing the distance between the guide and the surgical site and utilizing fully guided protocols improve implant positioning accuracy compared with partially guided or freehand approaches. Patient- and site-related variables, including bone quality, ridge morphology, implant site angulation, and healing status, further influence outcomes. Greater deviations are often observed in anatomically challenging situations and immediate implant placement procedures.

Conclusion

Accurate guided implant surgery requires optimization of the entire digital workflow. Careful attention to guide manufacturing, design, surgical protocol, and site-specific anatomy provides a practical framework for improving implant placement accuracy and achieving more predictable clinical outcomes.

Keywords: dental implants; guided surgery; 3D printing; digital dentistry; implantology

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Biography

Dr. Sompop Bencharit is a board-certified prosthodontist, innovation strategist, and executive consultant specializing in digital transformation, leadership development, and technology integration. He currently serves as Director of Innovation at the Austin Institute of Dental Medicine. Previously, he held leadership roles at High Point University, the Medical University of South Carolina, and Virginia Commonwealth University. A Fellow of the American College of Prosthodontists and recipient of the ACP Distinguished Researcher Award, he has authored more than 100 peer-reviewed publications. Dr. Bencharit is President of AHEADD, founder of Digital Dentistry & Innovation LLC, and advises healthcare, education, and industry organizations on innovation and strategic growth.

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Dr Diana Dembicka

Dental Office, Artistic Smile Studio,Tarnów, Poland

Er: YAG Laser-Assisted Debonding of Ceramic Crowns and Veneers: A Minimally Invasive Technique

The increasing use of adhesively bonded ceramic restorations necessitates reliable and conservative methods for their removal. Conventional mechanical debonding techniques are often invasive, time-consuming, and associated with irreversible damage to both restorations and tooth structure. Er:YAG laser-assisted debonding has been proposed as a minimally invasive alternative, enabling selective disruption of resin-based luting cements while preserving surrounding tissues.

The Er:YAG laser, operating at a wavelength of 2940 nm, exhibits high absorption in water and organic components of dental cements. This allows efficient energy transfer to the bonding interface, resulting in thermal softening and ablation of the cement layer without inducing excessive intrapulpal temperature rise. As a consequence, ceramic crowns and veneers can be removed atraumatically, frequently intact, and with minimal patient discomfort.

This lecture reviews the underlying physical mechanisms, clinical protocols, and laser parameters influencing debonding efficiency. Indications, limitations, and safety considerations are discussed, supported by clinical cases involving lithium disilicate and zirconia-based restorations. Er:YAG laser debonding represents a predictable and tissue-preserving approach consistent with contemporary principles of minimally invasive dentistry.

Biography

She is affiliated with the Dental Office—Artistic Smile Studio, located at Tarnów, Poland Her research, published in 2025, focuses on dental, microbiological, and medical topics, including: Laser Dentistry: Evaluation of the disinfection efficacy of Er:YAG laser light on single-species Candida biofilms. Medical Research: Investigations into nanoplastics and their impact on immune disruption. Scientific Contribution: She has contributed to systematic reviews, including those published in PMC (PubMed Central) and ResearchGate in 2025

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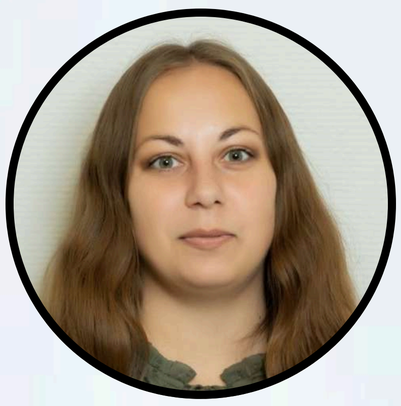

Kolegova E.S., Prostakishina E.A., Fedorova I.K., Kulbakin D.E., Choinzonov E.L., Denisov E.V

Cancer Research Institute, Tomsk National Research Medical Center, Russian Academy of Sciences, Tomsk, Russia

A multi-omics investigation reveals unique drivers and markers of ealrly-onset oral cancer

Background

Oral carcinoma (OC) exhibits aggressive progression, with rising incidence among individuals under 45 years. However, the molecular drivers of early-onset OC remain poorly characterized. This study aimed to identify distinct molecular features of OC in young adults.

Methods

We analyzed 41 patients with T1-4N0-2M0 OC, stratified into two cohorts: young adults (<45 years, n=35) and older patients (⩾45 years, n=25). Whole-exome sequencing, 16S rRNA profiling, single-cell RNA sequencing (scRNA-seq), and spatial transcriptomics were performed on peripheral blood, fresh-frozen tumors, and FFPE samples.

Results

Early-onset OC was characterized by enrichment of mutations in genes of Rap1 and MAPK signaling pathways and increase in exon 8 of the TP53 mutation. Transcriptomic profiling of OC in young adults demonstrated downregulation of oxidative phosphorylation genes and upregulation of MAPK, JAK-STAT pathways and vascular mimicry markers. The microenvironment of early-onset OC was enriched with tumor-associated macrophages in regions of vascular mimicry. Microbiome analysis identified significant shifts in young adults. Enriched taxa were Acidovorax caeni, Streptococcus infantis, Treponema amylovorum. Depleted taxa were Bacteroides acidifaciens, Bibersteinia trehalosi, Kocuria rhizophila, Pseudomonas veronii.

Conclusions

Early-onset OC represents a distinct molecular entity with unique genomic, transcriptomic, microenvironmental, and microbiome features, underscoring the need for age-specific therapeutic strategies.

Biography

Researcher of Laboratory of Cancer Progression Biology, Cancer Research Institute, Tomsk National Research Medical Center, Tomsk, Russia

2009-2015: MD Student, Department Biochemistry and Molecular Biology, Siberian State Medical University, Tomsk; 2015-2018: PhD Student, Laboratory of Tumor Biochemistry, Cancer Research Institute, Tomsk National Research Medical Center, Tomsk; 2019: PhD thesis defense; 2016-2019: Junior Researcher, Laboratory of Tumor Biochemistry, Cancer Research Institute, Tomsk National Research Medical Center, Tomsk; 2020-present time: Researcher, Laboratory of Cancer Progression Biology, Cancer Research Institute, Tomsk National Research Medical Center, Tomsk

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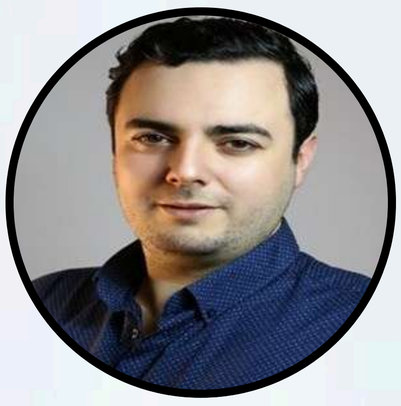

Hamed Marmarshahi[1], Behrokh Mousavi Jazayeri[2]

[1]MSc Biomedical Engineer , Anhalt University of Applied sciences, Germany
[2]MSc Biotechnology , Marthin Luther university of Applied Sciences, Germany

Clinical Integration of Digital Dentistry Applications: Transforming Dental Care, Education, and Global Oral Health

Extended reality (XR), encompassing virtual, augmented, and mixed reality, is emerging as a unifying interface that enhances and expands the clinical and educational potential of digital dentistry technologies. When integrated with intraoral scanning, facial scanning, cone-beam computed tomography, computer-aided design and manufacturing (CAD/CAM), and artificial intelligence–driven workflows, XR enables immersive visualization and interaction with comprehensive patient-specific datasets. In dental education, this integration supports advanced simulation and training environments that improve spatial perception, procedural understanding, and skill acquisition through interactive, risk-free learning experiences.

From a clinical perspective, XR enhances surgical planning by allowing three-dimensional assessment and manipulation of digitally acquired anatomical data, facilitating improved accuracy, interdisciplinary communication, and treatment predictability. During surgical procedures, XR-based navigation systems can overlay preoperative planning data onto the operative field in real time, supporting precise execution of digitally planned treatments and contributing to improved clinical outcomes and patient safety. By bridging digital data acquisition, planning, and clinical execution, XR plays a pivotal role in advancing the precision, efficiency, and translational impact of digital dentistry workflows.

Keywords: Digital Dentistry- CAD/CAM – Extended Reality(XR) – Intraoral scanning – Global Oral health- Dental education- Dental Simulation- Face scanning

Biography

Hamed Marmarshahi is a dental researcher and international speaker with a focus on digital dentistry and emerging technologies. His interests include intraoral scanning, CAD/CAM systems, photogrammetry, artificial intelligence, and extended reality (XR), with emphasis on clinical integration, surgical planning, dental education, sustainability, and global oral health. His work explores how digital workflows can enhance treatment precision, improve educational outcomes, reduce costs, and support environmentally responsible dental care across diverse healthcare settings.

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Han-Wei Wang[1,5], Cheng-Ning Yang[3], Sang-Heng Kok[1,3], Chi-Yuan Hong[1,3,4], Chia-Tung Shun[2], Eddie Hsiang-Hua Lai[1,3], Shih-Jung Cheng[1,3], Hung-Ying Lin[1], Fang-Yu Wu[1], Sze-Kwan Lin[1,3]

[1]Department of Dentistry, National Taiwan University Hospital, Taipei, Taiwan
[2]Department of Forensic Medicine and Pathology, National Taiwan University Hospital, Taipei, Taiwan
[3]Department of Dentistry, School of Dentistry, College of Medicine, National Taiwan University, Taipei, Taiwan
[4]College of Bio-Resources and Agriculture, National Taiwan University, Taipei, Taiwan
[5]Graduate Institute of Clinical Dentistry, School of Dentistry, College of Medicine, National Taiwan University, Taipei, Taiwan

27-Hydroxycholesterol contributes to hypercholesterolemia-associated aggravation of apical periodontitis in ovariectomized rats and raloxifene counteracts its action

The influence of hypercholesterolemia on apical periodontitis (AP) development remains inconclusive. The cholesterol metabolite 27-hydroxycholesterol (27HC) can affect cellular responses to bacterial infections and estrogen status, with raloxifene potentially modulating its action. This study examined 27HC's impact on macrophage-derived inflammatory mediators and raloxifene's regulatory function using murine J774 macrophages and an experimental AP model in ovariectomized (OVX) or control rats receiving high fat/high cholesterol diet (HFHCD) or normal diet. Western blot and enzyme-linked immunosorbent assay assessed iNOS expression and CCL2 and 27HC concentrations. Micro-computed tomography and immunohistochemistry evaluated disease severity. Cholesterol significantly enhanced 27HC production in macrophages, which then induced iNOS and CCL2 synthesis; estradiol suppressed these responses. In HFHCD/OVX rats, serum and lesion 27HC levels were markedly elevated ($p < 0.05$), accompanied by increased lesion size and CD68+/iNOS+ cell infiltration. Raloxifene inhibited 27HC's pro-inflammatory effects on macrophages and suppressed AP progression ($p < 0.05$). Our findings demonstrate that 27HC contributes to AP aggravation in hypercholesterolemia, with estrogen deficiency amplifying both 27HC production and its downstream pro-inflammatory action.

Keywords: 27-hydroxycholesterol; apical periodontitis; hypercholesterolemia; oestrogen deficiency; raloxifene

Biography

Dr. Han-Wei Wang received his DDS, MS, and PhD degrees from the Graduate Institute of Clinical Dentistry at National Taiwan University. He is an attending dentist at National Taiwan University Hospital and a clinical assistant professor specializing in prosthetic dentistry at the School of Dentistry, National Taiwan University. His current research focuses on inflammation-related dental and bone diseases, and he will present his recent work on 27-hydroxycholesterol-mediated aggravation of apical periodontitis published in the International Endodontic Journal.

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Yao Yu, **Xi Tang***, Hong Jiang*

Department of Head and Neck Oncology, Chongqing University Cancer Hospital, Chongqing, China

A Comparative Study of Lateral Arm Perforator Flap and Medial Sural Artery Perforator Flap in Repairing Small and Medium-sized Defects after Radical Resection of Head and Neck Squamous Cell Carcinoma

Background and Objectives

This study compared clinical outcomes of medial sural artery perforator (MSAP) and lateral arm perforator (LAP) flaps for soft tissue reconstruction after head and neck squamous cell carcinoma resection.

Methods

A retrospective cohort study enrolled 99 patients (68 MSAP, 31 LAP) undergoing free flap reconstruction at a head and neck cancer center from February 2019 to December 2025. Patient demographics, flap characteristics, and postoperative outcomes were recorded and compared, with a 6-month minimum follow-up. Subjective donor-site morbidity and functional satisfaction were assessed via a standardized questionnaire.

Results

Flap success rates were 95.6% (MSAP) and 100% (LAP). No significant intergroup differences existed in age, sex, flap size, adjuvant treatment, or oral function recovery. Both flaps caused minimal donor-site morbidity, with MSAP showing higher donor-site satisfaction. MSAP had longer vascular pedicles and larger anastomotic vessel diameters; its total operative time was shorter owing to the two-team approach feasibility.

Conclusion

MSAP and LAP flaps both yield minimal donor-site morbidity and are effective for small-to-medium head and neck defects. MSAP is more amenable to two-team surgery, shortening operation time and demonstrating greater clinical advantage.

Keywords: Medial sural artery perforator flap; Lateral arm perforator flap; Head and neck reconstruction; Squamous cell carcinoma; Donor-site morbidity

Biography

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Elza Lāce JK
Dent clinic, Rīga, Latvia

Autotransplantation vs. Dental Implants in Anterior Tooth Replacement: Evaluating Long-Term Esthetic and Survival Outcomes

This paper compares autotransplanted teeth and dental implants in the aesthetic zone, addressing the research question of which method provides more favorable long-term outcomes based on survival, success, esthetics, and clinical applicability. The background for this comparison lies in the increasing demand for predictable anterior tooth replacement options that balance biological compatibility with esthetic and functional stability. The purpose of the study is to evaluate how autotransplantation performs relative to implant-supported restorations and to determine the situations in which each method is most appropriate. The methodology involves a literature-based analysis synthesizing data from multiple scientific studies, focusing specifically on long-term survival rates, procedural success, esthetic performance, and patient suitability. The results show that autotransplantation demonstrates a higher survival rate (91.7%) compared with implants (85%), while implants achieve a higher procedural success rate (97.8% vs. 84.6%) and better esthetic predictability (89.8% vs. 81.7%). These findings suggest that implants provide more stable esthetic outcomes, whereas autotransplantation benefits from biological integration and is particularly advantageous in younger patients or cases where implant placement is contraindicated. The conclusion drawn from the reviewed literature is that both methods are viable in the aesthetic zone; however, autotransplantation stands out as a biologically conservative and highly effective alternative when natural tissue preservation and long-term soft-tissue stability are prioritized.

Keywords: Autotransplantation, Dental Implants, Aesthetic Zone, Tooth Replacement, Survival Rate, Esthetics

Biography

Elza Lāce is a General Dentist based in Riga, Latvia. She graduated from the Rīga Stradiņš University (RSU) Faculty of Dentistry. In her daily practice at JK Dent clinic, Elza provides comprehensive restorative dental care for both children and adults. Her clinical focus is on therapeutic dentistry, encompassing diagnostics, treatment planning, and effective execution of general procedures.

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Kolk Andreas[1], Longerich Ulrich[2], Palme Hanna[3] Benjamin Walch[4]

[1]Department of Oral and Maxillofacial Surgery, Technical University of Munich, D-81675 Munich, Germany
[2]Academy for Virtual Planning, Orthodontic and Surgical Treatment of Facial Deformities, Orthodontic and Surgical Treatment of Facial Deformities, Karlsplatz 11, 80335 Munich, Germany
[3]Department of Ophthalmology, Medical University of Innsbruck, Anichstrasse 25, 6020 Innsbruck, Austria
[4]Department of Oral and Maxillofacial Surgery, Private Paracelsus Medical University of Salzburg, Salzburg, Austria

Initial risk assessment to identify severe ocular injuries in orbital fractures: A guide for oral and maxillofacial surgeons

A screening tool based on subjective and objective clinical symptoms was evaluated to identify severe eye injuries that may lead to vision loss. The study comprised 708 patients with orbital fracture. In addition to seven symptoms (pupillary reaction; reduction in visual acuity; restricted movement; visual disturbance; diplopia; pain on eye movement; and impossible examination because of severity of injury) the ocular and orbital injuries were analyzed from the medical history and classified as mild or severe. The extent and localization of the fracture were correlated with the CT images. Overall, 13.7% were affected by severe ocular injuries, which occurred regardless of age, season or cause of injury. There was a significantly higher risk if more than two orbital walls were fractured ($p = 0.003$). If the fracture course at the orbital floor extended into the posterior third, the risk increased by 38% ($p < 0.001$), with a combined fracture of the medial and posterior third even by 65% ($p < 0.001$). However, if only the anterior and medial thirds were involved, the risk of severe ocular injury was reduced by 11% ($p < 0.001$). In the case of a severe injury, an average of three, but at least one of the seven symptoms were positive, all of which correlated significantly ($p < 0.001$) with the severity of the injury. Unphysiological pupillary reactions were always associated with severe ocular injury. A sensitivity of 91% and a specificity of 72% could be achieved as a screening criterion when two of the seven parameters mentioned above were present. Among all patients, those with severe ocular damage could be identified relatively reliably. The proposed simple and consistent screening system offers a sound tool to predict the likelihood of a severe injury in emergency situations, enabling patient oriented and time-efficient treatment decisions.

Keywords: orbital fracture, ocular injuries, risk assessment

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Biography

Andreas Kolk specialized in oral-maxillofacial surgery (OMFS). Since 2011 Andreas holds the position of an executive senior physician and since 2017 as the leading senior physician at the Department of Oral- and Maxillofacial Surgery of the TU Munich. In 2019 he was appointed as the chair of the Department of Oral and Maxillofacial Surgery at the Medical University of Innsbruck.

He is Fellow of the European Board of OMFS and an active member of the European Society for TMJ Surgery (ESTMJS) and of several national guideline committees. Andreas Kolk has written 8 book chapters and authored or co-authored over 155 journal papers with over 300 IP, given over 270 international scientific presentations and 34 international invited lectures.

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