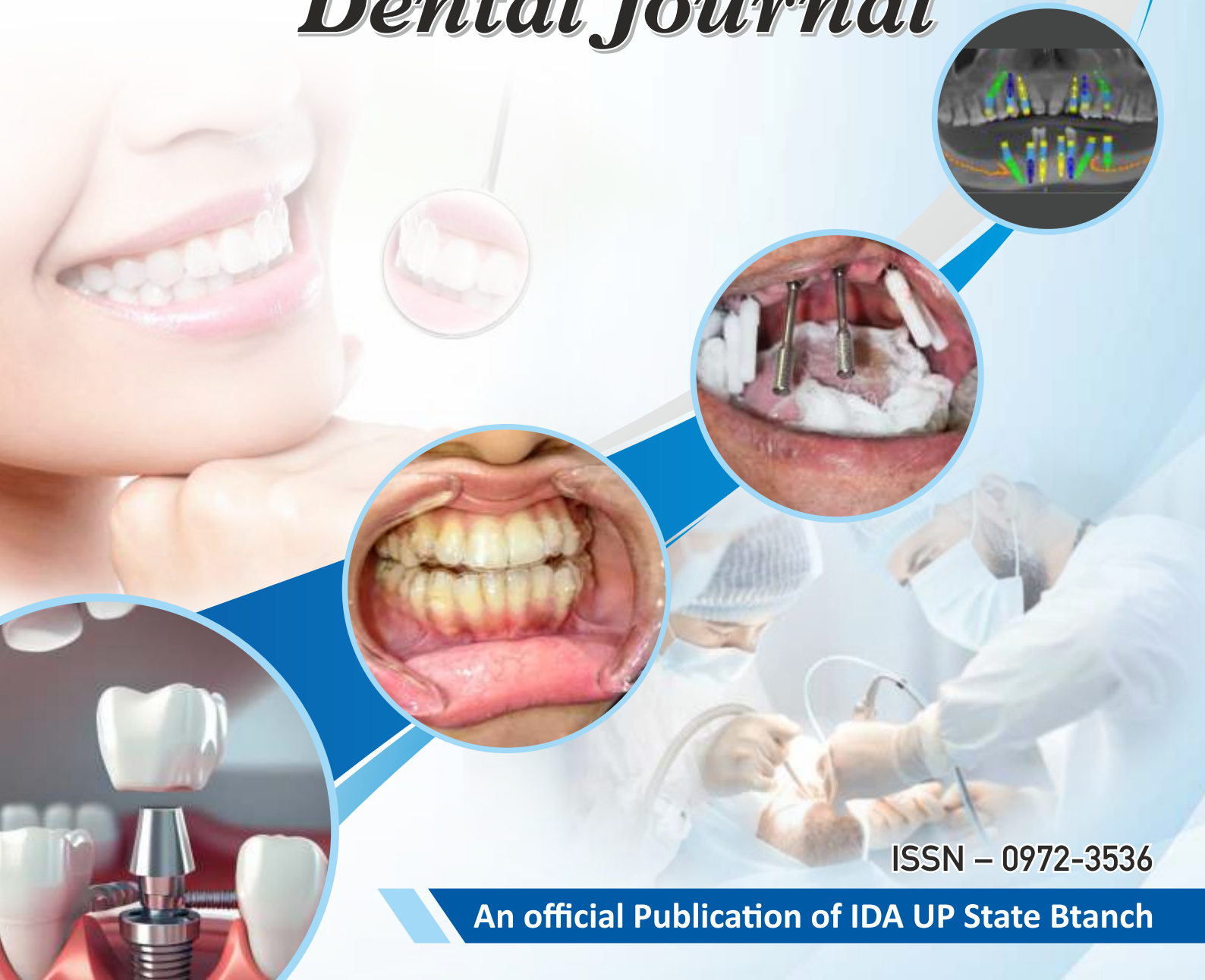


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Message from the President, IDA, Head Office

Dr. Subhra Nandy



It gives me immense pleasure that Uttar Pradesh State Branch of Indian Dental Association is publishing a journal.

I congratulate the entire UP State branch, particularly the editor and all those who have contributed with their articles. I believe that this journal is the reflection of the sincerity and effort of all the members, whose main goal is to propagate and educate the dental community so that they can take decisions which shapes a better future.

Today, as The President of Indian Dental Association I can tell you with pride and optimism, that right now in front of our eyes we are witnessing a new era defined by technology, precision, and personalized care.

From being a largely manual profession rooted in tradition, dentistry is now evolving into a high-tech discipline.

This fusion of biology with technology is not only improving outcomes but also redefining the patient experience making dental care faster, more comfortable, and truly patient-centric.

As dental professionals, we must not just adapt to these changes we must lead them. It is our responsibility to ensure that these innovations are integrated ethically, inclusively, and with a deep commitment to clinical excellence.

At the Indian Dental Association, we are committed to empowering our fraternity through continuous education, skill development, and collaborative platforms that bring together researchers, clinicians, and technologists.

Let us welcome this new era with curiosity, courage, and compassion.

Long live Indian Dental Association

Dr. Subhra Nandy
President, IDA (HO)

**Message from the
Hon. Secretary, IDA, Head Office
Dr. Ashok Dhoble**



It brings us great joy to know that IDA U.P. State Branch will be releasing a journal. I believe a lot of effort has gone into collating all the news etc covering the various programmes, Oral Health activities, Scientific articles, Interviews, Awards and celebrations etc. This requires dedicated team effort and I am sure the journal will appeal and benefit the members.

I am sure IDA U.P. State branch will maintain high standards of quality and IDA Members, members from the scientific community and the dental trade industry should be encouraged to contribute content matter to ensure continued success of the journal. I wish the collective contribution of all of them will take your journal on a long journey to success and greater heights.

Wishing you all the success in your endeavours.

Best wishes,

Dr Ashok Dhoble
Hon. Secretary General
IDA, HO

**Message from the
President Elect, IDA, Head Office
Dr. Manoj Srivastava**



I am happy to know that Indian Dental Association U.P. state branch is publishing Dental journal on the event of 7th Edition of UP dental show FDI CDE and central council meeting going to be held in city of Nawab, Lucknow. Hoping the souvenir will contain latest clinical cases, information of latest material and equipment and advancement of Digital Dentistry.

I wish you all the best for journal with best wishes

Dr Manoj Srivastava
President Elect IDA, HO

**Message from the
Vice President, IDA, Head Office
Dr. Murari Prasad Sharma**



It gives me immense pleasure to witness the release of the latest edition of the Uttar Pradesh State Dental Journal. This journal continues to stand as a testament to the dedication, academic rigor, and collaborative spirit of the dental community in our state.

In an era where dentistry is evolving rapidly, platforms like this journal play a vital role in knowledge dissemination and skill enhancement. From groundbreaking research to practical clinical insights, the content curated here serves as a valuable resource for students, practitioners, and academicians alike.

I extend my heartfelt congratulations to the editorial team and all contributors for their efforts in upholding high academic standards. I am confident this journal will continue to inspire excellence, encourage innovation, and strengthen the bonds within our dental fraternity.

With best wishes for continued success and growth,

Dr Murari Prasad Sharma
Vice President, IDA, HO

Message from the President, IDA UP State

Prof T P Chaturvedi



I would like to congratulate the Editor UP State Dental Journal. It gives me immense pleasure and its a matter of great pride about the publication of UP State Dental Journal which is going to restart under your direction. Hopefully scientific articles published in the journal will be helpful for academicians, dental practitioners, and dental students. I congratulate you and the entire editorial team members for it and wish for the success of the journal.

Thanking You.

Prof T P Chaturvedi
President, IDA UP State

**Message from the
Hon. Secretary, IDA UP State
Dr. Sachin Prakash**



I extend my heartfelt congratulations to the Editor and his dedicated team for their commendable effort in compiling this edition of the journal. The comprehensive documentation of events from 2024–25, along with well-curated articles, reflects a strong commitment to academic excellence and professional growth.

The clinical content and case-based discussions presented will undoubtedly serve as a valuable reference for practitioners in managing complex cases.

I hope such initiatives continue in the future, further strengthening the knowledge base and unity of our dental community.

With best wishes.

Dr. Sachin Prakash
Hon. State Secretary
IDA – Uttar Pradesh

Message from the President elect, IDA UP State

Dr Sudhakar Singh



It is a pleasure to congratulate the Editorial Board on the successful release of the 2025 journal. Your commitment to curating and documenting high-quality articles reflects a strong dedication to academic excellence and the growth of our dental community.

This journal stands as a valuable contribution to knowledge-sharing and professional development. I truly appreciate the efforts of everyone involved in making this publication a success.

Wishing the Editorial Board continued progress and success in all future endeavors.

Warm regards.

Dr Sudhakar Singh
President-Elect IDA UP State

Message from the Hon. Editor, IDA UP State **Dr Vivek Shah**



Dear Readers,

It is with great pride that I present this edition of the Uttar Pradesh Dental Journal, capturing the dynamic developments in dentistry across the state this year.

A key milestone was the successful Annual State Dental Conference held in Noida, which served as a hub of knowledge exchange, innovation, and professional networking. Additionally, State CDE programs in Deoria and Lucknow enriched clinical insight and encouraged academic collaboration across specialties.

Our presence at the month-long Dental Awareness Camp during the Mahakumbh Mela in Prayagraj was a defining moment—bringing preventive oral healthcare to thousands and reinforcing our commitment to community service.

Equally inspiring was the UP State Dental Sports Conclave held in Meerut, which brought together professionals and students in the true spirit of sportsmanship and unity.

This issue features a wide spectrum of scholarly articles—from original research to rare clinical case studies—reflecting the rich diversity of our profession. I extend sincere thanks to all authors, reviewers, and the editorial team for their unwavering dedication.

May this journal continue to serve as a platform for academic excellence and collaborative growth.

Warm regards.

Dr Vivek Shah
Hon. Editor-in-Chief
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Role of Intraoral Sensors in Digital Orthodontics: A Paradigm Shift

Dr Shikha Rastogi Gupta

Abstract :

Digital intraoral scanners (IOSs) have become the ongoing trend in contemporary digital orthodontics. This article aims to elaborate the past, present, and future of IOSs from an orthodontist's perspective. We summarized the comparison between digital and conventional impression in literatures. Also, we discussed about the imaging principles and characteristics of different IOSs. Although unable to recommend the single best option, a checklist of consideration when choosing an IOSs was developed after trailing the mainstream commercial products. With technology revolution, embracing the IOSs may be essential for those interested in future digital orthodontic workflow.

Keywords digital orthodontics; intraoral scanner; digital impression.

Introduction

We are currently in a new era of digital orthodontics. This technological revolution has made orthodontic daily routines less reliant on paper, radiation, and dental casts. With the underlying aim of simplifying the conventional laboratory workflow as well as reducing discrepancies when fabricating dental casts and arranging their storage, the use of digital intraoral scanners (IOSs) has led to a variety of clinical in-office applications.¹ The last few decades have seen a dramatic increase in research comparing scanners and the issue of conventional versus digital approaches. However, this article aims to provide an overview of the latest commercially available digital IOSs from an orthodontist's perspective. In addition to the comparisons often presented in prosthodontic articles, we also summarize and highlight issues requiring consideration when IOSs are incorporated into daily orthodontic practice.

Why goes digital?

This is probably the principal question that most clinical practitioners ask, particularly those who are more familiar with conventional impression techniques. Similarly to when digital cameras and digital radiographic films were first introduced in the field of dental applications, most practitioners' express doubts. The benefit of digital IOSs is an easier and faster digital impression method with greater efficiency and accuracy but less waste and, typically, lower cost.⁵ Although some of these proposed advantages continue to be scrutinized, most digital techniques have proven equal to or better than the conventional method.⁶ The use of IOSs was primarily restricted to restorative and prosthetic dentistry, such as the well-known CEREC CAD/CAM system; restorations could be designed to fit an abutment using digital impressions.⁷ A collaborating laboratory or milling machine could then be used to accomplish single-appointment all-ceramic prosthesis treatment. In the modern era of implant dentistry, this new technology can be adopted for implant-retained or implant-supported prostheses. Most orthodontists have concerns about stacking

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multiple model casts because of problems related to either storage space or keeping the fragile gypsum intact. The digitalization of impressions incorporated into orthodontic work not only allays these concerns but also expands the horizon of treatment modalities such as clear aligners, customized appliances, and, of course, retainers.^{8,9} Digital versus conventional approaches In the last decade, intraoral scan systems have grown in popularity. (Table one) From 2008 to 2017, at least 32 articles compared intraoral scanning and conventional impression, as well as the differences among different intraoral scan systems, regarding accuracy, working time, and patient preferences. Most of these studies were in vitro, with only six being conducted in vivo.¹⁰ In addition to randomized controlled studies, three systematic review articles were published in 2016 and 2017 in professional journals of orthodontics and prosthodontics,² aiming to review the accuracy, reliability, reproducibility, and efficiency of IOSs while comparing them with traditional impression methods. (Table 2)

Table 1. Comparison of conventional and digital impression

Feature	Conventional Impressions	Digital Impressions
Accuracy & Precision	Generally less accurate and precise than digital.	Higher accuracy and precision.
Time & Efficiency	Typically longer process, including material preparation, placement, and removal.	Faster process, with immediate data transmission to the lab.
Patient Comfort	May cause more discomfort, gagging, and breathing difficulties.	Generally more comfortable, with less gag reflex and breathing difficulties.
Cost	Lower initial investment in materials and equipment.	Higher initial investment in digital scanners and software.
Space	Requires space for storage of materials and casts.	Requires space for the scanner, but less space overall than storage of materials.
Operator Skill & Training	Requires less specialized training, but still requires experience with impression materials.	Requires more training on using digital scanners and software.
Material Usage	Uses impression materials that can be messy.	Eliminates the need for impression materials, resulting in less mess.
Image Availability	Requires pouring casts for viewing and adjustments, which can take time.	Provides immediate positive image on a computer screen for easy viewing and adjustments.
Advantages	Cost-effective, readily available materials, and established techniques.	Increased accuracy, faster workflows, improved patient comfort, and easy adjustments.
Disadvantages	Lower accuracy, longer chair time, and potential for material errors.	Higher initial investment, requires specialized training, and potential for equipment issues.

Comparison Table

Feature	3Shape TRIOS 4	Medit i700	Orikam Helios 500
Wireless	Yes	Yes	No data
Resolution	High	High	High
Speed	Fast	Fast	Full arch in <30 sec
Price (approx.)	₹17,00,000	₹9,00,000	₹3,99,000
Usage	Clinical	Clinical	Surgical Instruments

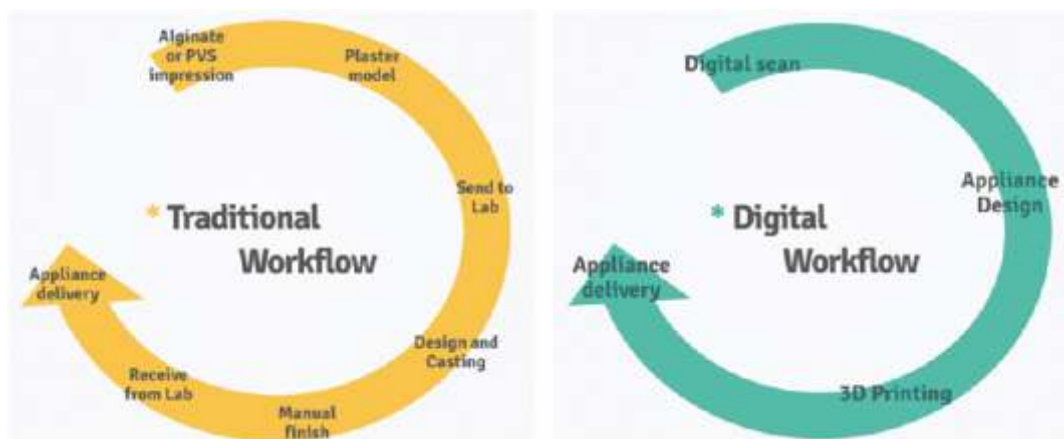
Key Factors to Consider When Choosing an Intraoral Scanner

1. Price: Scanner prices in India range from ₹4,00,000 to ₹18,00,000.
2. Application: Determine whether the scanner is for clinical, surgical, or lab use.
3. Technology: Look for features such as wireless connectivity, high resolution, and fast scanning speeds.
4. Brand Reputation: Research brands like 3Shape, Medit, and Orikam for reliability and customer support.

Digital orthodontic workflow

Many conferences and articles on digital dentistry have recently discussed this topic. Digital orthodontic workflow begins from the first appointment and continues through the retention and follow-up stages (Figure one). Support from all kinds of suppliers enriches the treatment modalities through this workflow. Some hardworking orthodontists, such as Simon et al., have even made efforts to fabricate expander appliances in a brand-new fashion. These examples are just the starting point of integrating IOSs into daily practice. We are optimistic about 3D printing material innovations (e.g., NextDent) and next-generation printers capable of constructing hybrid materials. Furthermore, 3D cone-beam computed tomography images combined with digital scans will provide even more precise and detailed skeletal and dental information. In the near future, artificial intelligence and big data will influence the whole world, including the medical industry. In 3D CAD/CAM technology, the STL files that are currently used will be replaced by rising formats, such as AMF (Additive) or 3MF (3D Manufacturing Format).

Figure one Conventional vs Digital Orthodontic Workflow



SUMMARY

Our aim was to elucidate the past, present, and future of IOSs for anyone who is eager to join this movement. According to a market survey performed by 3Shape in 2016, 50% of dentists in the US were considering buying digital impression systems within the next three years. In summary, we would like to quote Stewart Brand: “once a new technology rolls over you, if you're not part of the steamroller, you are part of the road.” We do not suggest that everything must become digital; digital is not necessarily the optimal direction for every situation.

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Endodontic management of bilateral radix entomolaris third root : A Case Report

**Dr. Arhana De, Dr. Ajay Kumar Nagpal, Dr. Abhishek Sharma,
Dr. Mutiur Rahman,**

Abstract:

The success of endodontic treatment depends on the accurate identification of all root canals, proper chemomechanical preparation, and three-dimensional obturation. Variations in tooth morphology, such as the presence of extra roots, can complicate these procedures. Mandibular first molars typically have two roots and three canals, but variations, including the radix entomolaris (RE), may occur. RE is a rare distolingual root that can complicate endodontic treatment.

A 27-year-old male presented with pain in the lower right and left first molars due to deep caries. Radiographs revealed periapical lesions and an extra distolingual root in both molars. Cone beam computed tomography (CBCT) confirmed the presence and morphology of the radix entomolaris. Root canal therapy was performed with careful canal exploration, cleaning, shaping, and obturation using a cold lateral compaction technique. Post-treatment restoration was completed with porcelain-fused metal crowns.

Radix entomolaris is a rare anatomical variation in the Indian population but can significantly impact the success of endodontic treatments. Early identification using CBCT and awareness of this variation help ensure complete treatment of all canals, reducing the risk of complications. A thorough understanding of root canal morphology and the use of advanced diagnostic tools can enhance treatment outcomes and prevent failures, especially in cases involving unusual anatomical variations like RE.

Introduction:

Success in endodontic treatment relies heavily on a solid grasp of dental anatomy and an awareness of possible anatomical variations. One of the leading causes of endodontic failure is inadequate cleaning, shaping, or filling of the root canal system. Often, some canals remain untreated simply because the clinician does not detect them—this is particularly common in cases where the tooth anatomy is unusual or when extra or aberrant canals are present but overlooked.^{1,2}

Mandibular permanent molars are known to exhibit anatomical variations. Typically, the permanent mandibular first molar has two roots—one mesial and one distal—and generally contains three root canals. However, deviations in both the number of roots and the internal canal configuration are frequently observed. Among these variations, the occurrence of a third root in the first molar is considered one of the most significant and common anomalies.³

The presence of an extra third root, known as the radix entomolaris (RE), was first described by Carabelli in 1844. This additional root is typically found on the distolingual side of mandibular molars, most often in the first molars. When an extra root appears on the mesiobuccal aspect instead, it is referred to as the radix paramolaris (RP).⁴ The

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permanent mandibular first molar is the first posterior tooth to emerge in the oral cavity and plays a crucial role in establishing proper occlusion and supporting essential functions such as mastication. Due to its early eruption and functional significance, it often requires endodontic treatment more than other teeth. Therefore, it is essential for clinicians to have a thorough understanding of the possible variations in its root and canal anatomy to ensure successful treatment outcomes.^{5,6}

The occurrence of radix entomolaris is relatively rare, appearing in less than 5% of individuals from Caucasian, African, Eurasian, and Indian populations. Its presence on both sides of the jaw (bilaterally) is even less common, with a frequency of under 2.19%. This additional root is generally smaller in size and more sharply curved than the distobuccal root, which makes it particularly challenging during root canal procedures and demands careful consideration. Cone-beam computed tomography (CBCT) offers a noninvasive way to detect the presence of a distolingual root. It provides a detailed three-dimensional view of the tooth's internal structure, allowing precise evaluation of its shape, curvature, and angulation.^{7,8}

CBCT accurately identifies the location of the distolingual root, making it easier to assess the root canal's curvature. This detailed visualization helps in preventing procedural errors during treatment, such as instrument separation, canal perforation, ledge formation, and other complications related to complex canal anatomy.

Case Presentation:

A 20-year-old female patient reported to the Department of Conservative Dentistry and Endodontics, K.D.Dental College and Hospital, with the chief complaint of pain in lower right and left back tooth region for last five days. The pain was aggravated on mastication. The clinical examination revealed the carious right and left mandibular first molars. His medical history was noncontributory. Intraoral periapical radiograph of #46 & #36 (Figure 1a, 1b) revealed deep carious lesion involving the pulp with periapical radiolucency at the root apices and presence of an extra root in #46 & #36. Based on clinical and radiographic examination, diagnosis of pulpal necrosis with periapical abscess with #36 and symptomatic irreversible pulpitis with acute apical periodontitis of #46 was established.

A cone beam computerized tomography was advised to confirm the diagnosis of distolingual root. CBCT was done to determine the exact position, angle, and curvature of distolingual root of the permanent mandibular first molars. (Figure 2a, 2b, & 2c)

An informed consent was taken from the patient prior to the procedure. In the initial appointment, local anesthesia was achieved using 2% lignocaine with 1:100000 epinephrine, followed by rubber dam isolation of the mandibular left first molar. An access cavity was prepared using an endo access bur, with a slight modification in design by extending it distolingually to facilitate the detection of an additional distal canal orifice. The working length of the canals was determined using an apex locator and subsequently confirmed with radiographic evaluation (Figure 3a & 3b).

Following confirmation of working length, cleaning and shaping of the canals were carried out using ProTaper rotary instruments in a crown-down technique up to size F1. Irrigation was performed with 5.25% sodium hypochlorite and normal saline throughout the procedure, with EDTA used as the final irrigant, followed by a saline flush. The canals

were then dried with appropriately sized paper points, and calcium hydroxide was placed as an intracanal medicament before sealing the tooth with a temporary dressing for one week. At the second visit, the canals were re-irrigated, dried, and the master cone fit was confirmed radiographically (Figure 4a & 4b). Obturation was completed using the single cone technique with gutta-percha and a bioceramic sealer, followed by composite restoration. The same protocol was followed for tooth #46.

Discussion:

Mandibular permanent first molars often show a variety of anatomical features and occasional anomalies. While having four root canals is fairly common, the occurrence of two separate distal roots is rare, and finding three-rooted mandibular molars on both sides is even more unusual. The extra third root, known as the radix entomolaris (RE), is typically found on the distolingual side of mandibular molars—especially the first molars—and was first documented by Carabelli in 1844.⁹

Based on buccolingual orientation, De Moor et al.¹⁰ have classified RE into three types. Type I refers to straight root or canal. Type II refers to an initially curved entrance which continues as a straight root/root canal. Type III refers to an initial curve in the coronal third of the root canal and a second buccally oriented curve beginning in the middle or apical third. In this case, distolingual root of #46 & 36 is classified as Type I.

The position of the distolingual canal orifice plays an important role in planning the access cavity. Since the orifice of the radix entomolaris (RE) is situated significantly distal to the main distal canal, the traditional triangular access cavity often needs to be modified into a trapezoidal shape. CBCT is a three-dimensional imaging overcoming these major limitations by visualization of the third dimension and ascertaining the exact location and anatomy of RE.^{11,12} This adjustment helps in locating the extra canal orifice and achieving straight-line access. CBCT imaging can be used to measure the distance between the additional distolingual canal and the other canal orifices, offering a valuable reference during treatment. The axial view in CBCT provides a clear visualization of the distolingual orifice in relation to the other canals, enhancing precision in identifying and managing RE.

Conclusion:

In the Indian population, the presence of a radix entomolaris in the mandibular first molar is relatively uncommon compared to other ethnic groups. However, dental professionals should remain mindful of its possible bilateral occurrence as a normal anatomical variation. Identifying this extra root and ensuring its complete cleaning, shaping, and obturation can greatly enhance the success of primary root canal therapy. Moreover, mandibular first molars generally show a lower success rate in endodontic treatment, often due to undetected canals. Being aware of such additional roots plays a crucial role in accurate diagnosis and can significantly improve the outcome of both initial and retreatment procedures. **Figures:**



Figure 1a & 1b : Preoperative periapical radiograph of #46 & #36.

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Figure 2a, 2b & 2c: 3D reconstruction of #46, 3D reconstruction of #36, & axial view.

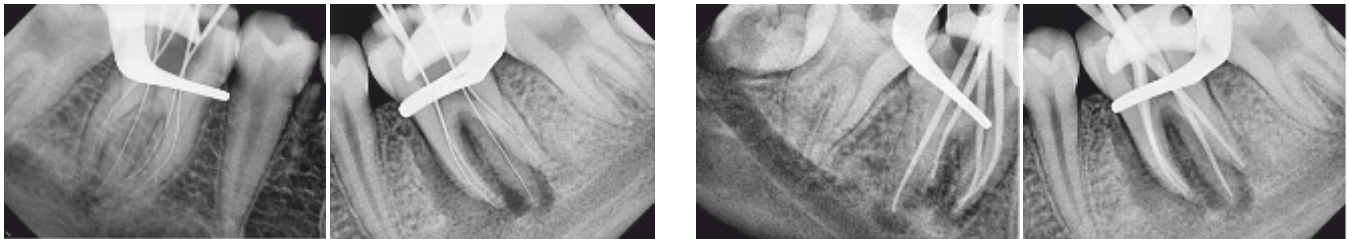


Figure 3a & 3b: Working length radiograph of #46 and #36.

Figure 4a & 4b: Mastercone radiograph of #46 and #36



Figure 5a & 5b: Post endo radiograph of #46 and #36.

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TOBACCO CESSATION: CLINICAL PRACTICE GUIDELINES IN A DENTAL SET UP

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ABSTRACT:

Tobacco is the leading cause of morbidity and mortality globally. It claims around 3.1 million lives in the World Health Organization (WHO) South-East Asia (SEA) Region alone. India ranks second among both production and consumption of tobacco. The first person to be consulted by any tobacco user is mostly a dental professional and that the “Iceberg Phenomenon of Tobacco-Related Oral Diseases” can easily be unearthed by a well-trained dentist who can identify oral precancer and cancer well ahead of time. Dental professionals can thus play a key role by being an active tobacco counselor and support. This review is an attempt to simplify tobacco cessation counseling in a dental clinic set up such that even a brief intervention of 2- 3 minutes can make a profound impact on any tobacco user.

Keywords: Cessation, Tobacco, Dentist, Guidelines, Clinical Practice

Introduction:

India is fast emerging as the cancer capital of the world. The alarming rise in the number of cases is estimated to rise by 14 % in India by 2030. At present, India accounts for 77000 new cases daily. As per the Global Adult tobacco survey (GATS-2 Survey (2016-17), 28.6% of the adult population in India use tobacco in one or the other form. Khaini and bidi are the most prevalent forms of Tobacco. Moreover, Tobacco is not just accounting for 90% of all cancers occurring in human body but it is claiming life of nearly 8 million people worldwide due to the variety of serious illness contributed by it.^{1,2,3} Thus it is very well addressed as a global epidemic. Tobacco cessation clinics are presently the need of the hour as desire to quit is strong among many tobacco users but the help is usually scarce. Proper help and support provided by these clinics is vital for successful quitting.^{4,5} This review is a concise and practical guide for all dental professionals to help their patient overcome tobacco use.

Various health professionals and health care workers are equipped with necessary knowledge about harmful effects of tobacco but available evidence suggests that behavioral interventions for tobacco cessation conducted by oral health professionals incorporating an oral examination component in the dental office or community setting may increase tobacco abstinence rates among both cigarette smokers and smokeless tobacco users.⁶ Varghese et al published the result of 19 TCCs established by Government of India way back in 2005 for a five-year period on 34741 subjects suggested quit rates of 14% at six-week follow-up and 22% reduced by more than 50%; at the end of three-months it was 26% , at six-months was 21% and nine-months was 18%.⁷ Significantly high quit rates can be achieved in a dental college set-up at the end of one year - 57.6% (complete responders -

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43.2% and partial responders 14.4%).⁴ The relapse reported was 1.8%. Another study by Benjamin N et al conducted across 20 dental clinics among 400 patients obtained quit rate of 45% at end of 6 months.

CLINICAL PRACTICE GUIDELINES IN A DENTAL SET UP:

The various steps involved in counseling a tobacco user are as follows:

1. Motivate Patient :

» By outweighing benefits of quitting over using tobacco especially health benefits and reversal of damage caused by tobacco use like improvement in taste, lung functioning, blood pressure, risk of heart disease and cancers lower down.

As per age, sex and personal preferences and religion, a patient can be motivated.

» **FACTS ABOUT TOBACCO** should be explained: Tobacco comes in different forms and all contain 5000-7000 chemicals of which 50-60 are carcinogens and nicotine is the addictive substance.

- **Smoking forms:** beedis, cigarettes, cigars, chuttas, dhumti, pipe, hooklis, and hookah.

- **Smokeless forms:** chewing paan (betel quid) with zarda (tobacco), gutkha, pan masala, manipuri tobacco, mawa, khaini, kaddi pudi, chewing tobacco leaves, mishri, gul, snuff, tobacco tooth paste and as tobacco water.

» **Motivational interviewing:** It involves four skills OARS – (Open ended questions, Affirmation on negative thoughts/feelings , Reflective listening, and summarizing to let your patient know they are being heard. The fifth skill is 'eliciting change talk' to guide patient change their behaviour and attitude.¹⁰

2. Understanding stages of behavioural change :

Before employing any of the treatment strategy of tobacco cessation, it is must to understand the readiness of the patient to quit:

The stages of behavioural change:

- Not ready (Pre contemplation)
- Unsure (Contemplation)
- Ready (Preparation)
- Action
- Maintenance

A patient in denial mode/ who does not accept that he is habitual to tobacco is probably in precontemplation and contemplation stage. The role of dental professionals in such patients will be to try and convert this patient slowly in subsequent appointments to preparation and action stage. In these patients 4R's (Relevance as to elicit personal reason that is relevant to the patient, Risks he thinks about tobacco use, Rewards he will have if quit, Roadblocks help him identify barriers, and Repetition of motivational intervention at every visit) treatment strategy will help provide brief counselling support.

The **5A'S** work best for those who are in Preparation, action and maintenance stage.—**ASK**, **ADVICE** (should be clear, strong, personalized message), **ASSESS** readiness to quit, **ASSIST** in designing quit plan for the patient , **AND ARRANGE** for support.

3. Educate about Addiction to the patient and about how nicotine releases all pleasure hormones at one time –Dopamine, Norephinephrine, Acetylcholine, Serotonin, beta Endorphin, GABA (Gamma amino butyric acid) creating pleasure effect, slowly leading to addiction.

» Addiction can be scaled on Fagerström Test for Nicotine Dependence (FTND) for smoking and smokeless tobacco. A score of more than 6 may require pharmacotherapy.

4. Empathize with the patient and help him understand his withdrawal symptoms like anger, anxiety, depression, and difficulty in concentrating, impatience, insomnia, restlessness, increased hunger and eating, decreased heart rate, impaired performance.

Most withdrawal symptoms begin within the first 1-2 days, peak at 3rd day and are more intense for 7-10 days. They may last for 3-4 weeks.

5. Implementation of behavioural counselling:

1. Explain the two methods option A and B:

A. Quit slowly- STAR

1. Set a quit date:
2. Tell family, friends and co-workers
3. Anticipate challenges to the upcoming quit attempt, the critical first few weeks
4. Remove tobacco products from your environment. Prior to quitting, avoid smoking in places where you spend a lot of time, like work, home or car. And make your home smoke-free.

B: Cold Turkey (Stopping all at once)

- Set your quit date.
- Think about alternative activities to do instead of reaching for a cigarette/ beedi or tobacco packet

2. DEALING WITH CRAVINGS

Cravings usually last 30-90 seconds and they can be best managed by **THE 4D'S-delay** (delay acting on the urge to smoke/ chew tobacco), **deep breathing**, **drink water** (sip the water slowly and hold it in your mouth a little while, or use other oral substitutes: carrots, pickles, sauf, apples, raisins, chewing gum all work to stop the psychological need), **distract** (Take your mind off tobacco use. Focus on the task you're doing, get up and move around or refer back to your list of reasons to quit/ talk with a friend about your urges and what you are doing about them/take a nap or a shower or warm bath or exercise.

3. Practice THE THREE R'S (REMINDE: Remind yourself why you decided to quit tobacco. Go back to your reasons for quitting and read them over again; **REHEARSE:** Rehearse what to do to handle the urge to smoke/chew when challenging situations occur; **REWARD:** Each time you beat the urge to use tobacco, reward yourself in some small way.)

4. Relapse prevention: Abstinence for more than 20 days is suggestive of a successful quit attempt. A dentist can play an important role in relapse prevention by motivating patients to **refuse offers of tobacco** (learn to say no), **challenging thoughts like** “just one cigarette/ tobacco packet won't hurt” **and try new ways to relax- Deep breathing, Tense and relax method (close your eyes, tighten your feet and toes and hold them tight for about**

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three seconds, then relax them. Repeat this exercise for all your muscles from foot upwards, then open your eyes), **relaxation through the mind (guided imagery)**, **relaxation through activity and seek support of a friend or family member.**

6. Pharmacotherapy:

These are broadly classified as:

1. Nicotine Replacement Therapy (NRT)
2. Non Nicotine Replacement Therapy

The agents with their dosage, contraindications, and side effects have been summarized in Table 1.11,12,13

Combined role: Nicotine Replacement Therapies (NRT) combined with supportive counselling; behavioural interventions and regular follow-up/ support are the most widely used and intensively reached treatment method. Studies show that behavioral treatments particularly in adolescents are effective, whereas pharmacotherapies have only marginal success.^{14,15,16}

Conclusion:

Adopting these tobacco cessation clinical practice guidelines will help the dentist to improve their counseling skills and understanding about the psychology of the patient, ultimately contributing to good clinical practice. Every dental professional as a trained tobacco counsellor has been the dream of Indian Dental Association when it started its Tobacco Intervention Initiative in 2010; and also the Government of India implemented through Dental Council of India by opening functional Tobacco Cessation Centres in every Dental College since 2018.

TABLE-1: Pharmacotherapy for Tobacco cessation

Pharmacological Agent	Available forms and dosage	Side effects	Contraindications and Precautions
NRT (Nicotine replacement therapy)	Patch (21/14/7 mg/day), nicotine gum(2/4 mg) [park and chew method for 30 mins-1 hour], nicotine inhaler(10 mg cartridge delivers 4 mg inhaled nicotine Vapor) and nicotine nasal spray (0.5 mg nicotine/actuation) aqueous nicotine)	Mouth soreness. Throat irritation Jaw pain, Hiccups, dyspepsia, hypersalivation, Flatulence, Nausea and vomiting, Unpleasant taste Lightheadedness, Local skin reaction occurs with transdermal patches	Pregnancy Recent (2 or less week post-myocardial infarction), Unstable angina pectoris Serious underlying arrhythmias
NON NICOTINE REPLACEMENT THERAPIES			
Bupropion	Tablet 150 mg OD × 3 d, then increase to 150 mg BID for 7-12 weeks. Start one week before quit date DO NOT exceed 300 mg/d	Seizure risk is increased, May increase the risk of suicidal thinking in patients who have depression, others- insomnia, dry mouth, agitation, anxiety, weight loss, constipation allergic reactions may occur	History of seizure disorder /stroke/brain tumor/brain surgery/serious closed head injury, Eating disorders, those on monoamine oxidase inhibitor therapy and those on withdrawal of alcohol and benzodiazepines, Pregnancy and lactation, liver disease

Varneciline	Days 1–3: 0.5 mg tablet daily Days 4–7: 0.5 mg tablet BID Days 8+: 1 mg tablet BID Start one week before quit date Take after eating and with a full glass of water	Nausea (most common), Insomnia, Abnormal dreams, Headache, dyspepsia, Constipation, Flatulence, Vomiting impaired ability to drive or operate heavy machinery neuropsychiatric symptoms including behavioral changes, agitation, depressed mood, suicidal ideation, and suicidal behavior allergic reactions may occur	Pregnant women, children. Stop treatment if suicidal ideation develops,
Clonidine	Tablets- 0.1 mg, 0.2 mg, 0.3 mg Transdermal patches- 0.1 mg/24 hours, 0.2 mg/24 hours, and 0.3 mg/24 hours. The usual dosage is 0.2 mg–0.6 mg per day in divided doses.	dry mouth, drowsiness, dizziness, sedation and constipation abrupt discontinuation of clonidine can result in severe rebound hypertension, it should be tapered.	pregnant women and in those who engage in potentially hazardous activities.
Nor triptyline	Capsules- 10 mg, 25 mg, 50 mg, and 75 mg Liquid- 10 mg/5 ml. Dosage- 25 mg per day and 100 mg per day.	dry mouth, blurred vision, urinary retention, lightheadedness, and shaky hands	Therapeutic drug level and cardiovascular monitoring, including electrocardiogram (ECG), is recommended

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Advancing supportive care-Growth factors in the management of mucositis in head and neck malignancy patients

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ABSTRACT-

Modern advances in the field of medico-dentistry has caused formulation of innovative solutions. Many cancer patients undergoing systemic chemotherapy or radiotherapy or a combination of both, especially in head and neck region, are in her entlyprone to develop a frequent complication Recent years have also seen a considerable emphasis on growth factors, which has led to the recognition that they might have potential in the therapeutic management of these complications, either by regeneration through biomimetic or mimicking the processes that occur during embryonic and post-natal development. This review attempts to highlight the role of growth factors in the management of oral mucositis.

KEYWORDS

Epidermal growth factor, keratiocyte growth factor, cancer, oralmucositis.

INTRODUCTION

Oral mucositis (OM) is described as inflammation of the mucosa in the oral cavity which is caused by destruction of the oral mucosal epithelial cells and growth suppression secondary to cancer treatment in the form of radiotherapy or chemotherapeutic drug substances Although it is less common, OM also can occur secondary to chemotherapy of various solid tumours. It is the most debilitating condition and the most common complication in cancer patients. Typical manifestations are atrophy, erythema, ulceration and swelling of the mucosa. It appears first by thinning of oral tissues which leads to erythema. As these tissues become thinner, ulceration eventually occurs. Potential complications include pain, increased risk of local and systemic infections, bleeding, insufficient food intake and may lead to breaks in treatment sessions. Oral mucositis along with xerostomia is one of the most common and a serious complication of anti- neoplastic therapy and occurs with a prevalence of approximately 40% in standard anti-cancer therapies(1). The term -mucositisl was introduced in late 1980 to describe inflammation of the oral mucosa induced by radiotherapy (RT), chemotherapy (CT), and bone marrowtransplantation and is said to be a manifestation of leukopenia(2),(3) . It generally presents shortly after the initiation of treatment and resolves usually within a week. The diagnosis of oral mucositis is according to clinical parameters and is manifested as pain, erythema, and ulcerations(4).

Oral mucositis that is induced owing to radiation therapy initially manifests as mucosalwhitening even before the appearance of erythema and ulceration, and the lesions which are not in the field of RT may be due to candidiasis or reactivation of herpes simplex virus. In contrast, CT oral mucositis presents bilaterally. As CT induces myelosuppression, there is an increased risk of systemic infection. The healing of oral tissues due to mucositis

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following RT takes 3 to 5 weeks, whereas, in CT-induced oral mucositis, the healing typically occurs in 2 to 3 weeks(5),(7).

Preventive and Therapeutic Approaches for Oral Mucositis A variety of agents have been used for the prevention and management of oral mucositis either in topical form or systemically and are mentioned below(8),(10).

I. TOPICAL PHARMACOLOGICAL AGENTS

- a. Antimicrobial agents
- b. Antiseptic agents
- c. Anti-inflammatory agents
- d. Mucosal protectants
- e. Local anesthetic agents
- f. Episil (Combination of phospholipids and glycerol dioleate)
- g. Gelclair (Hyaluronic acid)
- h. Matrix metalloproteinase blockers

II. SYSTEMIC PHARMACOLOGICAL AGENTS

- a. Antioxidants
- b. Antifungal agent
- c. Growth factors
- d. Stem cell therapy

III. ALTERNATIVE AGENTS

- a. Honey
- b. Capsaicin
- c. Chamomile
- d. Coffee
- e. Propolis
- f. Ozonated water

IV. MISCELLANEOUS

- a. Oral care protocol
- b. Cryotherapy
- c. Radiation shields
- d. Low-level laser therapy

GROWTH FACTORS

-Growth factors are proteins that stimulate cellular growth, proliferation, and differentiation. -Growth factors and cytokines bind to specific receptors on the cell membrane of target cells(11). Growth factors are important as they have the capability of

affecting a variety of cellular processes, which are important for the regeneration of tissues. Additionally, the self-healing capacity of the patients can be augmented by the use of growth factors(12). They also alter the complex balance of pro and anti-inflammatory cytokines involved in the pathogenesis of oral mucositis(11),(13). Currently, growth factors are recommended in the prevention of oral mucositis in hematological cancers undergoing high-dose CT and total body irradiation prior to hematopoietic stem cell transplantation(11).

Keratinocyte growth factor

Recent years have seen a breakthrough in the management of mucositis with the discovery of keratinocyte growth factor; this naturally occurring 28 KDA heparin binding member of the fibroblast growth factor family is capable of binding to its receptor on a variety of epithelial tissues inclusive of oral and gastrointestinal epithelial cells, keratinocytes on skin, stratified squamous epithelial cells, hepatocytes, and type 2 pneumocytes(14). Endogenous KGF is a potent epithelial mitogen, which is upregulated by the action of platelet-derived growth factor BB and TNF- α (15).

Palifermin

Palifermin is the first agent approved by FDA for its use in prevention and treatment of oral mucositis in hematological malignancies which is known to have several biological actions, which target multiple stages in the progression of oral mucositis(15). Palifermin causes proliferation, differentiation, and migration of epithelial cells of tongue and buccal mucosa and increases the epithelial thickening of the squamous epithelium of the oral cavity(16).

Payandeh M, et al. carried out a meta-analysis of 10 studies from 2007 to 2015 on the efficacy of palifermin in oral mucositis and acute Graft Versus Host Disease (GVHD) after hematopoietic stem cell transplant in hematological malignancies and concluded palifermin to be associated with a reduction in the incidence and severity of oral mucositis, whereas no effect was seen in a GVHD(17).

Le Q, et al. compared palifermin (180 μ g/mg) with placebo in a total of 188 head and neck cancer (HNC) patients (94 patients in each group) receiving conventionally fractionated RT (2.0 Gy/day for 5 days per week to 70 Gy) along with cisplatin (100 mg/m on days 1, 22, and 93). Which concluded that palifermin reduced the incidence of severe oral mucositis in patients receiving chemoradiotherapy for Head and neck cancer HNC. Further, it also delayed the development and shortened the duration of oral mucositis providing less use of an opioid analgesic(18). Similar results were observed in another study conducted by Henke M, et al. in which palifermin was administered at a dose of 120 μ g/kg once weekly in HNC patients undergoing postoperative chemoradiotherapy. They observed decrease severity of oral mucositis(19).

According to the reviewed literature, the administration of palifermin at doses between 1 and 180 μ g/kg/day reduces the incidence and severity of oral mucositis. The most frequent adverse reactions affect particularly the skin and oral mucosa, with dysgeusia, paresthesia, hypertrophy of the oral mucosa and tongue papillae; color changes of the oral mucosa, rash, pruritus, erythema, and hyperpigmentation of the skin, among other alterations(20).

Epidermal growth factor

Considered as a marker of mucosal damage, EGF is an important polypeptide which helps in epithelial cell proliferation, growth, and migration, thereby maintaining the tissue homeostasis(21).

Girdler NM conducted A phase I clinical trial on EGF mouthwash and concluded that it does not accelerate ulcer healing, but it may have the potential to protect the oral epithelium from cytotoxic damages(22).

Hong J, et al. in 2009 conducted a study in patients who were undergoing definitive RT of the head and neck region with or without combined CT developed oral mucositis these patients were administered topical rEGF for 7 days twice daily. Their results concluded the effectiveness and safety of rEGF in radiation-induced oral mucositis(23).

In contrast, a phase 2 clinical trial was conducted by Kim J, et al. in the year 2017 on the efficacy and safety of topical recombinant human epidermal growth factor (rhEGF) in oral mucositis induced by CT with hematopoietic stem cell transplantation. They used rhEGF in the form of oral spray and did not find any evidence for its role in reducing the incidence of oral mucositis(24),(25).

Transforming growth factor- β

A human recombinant form of TGF- β 3 was shown to inhibit reversibly, the cycling of the epithelium, including human buccal mucosa. This polypeptide exerts an anti-proliferative effect on the epithelial and endothelial cells. It also reduces mucositis by arresting the mitosis of epithelial cells in the G1 phase and initiating the regeneration of clonogenic stem cells. It showed a reduction in the severity of oral mucositis when applied topically in patients who received 5- fluorouracil(26),(27).

Colony-stimulating factors

Granulocyte colony-stimulating factor (G-CSF) and granulocyte macrophage colony stimulating factor (GM-CSF) were the first group of growth factors to have been tried in oral mucositis. These are the hematopoietic growth factors needed for the bone marrow progenitor cells to form mature blood cells. The CSFs are the G-CSF and GM-CSF. G-CSF stimulates the development of neutrophils, eosinophils, and basophils, whereas the GM-CSF stimulates the generation of cells belonging to the monocyte/macrophage lineage. Both the factors enhance the functioning of peripheral neutrophils including those in mucosal issues. The rationale behind numerous clinical trials on G-CSF and GM-CSF can be attributed to its direct action on the peripheral neutrophils, thereby reducing neutropenia induced during CT, hence decreasing the infection and oral mucositis(28).

Patni N, et al. evaluated the response of GM-CSF (100 mcg per day subcutaneously) in radiation-induced mucositis in a total of 33 patients with stage I and II head and neck squamous cell carcinoma. Treatment with GM-CSF was initiated only when patchy fibrinous mucositis was observed, pain not responding to step 1 pain killers (WHO step ladder), and when difficulty in swallowing semisolid food was present. They concluded a decrease in the severity of oral mucositis, dysphagia, and reduced pain not requiring the use of opioid analgesics. Minimal side effects were observed and 2 patients out of 33 reported itching and erythema at the site of injection(29).

CONCLUSION

Prevention is essential part especially with the approach of addressing the treatment of the underlying oral disease and improve oral hygiene. Today, there are pharmacologic and non-pharmacologic methods for treating mucositis, particularly a combination of these methods together which can create greater therapeutic effects. Hoping more drug effectiveness of these methods on pain reduction, nutrition improvement. Oral mucositis is the most significant dose – limiting step in the cancer treatments and is associated with adverse effects. Reducing the morbidity of mucositis will help to avoid unwanted dose reductions or unscheduled breaks in cancer therapy and thus improve outcomes of cancer therapy. Till date, there is no effective gold standard treatment for oral mucositis. Literature has several good experimental evidence to support the use of growth factors in treating oral mucositis. Future research for the newer drugs in the field of radiation-induced oral mucositis is a must, and the current management should focus more on palliative measures, such as pain management, nutritional support, and maintenance, of good oral hygiene.

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Precision Rehabilitation Using Biofunctional Prosthetic System (BPS) Dentures: A Case Report in a 65-Year-Old Edentulous Patient

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ABSTRACT:

This article presents a clinical case report a 65-year-old completely edentulous male rehabilitated using the Biofunctional Prosthetic System (BPS). BPS dentures, aim to restore the aesthetics and function of natural teeth using a systematic and precise approach. This report outlines the step-by-step clinical workflow, including impression techniques, jaw relation records, injection molding protocols, and final adjustments. The patient experienced improved stability, function, and satisfaction compared to his previous conventional dentures. This case highlights the benefits of BPS dentures in restoring confidence, mastication, and comfort in elderly edentulous patients.

Keywords:

BPS dentures, complete dentures, injection molding, occlusal harmony, patient satisfaction

Introduction

Complete edentulism is a common condition among geriatric populations, leading to diminished masticatory efficiency, altered phonetics, and impaired esthetics, which affect the overall quality of life. Conventional complete dentures have been the standard solution for decades; however, they frequently present challenges related to fit, comfort, and function. The Biofunctional Prosthetic System (BPS), offers a systematic approach to complete denture fabrication that integrates advanced impression materials, precise jaw registration tools, and injection molding techniques to enhance the quality of the final prosthesis [1]. By adhering to these protocols, clinicians can achieve improved functional and esthetic results, thus increasing patient satisfaction. This report details the clinical management of a 65-year-old first-time denture wearer rehabilitated using the BPS system.

Case Report

Mr. Mahesh Kumar Gupta, a 65-year-old male, presented with complete edentulism and sought a durable, comfortable, and esthetic prosthesis. His medical history was unremarkable. Clinical examination revealed high, well-rounded maxillary and mandibular ridges with healthy mucosa and no signs of pathology. Temporomandibular joint function was within normal limits, and neuromuscular coordination appeared adequate.

Given his anatomical conditions and desire for a high-quality denture, the BPS system was selected for rehabilitation. Initial impressions were made using Accu-Dent® System I trays and irreversible hydrocolloid material. This approach enabled accurate recording of anatomical landmarks, including deliberate overextension to ensure proper capture of the vestibular areas. Following this, custom impression trays were fabricated

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using SR Ivolen® light-curing material, allowing for a precise fit to the patient's edentulous arches. Final impressions employed a vinyl polysiloxane material, ensuring detailed mucostatic recording of the denture-bearing areas with appropriate border molding, as recommended by the BPS protocol [1]. The use of VPS enabled superior dimensional stability and patient comfort during impression making.

Jaw relations were recorded using the Gnathometer M, a tool designed to determine the vertical dimension and centric relation, which facilitated a reliable intraoral tracing. The UTS 3D transferbow facilitated precise transfer of maxillomandibular relationships to the Stratos 200 articulator, allowing replication of mandibular movements and occlusal dynamics. The occlusal plane was confirmed using the Gnathometer M to ensure proper esthetics and functional occlusion.

For the prosthetic teeth, SR Vivodent® PE teeth were selected due to their excellent aesthetics and wear resistance. During the wax try-in appointment, esthetics, phonetics, and occlusion were carefully evaluated. The patient expressed satisfaction with the lip support, smile line, and tooth arrangement. Minor adjustments were made to optimize comfort and function.

The final prostheses were processed using the Ivocap injection molding system. This technology reduces polymerization shrinkage and porosity, resulting in a denture base with excellent adaptation and strength [1,6]. Denture insertion was performed after thorough clinical verification of fit and occlusion. Post-insertion adjustments were minimal due to the precision of the fabrication process.

The patient was instructed on denture hygiene and maintenance. Follow-up evaluations at 24 hours, one week, and one month demonstrated stable prostheses, no sore spots, and improved masticatory efficiency. The patient reported significant improvement in comfort, speech, and confidence.

Discussion

The BPS system represents a paradigm shift in complete denture fabrication by emphasizing accuracy and patient-centered care. This approach incorporates precise impression techniques, functional jaw relation records, and high-impact injection-molded acrylic bases, which enhance the mechanical and biological performance of the denture [2–4]. Injection molding using Ivocap technology minimizes residual monomer content and dimensional changes, resulting in a stable, well-fitting prosthesis with improved patient comfort [6].

In this case, the strict adherence to the BPS protocol was instrumental in achieving an excellent clinical outcome. The patient's well-formed ridges facilitated optimal denture retention, and the functional jaw relation technique allowed dynamic occlusal balance. Studies have shown that such meticulous protocols reduce the risk of common denture-related complications and enhance patient satisfaction [3,5]. The use of natural-looking denture teeth further contributed to the esthetic success, promoting psychological well-being and social confidence.

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Conclusion

The rehabilitation of a first-time denture wearer with well-rounded ridges using the BPS system demonstrates that meticulous adherence to ideal clinical and laboratory protocols can result in highly satisfactory prosthetic outcomes. The integration of advanced materials, functional jaw registration, and injection molding technology ensures improved fit, durability, and esthetics, thus improving patient quality of life. BPS dentures offer a reliable and effective solution for complete edentulism, especially in patients seeking superior prosthetic care.

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Depression in the Dental Chair: Unveiling the Mental Health Cost of Chronic Dental Problems

Dr. Dhatri Varma

Abstract:

The association between oral and mental health remains underrecognized despite strong evidence of their interdependence. This paper explores the link between chronic dental conditions and depression using epidemiological data, clinical mechanisms, and a case study. Depression prevalence is markedly higher in patients with untreated dental caries (28%), chronic periodontitis (35%), orofacial pain (41%), and failed root canal treatments (48%) compared with 16% in the general population. Contributing factors include chronic inflammation, psychotropic medication-induced xerostomia, sleep disruption from pain, behavioral neglect, and psychosocial effects of disfigurement or tooth loss. A case study illustrates improved outcomes when dental infection management is paired with psychological support. Findings underscore the need for a biopsychosocial model and integrated dental-mental health care.

Keywords:

Oral health, Depression, Chronic dental pain, Biopsychosocial model, Dental-mental health integration

Introduction — Where Oral Pain Meets Emotional Pain

“Oral health is not a cosmetic add-on—it is an entry point into emotional well-being. When we treat the mouth, let's remember the mind.”

We often compartmentalize health—treating a toothache as a minor dental issue and depression as a psychological one. Yet the boundary between the two is porous. Historically, dentistry and general medicine were intertwined until the 19th century, when dental training diverged from medical care (Kisely, 2016). This split obscured the profound systemic and psychological impacts of poor oral health.

As both a dentist and a mental health practitioner, I've witnessed how chronic dental issues—gum disease, unresolved infections, and failed root canal treatments—can deeply affect emotional well-being. These aren't cosmetic or isolated concerns; they affect how a person feels on the inside.

A dentist aware of the emotional needs of patients can provide healing at a psychological level:- Unresolved oral issues aren't just about function or aesthetics—they're deeply entwined with the patient's quality of life, identity, and emotional stability. When dental disease persists, so does the psychological burden. It's time we recognized that dental pain can be a gateway to depression, and treating the tooth without addressing the person may result in only half a cure. Providing full cure by understanding the emotional needs of the patient will certainly lead to a greater patient satisfaction.

Prevalence of Depression by Dental Condition

Dental Condition	Depression Prevalence
General adult population (India)	16%
Untreated dental caries	28%
Chronic periodontitis	35%
Orofacial pain (e.g., TMJ disorders)	41%
Failed/incomplete root canal treatments	48%

Oral Disease in Psychiatric Populations

- People with severe mental illness are 2.7× more likely to lose all their teeth (edentulism) (Kisely et al., 2011).
- A meta-analysis found that psychiatric inpatients have up to 99% prevalence of gum disease (Angelillo et al., 1995).
- Individuals with eating disorders have a 5× higher risk of dental erosion; those with self-induced vomiting face a 7× greater chance (Kisely et al., 2015).

These findings underscore a clear correlation—not mere coincidence—between oral and mental health, fueled by biological, behavioral, and social mechanisms.

Biopsychosocial Mechanisms — Understanding the Links

1. Chronic Inflammation

Untreated oral infections elevate cytokine levels, which cross into the CNS and disrupt mood regulation (Kisely, 2016). Research suggests a strong link between untreated oral infections, elevated cytokine levels, and increased risk of depression. Oral infections, like periodontitis, cause inflammation, releasing inflammatory markers like cytokines into the bloodstream. These cytokines can then travel to the brain and disrupt brain chemistry, potentially leading to or exacerbating depressive symptoms.

2. Pain & Sleep Interruption

Persistent dental pain disturbs sleep, elevates cortisol, and heightens emotional volatility.

3. Medication Impact

Psychotropic drugs—antidepressants, antipsychotics, mood stabilizers (e.g., lithium)—frequently cause dry mouth (xerostomia), accelerating decay and gum disease (Page & Somerville-Brown, 2007).

4. Behavioral Patterns

Depression and severe mental illness often bring neglect in hygiene, high sugar or tobacco use, disordered eating, and substance use—all worsening oral health.

5. Substance & Dietary Factors

Bruxism (tooth grinding), acid erosion from eating disorders, tobacco, and

alcohol use precipitate dental wear and decay.

6. Social & Psychological Effects

Tooth loss, visible decay, or ill-fitting prosthetics lead to embarrassment, social withdrawal, low self-esteem, and deepened depression.

- 7. Stress affecting the Mucosa** While the exact causes of both OLP and aphthous ulcers are not fully understood, stress is a recognized factor that can contribute to their onset and exacerbation. Managing stress through appropriate techniques may help reduce the frequency and severity of these oral conditions.

Case Study — Rekha's Silent Struggle

Rekha, 35, experienced lingering pain after a root canal 8 months prior. Despite reassurances, she developed fatigue, irritability, appetite loss, and loss of interest in daily life—classic depressive patterns.

Advanced imaging (CBCT) revealed a missed canal and a periapical infection. Post re-RCT and three counseling sessions addressing emotional health and self-care, Rekha's mood, sleep, energy, and sense of self improved.

Clinical takeaway: persistent dental pain may be a red flag for both emotional distress and overlooked infection.

Implications — Toward an Integrated Health Model

For Dentists

- Screen for depression (e.g., using simple questionnaires) in persistent or atypical dental pain cases.
- Observe physical signs: dry mouth, erosion, bruxism scars, frequent decay.
- Collaborate: refer to mental health professionals when psychological distress is suspected. Use checklists for oral health in mental health settings (Griffiths et al., 2000).

How to Handle Depressive Patients in a Dental Clinic

1. Train Staff in Emotional Awareness: Educate all staff to identify signs of distress—blank stares, lack of communication, or excessive anxiety.
2. Create a Calming Environment: Use soft lighting, soothing music, and reduce stimuli that can trigger anxiety or trauma.
3. Use Gentle Dialogue: Ask open-ended questions like, “Has this pain been affecting your sleep or mood?” or “Is it okay if I explain each step to help you feel more at ease?”
4. Avoid Judgment: Replace shaming phrases like “Why didn't you brush?” with “Let's work together to make this easier for you.”
5. Apply Screening Tools: Consider short questionnaires for patients with chronic issues and emotional symptoms.
6. Refer for Psychological Support: Have a ready list of counselors, therapists, or support groups.

7. Be Patient-Centered: Offer longer or divided appointments if needed. Depressed patients may need more time, clarity, and compassion.

“The patient who cancels appointments repeatedly may not be lazy—they may be struggling emotionally.”

“Sometimes the pain we see in the mouth has deeper roots in the mind.”

“Every silent patient in your chair has a story. Your gentleness may be the turning point.”

For Mental Health Professionals

- Include oral history: assess for dry mouth, dental pain, aesthetics, prosthetics.
- Refer patients with unexplained fatigue, orofacial pain, xerostomia, or eating disorders.
- Recognize that rebuilding self-esteem often requires addressing visible dental issues.

Public Health Recommendations

- **Integrate oral health** into national mental health frameworks.
- **Train allied health workers** (e.g., physicians, nurses) to identify and refer common oral health issues.
- **Expand access:** subsidized care, outreach clinics, fluoride programs, and “Dental as Anything” style models (Burchell et al., 2006).
- **Community education:** encourage oral hygiene, balanced diets, and stress the mental health repercussions of untreated oral disease.

In Summary

Oral health is not a luxury—it's integral to mental health and overall well-being. The ripple effect from a single untreated tooth can extend to social ties, sleep, mood, and recovery. Only through integrated dental–mental health collaboration can we fully honor the right to holistic care.

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Diary of Events 2024-25

The 46th UP State Dental Conference took place from 15th to 17th November 2024, organized by the Noida branch. During this event, the first UP State Executive Committee meeting was held, and new office bearers were elected



Maha Kumbh was held at Prayagraj from 13 Jan to 25 Feb. 2025 in which Prayagraj branch organized free dental check up camp at Sangam area in which dentist from all over UP offered their services and many pilgrims were given treatment and medication.

Bhandara was organized by Prayagraj branch for the pilgrims.



Diary of Events 2024-25



Second State EC meeting was held in Deoria on 23rd of March 2025. In this program, Dr. T.P. Chaturvedi also gave a very good & informative lecture on orthodontics.



UP State sports conclave was held by Merret Cantt Branch in April 25th, 26th and 27th, 2025. Several teams from 10 to 12 branches of UP came for the tournament. Moradabad branch won the cricket tournament. Many indoor games like badminton, TT, Swimming, chess, carrom were organized in male and female categories according to the age group. Field event, athletics was also included in this sports conclave.

Third EC Meeting organized by Lucknow Branch, On 22nd June 2025



Ida UP State CDH program Deoria on 26th July 2025



Dr N S Lodhi, Hon. secretary of IDA, Agra Branch, started campaign of Tobacco free India on 14 Feb. 2025, by cycling from Agra to Kathamandu Pasupathinath Temple. He Covered 1145 km in 7 days.

He did one more cycle journey for the same cause from Agra to Leh and Umling La Top, World's highest motorable Road, on June 22nd, 2025.

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