

INDIAN SOCIETY OF PROSTHODONTICS-RESTORATIVE-PERIODONTICS

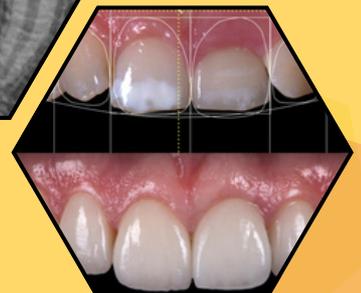
14th ISPRP NATIONAL CONFERENCE



REGENERATE

REHABILITATE

RESTORE



SOUVENIR

**12th -14th
JULY 2024**

**I.T.S DENTAL COLLEGE,
GHAZIABAD, UP**

isprp2024gzb@its.edu.in

14isprpitsgzb.co.in

MESSAGE FROM THE HONORARY PATRON



भारतीय दन्त परिषद DENTAL COUNCIL OF INDIA

(CONSTITUTED UNDER THE DENTISTS ACT, 1948)
Aiwan-E-Galib Marg, Kotla Road, New Delhi-110002

Dr. Dibyendu Mazumdar

BDS (Cal.), MDS (BHU), D.Sc. (h.c.), FDSRCPS (Glasgow)

President

DENTAL COUNCIL OF INDIA

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Dated the 27th June, 2024

MESSAGE

Greetings to All,

I am delighted to announce that **ITS Dental College, Ghaziabad**, will host the **14th ISPRP National Conference** from July 12th to 14th, 2024. This prestigious event will feature pre-conference workshops, hands-on sessions, guest lectures, and presentations by postgraduates and interns, alongside poster presentations, competitions, and more.

The conference uniquely converges the disciplines of Prosthodontics, Restorative Dentistry, and Periodontics with a focus on compassionate patient care. Over the years, it has stood as a cornerstone for professional development and academic enrichment. It serves as a vital platform for dental professionals, ranging from seasoned experts to aspiring learners, to gather, exchange knowledge, and grow together.

Under the theme "Restore, Regenerate, and Rehabilitate," the conference underscores the profession's core values, emphasizing innovation as pivotal to advancing dental practice. Through collaboration and knowledge exchange, we aim to propel our field to new heights. I trust this event will foster enduring connections, ignite innovative ideas, and deepen our collective understanding of our crucial role within the healthcare continuum.

Excellence in dentistry demands a commitment to continuous learning, innovation, and the highest standards of patient care. Together, through our combined wisdom, experiences, and research, we hold the power to shape the future of our profession.

The organizing team at ITS Dental College, in collaboration with the ISPRP organizing committee, eagerly anticipates welcoming delegates and faculty members from across India with enthusiasm. Best wishes to all for a successful conference.

(Dr. Dibyendu Mazumdar)

MESSAGE FROM THE HONORARY PATRON

Prof. (Dr.) Mahesh Verma

MDS, MBA, PhD, FDSRCS (Eng),
FDSRCS (Edin) FDS RCPSG (Glas)

Vice Chancellor

Padma Shri Awardee

Dr. B. C. Roy Awardee



गुरु गोविंद सिंह इन्द्रप्रस्थ विश्वविद्यालय
सेक्टर - १६ सी, द्वारका, नई दिल्ली - ११००७८

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29th June, 2024



MESSAGE

Congratulations on the 14th National ISPRP Conference.

The Indian Society of Prosthodontics, Restorative and Periodontics (ISPRP) plays a pivotal role in Indian oral Healthcare. By integrating interdisciplinary dentistry, bridging gaps between specialties, and fostering collaboration, ISPRP ensures comprehensive oral care.

The 14th national ISPRP conference promises to be an academic extravaganza with some key sessions from eminent speakers from various dental disciplines.

I am pleased to know that the conference is being held at the I.T.S. Dental college. Through its 25 years, the college has consistently nurtured talent, fostered research, and elevated dental practice.

The oral cavity is often rife with problems that require an interdisciplinary solution. The singular approach to dental health care is rapidly being replaced. The new approach, treats the teeth as an Endo-Prostho-Pero continuum. As dentists we must keep abreast with the latest innovative approaches and treatment options.

This conference is slated to focus on the science and practice of restorative, regenerative, and rehabilitative dentistry. Hands-on workshops, lectures, paper presentations, and poster sessions will be the highlights of the 3-day session. There will be invaluable opportunities for students to gain insights into the latest advancements in dental technology and techniques.

I am confident that the conference will provide an excellent platform for interdisciplinary knowledge exchange among participants. It will bring together top practitioners, educators and students to discuss the latest innovations, trends, challenges, and solutions. Conferences like these help in exchange of ideas, help us get updated, give us a chance for healthy debates, both formal and informal and also deliberate on the needs of the future.

I am looking forward to a stimulating and meaningful conference. I urge all participants to engage actively in the sessions. You could be shaping the future of dentistry. I do hope the conference will ignite curiosity and strengthen our resolve to provide exceptional patient care.

I sincerely acknowledge the hard and sincere efforts put in by the organizing committee of the conference. Congratulations to I.T.S Dental College for hosting this meaningful conference.

Prof. (Dr.) Mahesh Verma

MESSAGE FROM THE VICE CHANCELLOR ATAL BHARI VAJPAYEE MEDICAL UNIVERSITY



अटल बिहारी वाजपेयी चिकित्सा विश्वविद्यालय, उ०प्र०, लखनऊ
Atal Bihari Vajpayee Medical University, U.P., Lucknow

डा. संजीव मिश्रा
कुलपति

Dr. Sanjeev Misra

M.S., MCh, FRCS (Eng.), FRCS (Glasgow),
FICS, FACS (USA), FAMS, FNASc DSc (h.c)
Vice Chancellor



पत्रांक 1732.....

दिनांक 03/07/2024.....

MESSAGE

I am delighted to learn that ITS Dental College Ghaziabad for hosting the 14th ISPRP National Conference scheduled from July 12th to 14th, 2024.

The Indian Society of Prosthodontic-Restorative-Periodontics was formed with an aim of better interaction, learning and understanding between the three specialties to help in wholesome treatment of patient.

The theme of the conference 'Regenerate-Restore-Rehabilitate' resonates with the idea of a composite approach for treatment of patients.

I congratulate organizers for conceptualizing preconference workshops and keynote lectures covering such important topics like BioMimetic Dentistry, Hard & Soft tissue Symphony & Implant retained Auricular Prosthesis.

I hope that a conference of such varied interests will benefit the students as well as faculty of various specialties participating in the conference.

I wish the conference all success.


(Dr. Sanjeev Misra)

MESSAGE FROM THE DESK OF CHAIRMAN, I.T.S DENTAL COLLEGE, GHAZIABAD



Dear Participants,

It is with great pleasure and pride that I welcome you to the Indian Society of Prosthodontics, Restorative and Periodontics Conference. This event is a reflection of our commitment to advancing our field through collaboration, innovation, and continuous learning.

The theme of this year's conference, 'Regenerate, Restore, and Rehabilitate' highlights the significant strides we are making in prosthodontics, restorative dentistry, and periodontics. Our program is designed to provide you with the latest insights, groundbreaking research, and practical knowledge that you can apply in your professional practice.

I extend my deepest gratitude to the organizing committee, our distinguished speakers, sponsors, and volunteers for their tireless efforts in making this conference a reality. Your dedication and hard work are truly commendable.

I encourage all participants to actively engage with the sessions, network with your peers, and explore new ideas. Let us use this platform to build stronger connections and push the boundaries of our profession.

Lastly, I would like to extend my congratulations to the Department of Prosthodontics, Conservative Dentistry and Endodontics, and Periodontology and Oral Implantology for their exemplary effort in organizing this conference. Their commitment and diligence are truly admirable.

Warm regards,

Dr R.P. Chadha

Chairman

I.T.S - The Education Group

MESSAGE FROM THE DESK OF VICE-CHAIRMAN, I.T.S DENTAL COLLEGE, GHAZIABAD



Dear Delegates and Esteemed Guests,

It is with great enthusiasm and a deep sense of honour that I welcome you to the Indian Society of Prosthodontics, Restorative and Periodontics Conference. This event marks an exciting opportunity for all of us to come together, share our knowledge, and explore the latest advancements in our field. As Vice Chairman, I am particularly proud of the collaborative spirit that has brought this conference to life. Our institution is committed to driving excellence in dental education and research, and hosting this event allows us to further our mission by facilitating a platform for intellectual exchange and professional growth.

My heartfelt appreciation and congratulations go out to the Departments of Prosthodontics, Conservative Dentistry and Endodontics, and Periodontology and Oral Implantology for their outstanding success in conducting this conference. Their hard work and dedication are truly praiseworthy.

To our delegates, I encourage you to immerse yourselves in the sessions, network with fellow professionals, and take advantage of the wealth of knowledge available.

Thank you for your participation and contribution to the ISPRP Conference.

Warm regards,

A handwritten signature in black ink, appearing to read 'Arpit Chadha'.

Mr. Arpit Chadha

Vice - Chairman

I.T.S - The Education Group

MESSAGE FROM THE DESK OF DIRECTOR P.R. I.T.S DENTAL COLLEGE, GHAZIABAD



Dear Esteemed Delegates,

It is with great excitement and pride that I welcome you to the ISPRP Conference. This event is a hallmark of excellence in our profession, bringing together experts, practitioners, and innovators from around the world.

As the Director of Public Relations, I am thrilled to see the culmination of months of hard work and dedication by our organizing committee, speakers, sponsors, and volunteers. Their efforts have been instrumental in creating a platform for meaningful exchange and professional growth.

I extend my warmest thanks and congratulations to the Department of Prosthodontics, Conservative Dentistry and Endodontics, and Periodontology and Oral Implantology for their remarkable achievement in hosting this conference. Their unwavering dedication and hard work deserve high praise.

I encourage all participants to engage actively with the sessions, network with your peers, and share your valuable insights. Together, we can drive our profession forward and make a lasting impact on the future of dental health.

Thank you

Warm regards,

A handwritten signature in black ink, appearing to read 'S. Sood' with a stylized flourish.

Mr. Surinder Sood

Director PR

I.T.S - The Education Group

MESSAGE FROM THE DESK OF SECRETARY, I.T.S DENTAL COLLEGE, GHAZIABAD



Dear Guests,

Welcome to the ISPRP Conference. It is a privilege to have you join us for this important event that brings together leading professionals in Prosthodontics, Restorative Dentistry, and Periodontics.

The conference is packed with insightful sessions, expert presentations, and interactive workshops designed to enhance your knowledge and professional skills.

As the Institute Secretary, I have witnessed the immense effort and dedication that has gone into organizing this conference. I would like to thank the organizing committee, speakers, sponsors, and volunteers for their exceptional contributions along with my deepest thanks and congratulations to the Departments of Prosthodontics, Conservative Dentistry and Endodontics, and Periodontology and Oral Implantology for their successful execution of this conference.

To all the delegates, I encourage you to engage fully with the conference activities, network with your peers, and share your insights. This is a unique opportunity to learn from each other and to advance our collective expertise.

Thank you for your participation and support. I look forward to the enriching experiences and innovative ideas that will arise from our time together.

Warm regards,

A handwritten signature in blue ink, appearing to read 'B.K. Arora'.

Mr. B.K. Arora

Secretary

I.T.S - The Education Group

MESSAGE FROM THE DESK OF PRESIDENT ISPRP

It is with great pleasure and a profound sense of responsibility that I welcome you to the 14th Annual Conference of the Indian Society of Prosthodontics, Restorative and Periodontics, being held at the I.T.S Dental College, Ghaziabad, from July 12 to 14, 2024. This year's theme, "Regenerate, Restore, and Rehabilitate," encapsulates the essence of our collective mission to advance dental care through innovation, collaboration, and unwavering dedication.



As we gather to share knowledge, discuss groundbreaking research, and explore new frontiers in our fields, I am deeply encouraged by the enthusiasm and commitment demonstrated by our organizing team. Their meticulous planning and hard work have been instrumental in bringing this conference to fruition.

I extend my appreciations to the Organizing Chairperson -Dr. Sonali Taneja, and the Organizing Co-Chairperson - Dr. Rohit Kochhar, for their exemplary leadership and vision. Their tireless efforts, along with those of the Organizing Secretary - Dr. Sumit Malhotra, Organizing Joint Secretary - Dr. Puneet Raj Khurana, have ensured a well-structured and enriching event.

Scientific Chairperson - Dr. Neeta Pasricha, and Scientific Co-Chairperson - Dr. Gunjan Gupta, have curated an exceptional scientific program that promises to enlighten and inspire. I also acknowledge the diligent work of our Souvenir Convenors, Dr. Siddhi Tripathi, Dr. Anuradha Yadav, and the entire team in creating a memorable keepsake for this conference.

To all our delegates, your participation is the cornerstone of this conference's success. Your presence here signifies a commitment to excellence and a shared vision for the future of dental care. Together, let us embrace the theme of "Regenerate, Restore, and Rehabilitate" as we strive to innovate and enhance our practice, ultimately improving the quality of life for our patients.

May this conference be a platform for meaningful interactions, lasting collaborations, and the exchange of transformative ideas. I am confident that each one of you will leave with renewed motivation and a wealth of knowledge that will propel our profession forward.

Thank you for being a part of this remarkable journey. Let us make this conference a resounding success!

Warm regards,

A handwritten signature in black ink, appearing to read "N. Gopi Chander".

Dr. N. Gopi Chander

President

Indian Society of Prosthodontics, Restorative and Periodontics

MESSAGE FROM THE DESK OF ISPRP GENERAL SECRETARY



Dear Esteemed Colleagues,

As the Hon. General Secretary of the Indian Society of Prosthodontics Restorative and Periodontics, it is my distinct pleasure to extend my warmest wishes for the 14th conference of our esteemed society. This annual gathering serves as a cornerstone for our professional community, providing an invaluable platform for the exchange of ideas, the sharing of cutting-edge research, and the fostering of innovative practices in prosthodontics, restorative, and periodontics.

Our conference theme this year underscores the importance of interdisciplinary collaboration and the continuous pursuit of excellence in our field. I am confident that the diverse range of presentations, workshops, and discussions planned will not only enhance our clinical skills but also inspire new avenues of thought and research.

I extend my heartfelt gratitude to the organizing committee, whose tireless efforts have made this event possible, as well as to our esteemed speakers and participants who bring a wealth of knowledge and expertise. Your dedication and contributions are what make our society a beacon of progress and professionalism.

I wish the conference resounding success, enriching each of us both professionally and personally. I look forward to the fruitful exchanges and lasting friendships that will undoubtedly emerge from this gathering.

Warm regards,

Dr Vibha Shetty

Hon. General Secretary

MESSAGE FROM THE DESK OF DIRECTOR- PRINCIPAL, I.T.S DENTAL COLLEGE, GHAZIABAD



Dear Delegates and Esteemed Guests,

It is with immense pleasure and pride that I extend a warm welcome to all participants of the Indian Society of Prosthodontics Restorative and Periodontics Conference. This prestigious event is a beacon of knowledge, innovation, and collaboration, bringing together some of the brightest minds in our field.

The theme of this year's conference, 'Regenerate, Restore, and Rehabilitate', reflects the dynamic and ever-evolving landscape of our discipline. As we gather to share insights, explore new ideas, and forge lasting connections, I am reminded of the importance of such interactions in driving progress and fostering a spirit of continuous learning.

Our institution is honoured to host this distinguished conference, and I am confident that the diverse array of presentations, workshops, and discussions will provide valuable opportunities for professional growth and development. I encourage you all to engage fully, exchange your expertise, and embrace the chance to learn from one another.

I would like to express my heartfelt gratitude to the organizing committee, speakers, sponsors, and volunteers who have worked tirelessly to make this conference a reality. Your dedication and hard work are truly commendable and have ensured the success of this event.

As we embark on these days of intellectual enrichment and professional camaraderie, I wish you all a fruitful and inspiring conference. May the knowledge and connections gained here propel us towards greater achievements and innovations in our respective fields.

Thank you for your participation and contribution to the ISPRP Conference. I look forward to the vibrant discussions and pioneering ideas that will emerge from this gathering.

Warm regards,

A handwritten signature in black ink, appearing to read 'Dr. Devi Charan Shetty'. The signature is fluid and cursive, with a prominent initial 'D'.

Dr Devi Charan Shetty

Director-Principal

I.T.S Dental College

Ghaziabad

MESSAGE FROM THE DESK OF ORGANISING CHAIRPERSON, I.T.S DENTAL COLLEGE, GHAZIABAD

Dear Delegates,



On behalf of the organising committee, it is my distinct pleasure to welcome you to the Indian Society of Prosthodontics -Restorative -Periodontics Conference. This gathering represents the culmination of months of diligent planning, collaboration, and dedication to creating an enriching platform for knowledge exchange and professional development.

The theme of this year's conference, 'Regenerate, Restore, and Rehabilitate', is particularly relevant as we navigate the challenges and opportunities in our field. Our carefully curated program includes a diverse range of presentations, workshops, and panel discussions designed to inspire, educate all participants.

As the Organising Chairperson, I have had the privilege of working with a remarkable team of colleagues whose unwavering commitment and hard work have been instrumental in bringing this conference to life.

I also wish to thank our distinguished speakers and presenters, whose expertise and insights are the cornerstone of this conference. Your willingness to share your knowledge and engage with fellow professionals is greatly appreciated and will undoubtedly leave a lasting impact on all attendees.

To our participants, I encourage you to immerse yourselves in the sessions, engage in discussions, and take advantage of the networking opportunities.

Thank you for joining us at the Conference. May this conference be a memorable and rewarding experience for all.

Warm regards,

A handwritten signature in black ink that reads "Sonali Taneja". The signature is fluid and cursive.

Dr Sonali Taneja

Organising Chairperson

Dean PG Studies and Clinics

Professor and Head

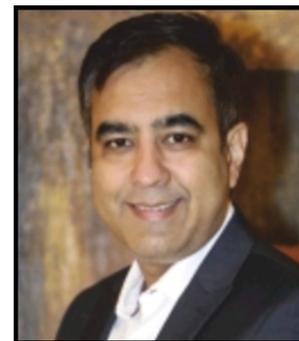
Department of Conservative Dentistry and Endodontics

I.T.S Dental College

Ghaziabad

MESSAGE FROM THE DESK OF ORGANISING SECRETARY, I.T.S DENTAL COLLEGE, GHAZIABAD

Dear Delegates,



It is with great pleasure and a deep sense of accomplishment that I welcome you to the Indian Society of Prosthodontics Restorative and Periodontics Conference.. This event, a result of extensive planning and dedicated efforts, stands as a testament to our shared commitment to advancing knowledge and fostering meaningful collaborations within our field.

The theme of this year's conference, 'Regenerate, Restore, and Rehabilitate', reflects the dynamic challenges and exciting opportunities we face today. Our program is designed to provide a comprehensive and engaging platform for sharing cutting-edge research, innovative practices, and thought-provoking discussions.

I also wish to express my gratitude to our participants. Your presence here is a testament to your commitment to professional growth and your desire to contribute to the advancement of our field. I encourage you to take full advantage of the diverse sessions, engage in fruitful discussions, and forge new connections.

This conference is not just an event but a unique opportunity to build lasting relationships, exchange innovative ideas, and inspire each other towards greater achievements. I am confident that the knowledge and insights gained here will have a lasting impact on all of us.

Thank you for being a part of the Conference. I look forward to the enriching experiences and pioneering ideas that will emerge from our collective efforts.

Warm regards,

A handwritten signature in black ink, appearing to read "Smellody". The signature is stylized and cursive.

Dr. Sumit Malhotra

Organising Secretary

Professor and Head

Department of Periodontology and Oral Implantology

I.T.S Dental College

Ghaziabad

MESSAGE FROM THE DESK OF SCIENTIFIC CHAIRPERSON, I.T.S DENTAL COLLEGE, GHAZIABAD



Dear Delegates and Esteemed Guests,

It is with great enthusiasm and pride that I welcome you all to 14th ISPRP National Conference at I.T.S Dental College, Ghaziabad. This event represents a significant milestone in our continuous pursuit of excellence in research, clinical practice, and innovation within our specialized fields.

The conference, captures the essence of the evolving landscape of prosthodontics, restorative dentistry, and periodontics. Our program has been meticulously curated to include a wide range of scientific sessions, keynote lectures, and interactive workshops that promise to provide valuable insights and stimulate thoughtful discussions.

As the Scientific Chairperson, I extend my deepest gratitude to our distinguished speakers, moderators, chairpersons for their unwavering commitment and contributions. I have had the privilege of working under leadership of ISPRP society and I.T.S Dental College with an extraordinary team of experts who have dedicated countless hours to ensuring the highest quality of scientific content for this conference.

I am particularly excited about the diverse topics and groundbreaking research that will be presented over the course of this conference. These sessions are designed not only to share knowledge but also to inspire innovation and collaboration among all attendees. I encourage each of you to actively participate, ask questions, and engage in meaningful dialogue with your peers.

To our young researchers and first-time presenters, I extend a warm welcome and special encouragement. Your fresh perspectives and innovative ideas are the driving forces that will shape the future of our field. Take advantage of this platform to showcase your work, seek feedback, and build connections with experienced professionals.

In closing, I would like to thank each and every one of you for your participation and support. Your presence here underscores the importance of our shared mission to advance the science and practice of prosthodontics, restorative dentistry, and periodontics. I am confident that this conference will be a memorable and enriching experience for all.

Thank you, and I look forward to the engaging and inspiring days ahead.

Warm regards,

A handwritten signature in blue ink that reads "neeta".

Dr Neeta Pasricha

Scientific Chairperson

Professor and Head

Department of Prosthodontics

I.T.S Dental College

Ghaziabad

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Dr. U. P. Singh

Dr. Veena Jain

Dr. Vikender Yadav

Dr. Vinita Nikhil

PRE-CONFERENCE COURSES



BioMimetic Dentistry- Striking the right balance between the tooth, tissue and the Stomatognathic system.

Dr. Nikhil Bahuguna

Dentistry has come a long way since Dr.GV Black gave his principles of mechanical retention. The one thing that has unarguably changed the face of modern day dentistry is BONDING.

Material science has far progressed in the last few decades and adhesive dentistry is a main stay of daily clinical practice. Predictable and long term results can only be achieved if a perfect blend of material science with the physiology of the stomatognathic system is attained.

All this, stitched together with the modern digital technology can produce results which in true sense justify the biology of aesthetics.

Utilising material science that closely mimics the natural dentition, and at the same time allows ease and accuracy of work would definitely help optimise practice quality and also be efficient in terms of time and cost.

PRE-CONFERENCE COURSES

HANDS - ON IN ANIMAL MODEL



Hard & Soft tissue Symphony- Recession coverage & GBR

Dr. Sandeep Singh

A major limitation for successful implant placement is inadequate alveolar-ridge width and height. Thus, to satisfy the ideal goals of implant dentistry, the hard and soft tissues need to be present in ideal volume and quality.

Therefore, ridge splitting, sinus floor elevation and GBR of deficient alveolar ridges, horizontal or vertical, is an important aspect of dental implant therapy with the end goal to provide functional restoration that is in harmony with the adjacent natural dentition.

In this era of aesthetic demand from patients, Oral soft tissue augmentation or grafting procedures are often necessary not only for aesthetic result but also to achieve proper wound closure after deficit resulting from tumor excision, clefts, trauma, dental implants, and tooth recessions.

Autologous soft tissue grafts still remain the gold standard to acquire a functionally adequate zone of keratinized attached gingiva. However, soft tissue substitutes are more commonly used because they minimize morbidity and shorten surgical time.

PRE-CONFERENCE COURSES



Dr. Veena Jain

SCULPTING AURICULAR PROSTHESIS

DEMONSTRATION & HANDS-ON

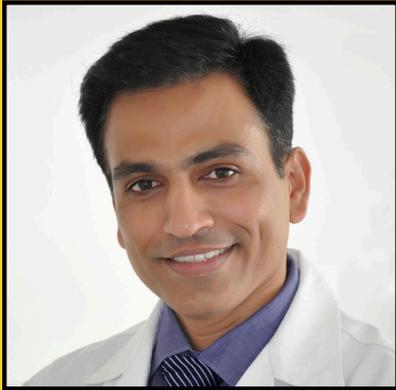
Face remains the central focus of our gaze when we engage in interpersonal relationships. Developmental and acquired aberrations of this region are likely to be more obvious than other parts of body therefore perceive as more disfiguring.

The reconstruction or rehabilitation of facial defects is challenging for the surgeon as well as the Prosthodontist. Both surgical and prosthetic reconstruction has its limitations. The surgeon is limited by the availability of tissues, contracture of the tissues surrounding the defect and no. of surgeries required for reconstruction. The Prosthodontist is limited by the property of available materials, mobility of tissues surrounding the defect, difficulty in establishing retention for large prosthesis & the patient ability to accept the outcome.

Acceptance of facial prosthesis by patients has improved dramatically since the introduction of osseointegrated implants. The retention provided by the implants allows the use of large prosthesis on movable tissues. Acceptance of auricular prosthesis is further enhanced by improve aesthetics results from thin margin of the prosthesis, accurate and reputable positioning of prosthesis and the ease of maintenance.

The main objective of this preconference session is to highlight clinical steps and laboratory procedures for fabrication of implant retained auricular prosthesis. The course will be tailor made to suit the requirements of the early learners. It will also refresh the clinical and prosthetic concepts of seasoned practitioners. Underpinning theme of the course is to help a specialist recapitulate the bioform of auricular prosthesis, from an Indian perspective.

KEYNOTE SPEAKERS



Dr. Vivek Hegde

**Navigating the
Endo Perio continuum**



Dr. Narasimhan Bharadwaj

**Repair & Regenerate the
Boundary...!!**



Dr. Ashish Jain

**IMPLANTS-
and the Story Around it**



Col. (Dr.) T Prasanth

**Bio guided implant
Boon or Bane?**



Dr. Vibha Shetty

Concepts and Strategic Steps for Full Mouth Rehabilitation

KEYNOTE SPEAKERS



Dr. Sudhir Bhandari

**Oral Rehabilitation in Fibula
Free Flaps: Limitations,
Solutions and Outcome**



Dr. Amit Bhardwaj

**Dental Lasers in
Periodontics & Implant
Dentistry**



Dr. Rupinder Singh Dhall

**Digital
Implant Prosthodontics**



Dr. Nikhil Bahuguna

**The MPa - GPa
Jugalbandi**

ABSTRACTS - KEYNOTE SPEAKERS



Dr. Vivek Hegde

***Navigating the Endo
Perio continuum***

The Endo-Perio Continuum explores the intricate relationship between endodontic and periodontal diseases, emphasizing their interdependence and the necessity for a holistic diagnostic and treatment approach. This lecture delves into the pathophysiology, diagnosis, and management of conditions that straddle these two critical domains. By examining clinical case studies and recent research findings, participants will gain insights into the complexities of combined endodontic-periodontal lesions, the impact of systemic factors, and the latest advancements in therapeutic strategies. Attendees will leave equipped with a deeper understanding of the continuum, enabling them to enhance patient outcomes through integrated care practices.

The delineation of Endo-Perio interface is often a challenging task for both the clinician as well as the microbes. The categorization of Primary and Secondary pathology pertaining to Endo-Perio continuum poses multiple hurdles in the diagnosis and treatment planning objectives.

This lecture highlights the treatment aspects of pathological and iatrogenic causes of crossing the Boundary and the use of Biomaterials in Restoring, Repairing and Regenerating the lesions that involve the Endo-Perio complex.



**Dr. Narasimhan
Bharadwaj**

***Repair & Regenerate
the Boundary...!!***



Dr. Ashish Jain

**IMPLANTS-
and the Story Around
it**

Dental implants have been used to replace missing teeth for more than half a century. They are an important contribution to dentistry as they have revolutionized the way by which missing teeth are replaced with a high success rate.

The success depends on the ability of the implant material to integrate with the surrounding tissue. This integration is influenced by several factors, such as implant material, bone quality and quantity etc. Success rates of 82.9% after 16 years follow-up have been reported.

Peri-implant inflammations represent serious diseases after dental implant treatment, which affect both the surrounding hard and soft tissue. In the last decades increasing evidence raised on the presence of peri-implant inflammations representing one of the most frequent complications which can lead to the loss of the implant. Therefore, strategies for prevention and treatment of peri-implant disease should be integrated in modern rehabilitation concepts in dentistry.

The presentation will focus on understanding the concepts of peri-implantitis and its implications on day-to-day practice of Implantology.

Immediate implant placement is the current modality to provide implant placement following tooth extraction. Post extraction implant placement in multicoated molar area or very thin buccal plate in the anterior region are challenging. In posterior multirouted teeth, procedure poses challenges in terms of proper angulation and preservation of inter-radicular remaining bone. Similarly in anterior region, if the remaining buccal plate is thin or nil placing the implant is very difficult. Engaging interradicular septal bone provides advantage of primary stability and osteotomy site preparation through septal bone with roots of natural teeth as guide will provide precise osteotomy procedure with minimal collateral damage to adjacent area. Keeping a thin layer of tooth material as a shield in the buccal cortical area prevent the exposure of the implant and also give a brief idea to the operator for the placement through the socket. Bio guided implants protocol is a novel technique wherein residual roots act as a surgical guide for placement of immediate implants in multirouted posterior teeth and portion of buccal wall of teeth act as shield for implant exposure in very thin buccal/labial walls.



**Col. (Dr.) T
Prasanth**

**Bio guided implant
Boon or Bane?**



Dr. Vibha Shetty

**Concepts and Strategic
Steps for Full Mouth
Rehabilitation**

Full mouth rehabilitation, or FMR, is a complete dental therapy designed to restore the best possible function, appearance, and health of the entire stomatognathic system by addressing a variety of dental disorders. In order to identify and treat complex dental diseases, a multidisciplinary strategy integrating orthodontics, prosthodontics, periodontics, endodontics, and oral surgery is used. A thorough treatment plan that gives patients' needs and preferences top priority is usually the first step in any strategy for FMR. A stable and functioning bite is essential to ensure that all dental restorations are in harmony with the temporomandibular joint and surrounding muscles. Treatment phases may involve different restorative therapies. The focus of this lecture is on minimally invasive procedures and cutting-edge materials to improve patient comfort, functionality, and appearance while retaining the greatest amount of natural tooth structure.

The term LASER is an acronym for 'Light Amplification by the Stimulated Emission of Radiation'. The first application of dental laser in dentistry was by Miaman, in 1960. In the few decades, there has been extensive research in field of application of laser in dentistry. It provides wide range of treatment with both soft and hard tissue application, the Laser is used for caries prevention, bleaching, restorative removal and curing, cavity preparation, dentinal hypersensitivity, growth modulation and for diagnostic purposes, whereas soft tissue application includes wound healing, removal of hyperplastic tissue to uncovering of impacted or partially erupted tooth, photodynamic therapy for malignancies, photostimulation. Use of the Laser proved to be an effective tool to increase efficiency, specificity, ease, and comfort of the dental treatment. The present lecture is focused on the applications of Dental Lasers in Periodontics and Implant Dentistry.



Dr. Amit Bhardwaj

**Dental Lasers in
Periodontics &
Implant Dentistry**



**Dr. Nikhil
Bahuguna**

**The MPa - GPa
Jugalbandi**

Unarguably, one of the biggest shifts that has changed the face of modern dentistry is BONDING.

The last few decades have seen an enormous interest drift from mechanically retained restorations towards adhesively bonded direct/indirect restorations. But with newer concepts come newer confusions.

The biggest dilemma that the clinician has to overcome is the myth of non-breakable restorations. The focus is bent towards high MPa, the compressive strength of the materials, ignoring the most important property, the flexibility of the core which requires resilience and relies more so on the GPa, the flexural modulus of the core material.

Understanding the correct combination of how to create a flexible core bulk laminated by a thin hard cover of an occlusal layer would contribute towards increasing the longevity of the restorations, preventing crack propagation, creating internal splinting and strengthening, thereby increasing the life of the tooth-restoration complex and preventing catastrophic failures.

Implantology has evolved over the years with digital technology becoming slowly an integral part of our dental practice. There has been a lot of technological advancements when it comes to the application of digital technology in implantology. With the introduction of digital implant impressions using intraoral scanners, 3D-printed cast, Virtual articulators, Digital smile design, 3D- planning of implant placement and surgical guides, guided live surgical placement of implants, digital implantology is here to stay. But still the dental surgeon needs to be informed to understand the digital work flow in implantology especially full-arch implant placement in edentulous jaws and the variables which can determine the accuracy of final fit of implant prosthesis. This presentation will discuss the key tips to improve the accuracy of digital impression and especially the scan bodies used to record them with Intraoral scanners.



**Dr. Rupinder Singh
Dhall**

**Digital Implant
Prosthodontics**



**Dr. Sudhir
Bhandari**

**Oral Rehabilitation
in Fibula Free
Flaps: Limitations,
Solutions and
Outcome**

Introduction : Resected jaws due to disease(s) or trauma negatively impacts function, esthetics and quality of life of the affected patients. The desirable outcome of reconstruction of lost hard and soft tissues includes maintenance of integrity, restoring form and function, and improving the quality of life. Prosthetic rehabilitation of the resected jaw utilising free tissue transfer and endosseous implants is considered standard of care and is also a preferred choice of treatment for both the patients and the doctors. Holistic treatment planning including oral rehabilitation before surgical replacement of the lost tissue seems to be the most prudent way to address patient issues.

Statement of problem: Despite coordination amongst the multidisciplinary team, certain limitations are routinely encountered with fibula free flaps (FFF) and influence the outcome of treatment specifically related to the dental implant related prosthesis.

Methodology: The presentation will systematically address the patient related data on the disease, ensuing surgical treatment, challenges faced during the dental implant rehabilitation, and finally the outcome of oral rehabilitation.

Conclusion: Resected jaws rehabilitated utilising free fibula transfer and dental implants is a predictable treatment and potentially improves the patient's quality of life. However, the treatment is not without limitations and a proper treatment planning may address the existing lacuna.

SYMPOSIUM

CONSERVE, REGENERATE, REHABILITATE

AN EVIDENCE BASED APPROACH

PANELIST



**Dr. Pooran
Chand**



**Dr. Ruchika Roongta
Nawal**



**Dr. Rekha
Gupta**



**Dr. Nympha
Pandit**



**Dr. Jigyasa
Duhan**



**Dr. Rameshwari
Singhal**

MODERATOR



Dr. Amrita Chawla

14TH ISPRP NATIONAL CONFERENCE

CONFERENCE SCHEDULE

12th July 2024
PRE CONFERENCE COURSES

8.30 am - 9 am	REGISTRATION & BREAKFAST (FOR PRE-CONFERENCE PARTICIPANTS)		
9 am to 2 pm	Dr. Veena Jain	Sculpting Auricular Prosthesis	Kalpana Chawla Auditorium
9 am to 2 pm	Dr. Nikhil Bahuguna	Biomimetic Dentistry- Striking the right balance between the tooth, tissue & the stomatognathic system	Conservative Dentistry Simulation Lab
9 am to 2 pm	Dr. Sandeep Singh	Hard & Soft Tissue Symphony- Recession Coverage & GBR	Prosthodontics Simulation Lab
2 pm to 2.30 pm	LUNCH (FOR PRE-CONFERENCE PARTICIPANTS)		
2 pm to 3 pm	Interns Scientific Presentations		Hall 1-9

13th July 2024

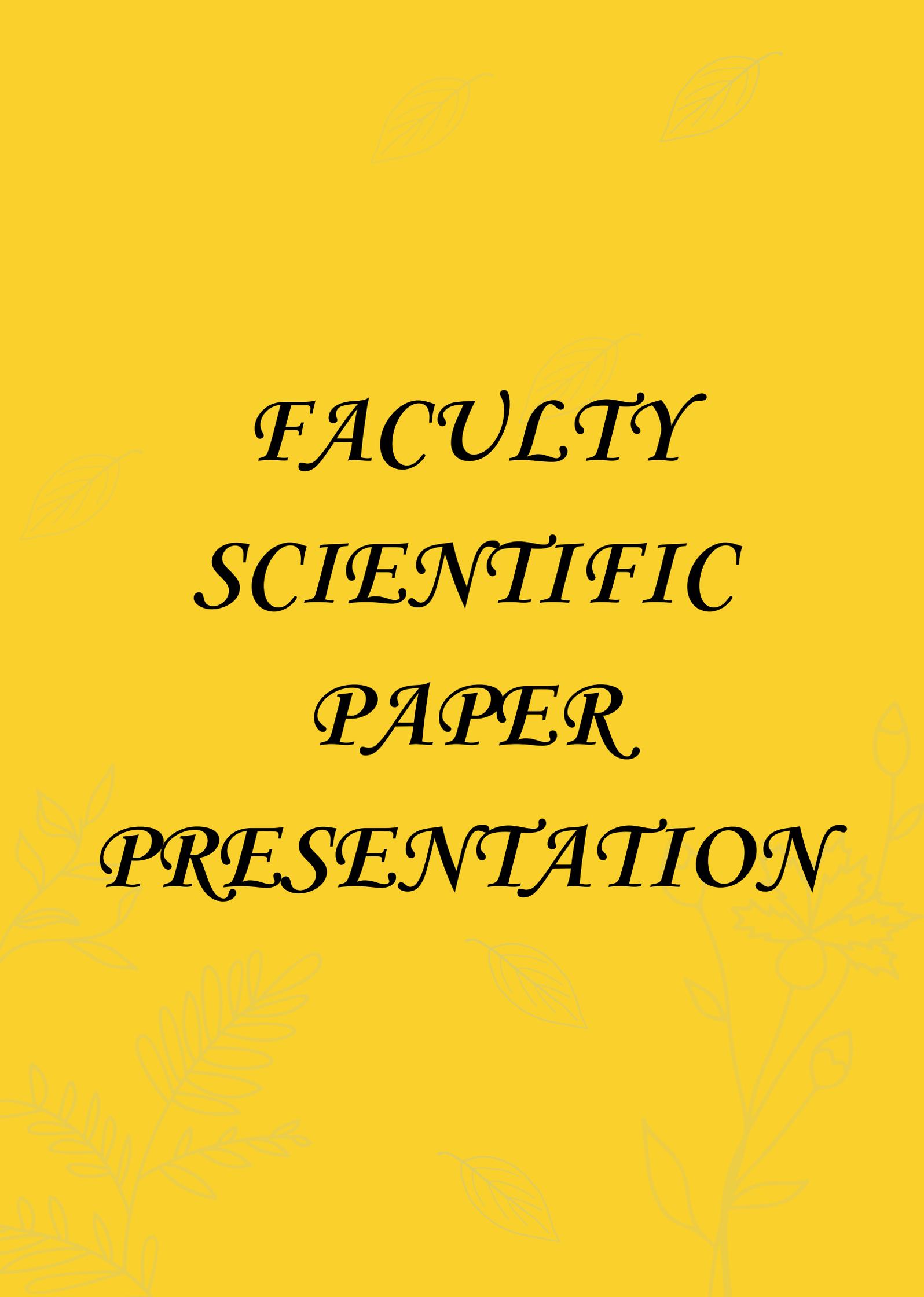
8.00 am onwards	REGISTRATION		
8.30 - 9.30 am	Student Scientific Presentations		Hall 1-9
8.00 - 10.00 am	BREAKFAST		
09.30 - 10.45 am	INAUGURATION		Vikram Sarabhai Auditorium
11.00 - 11.40 am	Keynote Lecture Dr. Vivek Hegde	Navigating-the Endo Perio Continuum	
11.40 - 12.00 pm	Keynote Lecture Dr. Nikhil Bahuguna	The MPa-GPa Jugalbandi	
12.00 - 12.40 pm	Keynote Lecture Dr. Vibha Shetty	Concepts and strategic steps for Full Mouth Rehabilitation	
12.40 - 1.00 pm	Keynote Lecture Dr. Amit Bhardwaj	Dental Lasers in Periodontics & Implant Dentistry	
1.00 - 1.20 pm	Keynote Lecture Dr. RupinderSingh Dhall	Digital Implant Prosthodontics	
1.00 - 2.30 pm	LUNCH		
1.30 - 2.45 pm	EC meeting		Board Room
1.45 - 3.45 pm	Student Scientific Presentations		Hall 1-9
2.45- 4.00 pm	AGM		Vikram Sarabhai Auditorium
4.00 - 5.00 pm	Faculty Scientific Presentations		Hall 1-9
7.30 pm onwards	GALA BANQUET THE MONARCH : INDIRAPURAM HABITAT CENTRE		Indirapuram, Ghaziabad

14th July 2024

8.30 - 9.30 am	Student Scientific Presentation	Hall 1-9
8.30 - 10.00 am	BREAKFAST	
10.00 - 10.40 am	Keynote Lecture Dr. Sudhir Bhandari	Oral Rehabilitation in Fibula Free Flaps: Limitations, Solutions and Outcomes
10.40- 11.20 am	Keynote Lecture Dr. Ashish Jain	Implants- and the story around it.
11.20 - 12.00 pm	Keynote Lecture Dr. Narsimhan Bhardwaj	Repair & Regenerate the boundary...!!
12.00 - 12.40 pm	Keynote Lecture Col. (Dr.) T Prasanth	Bio-guided Implants- Boon or Bane?
12.30 - 1.30 pm	LUNCH	
1.15 - 2.30 pm	Symposium Dr. Pooran Chand Dr. Ruchika Roongta Nawal Dr. Rekha Gupta Dr. Nympea Pandit Dr. Jigyasa Duhan Dr. Rameshwari Singhal Moderator- Dr. Amrita Chawla	CONSERVE, REGENERATE OR REHABILITATE - AN EVIDENCE BASED APPROACH
2.30 - 3.45 pm	VALEDICTORY PROGRAM	

Vikram Sarabhai Auditorium

Vikram Sarabhai Auditorium



*FACULTY
SCIENTIFIC
PAPER
PRESENTATION*

F-01

The correlation between periodontal disease, caries, and prosthodontic status in an elderly population: An observational study

Dr. Saransh Srivastava, Dr. Joochi Chandra

Department of Periodontics and Oral Implantology, ITS Dental College, Muradnagar

Background: The typical treatment option for partially edentulous ridge is a removable partial denture (RPD). A high incidence of oral damage to tissues has been documented in a number of clinical studies pertaining to removable partial dentures (RPDs). Specifically, even in cases where the dentures were properly made, early-stage periodontal and carious lesions have been seen. The aim of this study is to evaluate the correlation between removable denture & dental diseases.

Material & Methods: 90 Partially edentulous patients presenting for removable denture treatment at the Department of Prosthodontics, ITS Dental college. Patients will be randomly assigned into 2 groups: Denture and non-denture group. Caries and periodontal diseases will be compared between both groups. For Caries detection the DMFT indices will be used & for Periodontal disease, plaque (PI), gingival (GI), and calculus (CI) indexes, probing depth (PD), gingival recession (GR), and tooth mobility (TM) will be measured, both on abutment and non-abutment teeth.

Results: Results are to be awaited as the study is still undergoing.

F-02

A Questionnaire Based Evaluation To Assess The Knowledge And Perception Of Patients Seeking Implant Rehabilitation

Dr. Akanksha Singh, Dr. Shilpi Tyagi

Department of Periodontics and Oral Implantology, ITS Dental College, Muradnagar

Introduction: Tooth loss is a severe life event associated with the impairment of several essential oral functions, especially eating and speaking. It is also often associated with various psychological and physical side effects on different aspects of oral health-related quality of life (OHRQoL), which, in addition to an unsatisfactory appearance, can significantly limit affected patients in their daily activities.

Aim & Objectives: To assess the perception, knowledge, and willingness of the people for dental implants as a treatment modality among patients visiting ITS dental college, Murad Nagar, Ghaziabad

Materials & Method: A questionnaire-based survey was conducted on 150 participants from May 15, 2024, till June 30, 2024, to collect their sociodemographic data, knowledge, attitude, and satisfaction level toward dental implants.

Result, Discussion & Conclusion: Results, Discussion and Conclusion will be elaborated at the time of presentation.

F-03

Association Of Serum Vitamin D And Serum Lipid Levels In Chronic Periodontitis Patients- A Comparative Study

Dr. Sakshi Manhas, Dr. Priyanka Tandon

Department of Periodontics and Oral Implantology, ITS Dental College, Greater Noida

Introduction: Evidence-based researches have shown that there is an existence of plausible relationship between periodontitis, serum vitamin D and serum lipid levels that has a direct negative impact on the periodontium and its supporting structures.

Aim: To evaluate the association of serum vitamin D levels in patients with chronic periodontitis and to evaluate the association of serum lipid levels in chronic periodontitis patients(AAP 2017 classification).

Results: In the subjects with deficient vitamin D, 57.1% were having periodontitis and 42.9% were healthy the difference between the groups was statistically non-significant. The difference between the two categories of vitamin D (Insufficient and deficient) for the PI, GI, PD, CAL scores were statistically non-significant. In the subjects with chronic periodontitis, the mean total cholesterol level, LDL and TGL levels were found to be statistically non-significant. The difference between the groups was statistically significant for HDL and VLDL.

Conclusion: In this study, low serum 1,25 (OH)²D level were not found to be associated with chronic periodontitis but the results related to serum lipid profile levels were statistically significant.

F-04

The Perio-Endo Lesion Conundrum

Dr. Sharayu Dhande

Department Of Periodontics And Oral Implantology, Sinhgad Dental College And Hospital, Pune

Aim: To treat perio-endo lesion and the involved furcation with a regenerative approach.

Methodology: A male patient 32-year-old complained of gnawing pain in lower right back region of tooth since eight days. Medical history & dental history are not contributory. On intraoral examination, tooth was non-vital on pulp testing there was periodontal pocket of 11 mm with grade II furcation defect as per Glickman's Classification of furcation involvement. Electric pulp testing was carried out to check for tooth vitality, which confirmed that the tooth was nonvital.

Conclusion: Diagnosis of teeth with perio-endo lesions may be difficult to establish, hence, requiring proper history, and use of various diagnostic aids to obtain accurate diagnosis. Lesions with combined causes often require both endodontic & periodontal therapy. In addition, regenerative techniques, root resection & hemi sections offer alternative approaches, thus enhancing clinician's ability to deal with these complex clinical problems. However, with the advent of new regenerative materials however, successful periodontal treatment of such lesions has been possible as a result, regeneration was the treatment of choice in the present case.

*Saving the failing: A Periodontist Prespective!**Dr. Ruchi Pandey, Dr. Lipika Gopal**Department of Periodontics and Oral Implantology, Manav Rachna Dental College, Faridabad*

Introduction: In contemporary comprehensive dental care, dental implant therapy has emerged as the prosthetic standard of care. Various etiological factors are responsible for the occurrence of peri-implant disease with bacterial biofilm playing the major role. Appropriate diagnosis and timely management is essential to prevent the implant loss. The treatment modalities available for management of peri-implantitis can eliminate the disease progression and enable the restoration of optimal implant function.

Case Series: This paper comprises of case reports presenting with inflammation around the dental implant. Radiographic assessment revealed bone loss of the surrounding area. Treatment was performed for peri-implantitis after thorough evaluation and diagnosis. Post operative evaluation was done at 6 and 9 months.

Discussion: The reports have shown that augmentation surgery is capable of significantly increasing the amount of bone filling on imaging, whereas the control of peri-implant soft tissue inflammation is comparable to open flap debridement. This is in accordance with the latest meta-analysis published. Apart from every surgical modalities, routine monitoring of dental implants acts as the necessary part of this kind of treatment.

Conclusion: Peri-implant diseases are rising along with awareness and demand for dental implants as a means of replacing missing teeth. Thus, equal importance should be placed on comprehending the etiology, pathophysiology, and therapeutic approaches for the same

*Pre-prosthetic correction with diode laser in a patient with cognitive disability - a case report**Dr. Aditi Sangwan, Dr. Pankaj Sangwan**Department of Periodontics and Oral Implantology, PGIDS, Rohtak*

INTRODUCTION- Cognitive disability is characterized by significant limitations both in intellectual functioning and in adaptive behaviour. Such people are more likely to have poor oral hygiene and periodontal disease and possibly higher incidence of caries. In some patients, pre-prosthetic surgery is required prior to fixed prosthesis treatment. Removal of soft tissue interference is necessary for retention and stability of prosthesis. This can be done with either conventional approach using scalpel or with lasers.

CASE REPORT- A 28 years old female patient with cognitive disability reported with enlarged incisive papilla along with hyperplastic soft tissue (flabby ridge) in the maxillary anterior region. Diode laser assisted gingivectomy was performed. Patient was cooperative and surgery was performed without any difficulty in patient management. At 1 week follow-up, healing was uneventful. Patient was recalled after 3 months and received a functional prosthesis.

DISCUSSION-Diode laser assisted correction of flabby ridge provides enhanced intra-operative comfort for the patients, ensures haemostasis and reduced postoperative inflammation.

CONCLUSION-Laser can be used as an effective alternative to conventional pre- prosthetic surgery by scalpel among individuals with cognitive challenges.

F-07

Cochrane systematic reviews- meta-analysis: Decision making in P-R-P

Dr. Balendra Pratap Singh

Department of Prosthodontics and Oral Implantology, King George's Medical University, Lucknow

Cochrane systematic review/meta-analysis is on top of the pyramid of evidence based-medicine. India has big potential in getting involve with various activities of Cochrane. This presentation will cover how evidence synthesis helps specialists in the field of Prosthodontists-Restorative-Periodontics academically as well as clinically. It also put highlight on choosing best treatment option for various dental diseases/conditions related to specialities. It includes importance of evidence synthesis, where and how evidence can be found in different databases, how to generate evidence, role of risk of bias assessment, understanding systematic review and meta-analysis quantitatively and qualitatively using GRADE certainty of evidence.

F-08

“All-on-6” and “All-on-4” implant treatment modalities for the full mouth rehabilitation of partially edentulous cases- A case series

Dr. Kumari Deepika,

Department of Prosthodontics and Oral Implantology, ITS Dental College, Muradnagar

Introduction: Full mouth rehabilitation of partially edentulous arches always demands great attention and meticulous treatment planning. Dental caries and periodontal problems have been found the main etiological factors which results in the early loss of teeth. There are many conventional treatment modalities for the prosthetic rehabilitation of partial edentulism. Nowadays implant-supported prostheses have become widely preferred prosthetic approach and treatment choice because of their reliable functional and aesthetic results.

Case Report: The full mouth rehabilitation of patients with partially edentulous upper arches and lower completely edentulous arches are presented here. In one case “all-on-6” approach and in another “all-on-4” technique was planned based on the available bone in the lower arch. In first case porcelain-metal restoration (FP-2) and in another case a hybrid restoration of denture teeth, acrylic and metal substructure was given that was based on the amount of interarch space.

Discussion: The all-on-6 technique is specifically designed when there is adequate bone in the posterior ridge region whereas the “all-on-4” approach can be used in areas of deficient bone in the posterior region. Both the concepts were developed to maximize the use of available remnant bone in the jaws and to avoid regenerative procedures that increase the treatment costs and patient morbidity, as well as the complications associated with these procedures.

Conclusion: The full-mouth rehabilitation using implant supported prosthesis provides the better quality of life to the patients by restoring both aesthetic and function. This type of modalities preserves both soft and hard tissues of the oral cavity.

Interdisciplinary Treatment in the Digital Era

Dr. Gita Rani

Department of Prosthodontics and Oral Implantology, ITS Dental College, Muradnagar

Successful teamwork involves comprehensive communication between different specialties. In the digital era today, various new technologies could be applied to improve our collaboration and achieve a satisfactory treatment outcome. With the assistance of digital images, we can communicate and foresee the treatment outcome. With the help of digital technology we can reach a consensus among all the specialties before undertaking any complex clinical treatment. The computer-aided design and manufacturing (CAD/CAM) technology aids in transfer of our design from the computer to clinical practice. With interdisciplinary treatment combined with new technologies, all the team members can take advantage of digital imaging and CAD/CAM technology to enhance the traditional workflow more accurately and efficiently.

F-10

Comparison of mechanical properties between cranberry added self-cure and heat activated denture base resin – An experimental study

Dr. K. V. Anitha

Department of Prosthodontics and Oral Implantology, SRM dental college, Ramapuram, Chennai

Introduction: Availability of antimicrobial denture making material with optimal mechanical properties to prevent denture stomatitis is still lacking.

Aim & Objective: This study investigated the mechanical properties of self-cure and heat-cure dental resins incorporated with antimicrobial cranberry extract.

Materials and Methods: The resins were tested for flexural strength, impact strength, and hardness to determine the effect of cranberry addition. Self-cure and heat-cure dental resins were prepared, with cranberry extract added at concentrations of 0.5%, 1%, 1.5%, and 2%. Control samples without cranberry extract were also prepared. The mechanical properties were evaluated using standardized tests. Flexural strength was measured using a three-point bending test, impact strength was assessed using a Izod tester, and hardness was evaluated using a Vickers hardness tester.

Results: The results showed that both self-cure and heat-cure resins with cranberry extract exhibited enhanced mechanical properties compared to the controls. Specifically, the 1.5% cranberry concentration in self-cure resin demonstrated the highest flexural strength, while the 2% concentration in heat-cure resin showed the greatest improvement in impact strength and hardness.

Discussion: Enriched presence of phytoconstituents such as phenolic compounds, flavonoids, proanthocyanidins, flavones favoured antimicrobial potentials. Enhancement in mechanical properties was attributed to uniform dispersion of the phytochemical acting as a reinforcement to the resin matrix.

Conclusion: Statistical analysis revealed significant differences ($p < 0.05$) between the control and cranberry-added resins, indicating that cranberry extract positively influences the mechanical properties of both self-cure and heat-cure dental resins. The findings suggest that incorporating cranberry extract can enhance the performance of dental resins, potentially leading to more durable dental restorations.

Comparative Evaluation of Different Implant Abutment Materials And Restorative Crowns on Stress Distribution in Single Anterior Implant and Peripheral Bone

Dr. Siddhi Tripathi, Dr. Sunil Pal

Department of Prosthodontics and Oral Implantology, ITS Dental College, Muradnagar

Introduction: Implant abutment plays an important role in transferring occlusal forces to the implant and bone and mechanical properties of abutment material may influence the stress of implant supported restorations. As there are contradicting results by different authors regarding the role of abutment material and restorative crowns on the implant system, their effect is still under question.

Objectives: The aim of this study was to evaluate and compare the stress distribution of different implant abutments and restorative crowns and their influence on single anterior implants and peripheral bone using finite element analysis.

Methodology: The implant system, abutment, screw, restorative crown and bone were built in "AutoCad Inventor 2017" using reverse engineering technique. Two different restorative materials (lithium disilicate and PEKK core veneered with lithium disilicate) and 4 different abutments materials (Titanium, PEEK, PEKK and Zirconia) were tested in terms of stress distribution. 3-D FeM models were created. An average load of 178 N was applied to the model at an angle of 45° on the palatal surface of the maxillary central incisor. The models were investigated to evaluate the stress distribution

Results and Conclusion: The stress distribution in implant components and peripheral bone by a Titanium alloy implant system modelled to different abutments – was found to be maximum in PEKK abutment followed by PEEK, titanium and least in zirconia abutment in the implant components while it was found to be maximum in titanium abutments followed by zirconia, PEEK and least in PEKK abutments, when models were rehabilitated with lithium disilicate crowns and PEKK core veneered with lithium disilicate. The stress distribution on the implant components and peripheral bone by titanium abutment, zirconia abutment, PEEK abutment and PEKK abutment, cemented with lithium disilicate crown were greater than PEKK core veneered with lithium disilicate crown.

Evaluation of Inflammatory biomarkers in participants of obstructive sleep apnoea with mandibular advancement device placement: A clinical study

Dr. Sunit Kumar Jurel, Dr. Neeti Solanki

*Department of Prosthodontics and Oral Implantology, King George's Medical University, Lucknow
Autonomous state Medical College, Lakhimpur Kheri*

Statement of problem: Objective assessments of the effect of mandibular advancement device on patients with obstructive sleep apnoea are lacking.

Purpose: The purpose of this clinical study was to compare levels of serum tumor necrosis factor alpha (TNF-alpha), Epworth Sleepiness Scale score, and Berlin Questionnaire score in patients with mild to moderate obstructive sleep apnoea before and after treatment with a mandibular advancement device.

Results: A statistically significant decline in the levels of TNF-alpha was observed at 3 and 6 months compared with baseline ($P < .001$). The Epworth Sleepiness Scale scores showed a statistically significant reduction at 3 and 6 months compared with baseline ($P < .001$). The risk of obstructive sleep apnea assessed by using the Berlin Questionnaire was found to be significantly reduced at 6 months compared with baseline ($P = .001$).

Conclusions: Patients with mild to moderate obstructive sleep apnoea showed reduced levels of TNF-alpha and Epworth Sleepiness Scale and Berlin Questionnaire scores when treated with a mandibular advancement device.

Transparency Matters: Enhancing the Indian Dental Clinical Trials Registry

Dr. Nishi Singh

Department of Conservative Dentistry and Endodontics, King George's Medical University, Lucknow

Introduction: Clinical trials are crucial in evidence-based medicine, ensuring transparency, accountability, and accessibility. However, issues persist with reporting and quality in Indian clinical trials, as observed in various surveys.

Aim and Objectives: This study aims to assess the current status of clinical trial registration in Indian dentistry via the Clinical Trials Registry of India (CTRI) and propose solutions for form completion issues.

Result: It was observed that 81.5% of registered studies are prospective, 73.5% are part of postgraduate theses, and 66.4% are randomized controlled trials. Notably, 98.2% lack Drug Controller General of India clearance, only 4.5% have been published, and citation updates are infrequent.

Discussion: The numbers of registered trials are inadequate, and many fail to report results or update publication status. Ethical requirements for CTRI submissions, particularly regarding research integrity, should be extended to address these issues.

Conclusion: Clinical trials are carried out in order to produce registration and research evidence. Clinical trials are the means by which the safety and effectiveness of any treatment or procedure are ascertained; for this reason, research monitoring and evidence-based practice are crucial.

Evaluation of viscosity of different endodontic irrigants at varied pH

Dr Asit Vats, Dr Arundeeep Singh

Department of Conservative Dentistry and Endodontics , Manav Rachna Dental College , Faridabad

Introduction: Among all the property of endodontic irrigants , viscosity remains crucial for the optimum performance of the irrigant. Low viscosity enables the irrigant to enter the nook and corners of the root canal system and clean it completely . In short low viscosity of endodontic irrigant is imperative for a successful root canal treatment. It has been postulated that change in pH also leads to alteration of viscosity. This study deals with analysis of viscosity of different endodontic irrigants at varied pH.

Aim: To determine change in viscosity at different pH in endodontic irrigants.

Objective: To determine which endodontic irrigant has least viscosity at particular pH

Materials & Methods: Three endodontic irrigants namely EDTA, REDTA& citric acid were selected for this study. They were prepared at pH 5.5 & 10.5 respectively. The samples were divided into 6 subgroups. Each sample was measured 8 times to calculate the mean and standard deviation. Measurement were achieved at room temperature of each sample. The study has been completed while the results are awaited.

CPP-Varnish V/S Dentin Desensitizer In Treatment Of Non-Carious Hypersensitivity

Dr. Pallavi Bhat,

Private Practitioner, Conservative Dentistry and Endodontics

Introduction: Dentin hypersensitivity is one of the most common conditions encountered by clinicians with newer techniques constantly being put forth to treat this condition. In recent times, Casein Phosphopeptide Amorphous Calcium Phosphate(CPP-ACP) has garnered attention as it improves remineralization and prevents enamel demineralization. Hence, it was indicated as an advanced treatment for dentin hypersensitivity.

Aim: This clinical trial aimed to assess efficiency of CPP-based varnish vs. a desensitizer in treating non-carious cervical hypersensitivity.

Results: On intragroup comparison, both MI Varnish and Gluma desensitizer showed a maximum decrease in sensitivity from Baseline to Post-op, and the desensitizing effects were sustained till the Second and Fourth week. On intergroup comparison, there was no statistically significant difference between the two groups when compared for sensitivity at different time intervals($p < 0.05$).

Discussion: CPP-ACP varnish is a cost-effective material for clinicians due to its dual role & efficacy in treating both remineralization & dentin hypersensitivity.

Conclusion: It could be concluded that both MI varnish and Gluma desensitizer are similar in efficiency in treating hypersensitivity.

PRP- A Root Canal Disinfectant?

Dr. Pragyan Paliwal

Department of Conservative Dentistry and Endodontics, Babu Banarasi Das College of Dental Sciences

INTRODUCTION: Elimination or significant reduction of microorganisms in the treatment of teeth with pulpal and periapical diseases is essential for successful outcomes. There are many root canal disinfectants available for use and most of them are chemicals which do have certain complications and side effects if not used properly. The presentation aims to discuss a new root canal disinfectant.

AIM & OBJECTIVES: To evaluate the antimicrobial efficacy of Platelet Rich Plasma against Streptococcus aureus and Escheria Coli in the tooth requiring root canal in the patients' oral cavity.

MATERIAL & METHODS: IN-VIVO The individuals diagnosis of Chronic irreversible pulpitis with apical periodontitis with root canal treatment as a treatment plan was taken. Endodontic access done & preswab taken. Disinfectant used & post swab taken. The pretreatment and post treatment swab subjected to spectrophotometer optical density were checked for the efficacy of disinfectant.

RESULTS: A pilot study was conducted against the microorganisms Streptococcus aureus and Escheria Coli showed the significant reduction in microorganisms.

DISCUSSION: The platelet rich plasma may have phagocytic action, act on the cell membrane & kill microorganisms. According to literature antimicrobial effect of Platelet-Rich Plasma was seen against Porphyromonas gingivalis, periodontal pathogens. P-PRP inhibited the growth of Enterococcus faecalis, Candida albicans, Streptococcus agalactiae, Streptococcus oralis, but not of Pseudomonas aeruginosa strains.

CONCLUSION: PRP has showed antibacterial property against Streptococcus aureas and Escheria Coli. Now an elaborate study is being conducted using PRP against C albicans and E. Feacalis and the results will be published soon.

*Evidence-Based Approaches to Mucosal Fenestration Management**Dr. Sonal Soi**Department of Conservative Dentistry and Endodontics, Manav Rachna Dental College, Faridabad*

Introduction: Apical fenestration is an opening in the alveolar bone near the root apex of a tooth, while mucosal fenestration is a defect in the overlying mucosa that can expose the root apex. These conditions can occur due to various factors, and although they may not always need immediate treatment, they become important when related to endodontic issues. Fenestrations linked to endodontic infections are uncommon but can be overlooked or misdiagnosed. This study aims to review their epidemiology, causes, characteristics, treatments, and outcomes, using evidence-based information.

Search Strategy: A comprehensive search of electronic databases (PubMed, Ebscohost) would be conducted for articles published from 2000 to 2024.

Discussion: Apical fenestrations are most commonly seen with upper teeth, usually on the outer side of the alveolar bone. When patients show signs like persistent pain after endodontic treatment, sinus tracts, or exposed tooth apices, clinicians should consider the possibility of apical fenestration alongside endodontic issues. These signs can vary, so cone-beam computed tomography is crucial for diagnosis. Treatment involves surgically restoring the root apex's position relative to the alveolar bone, sometimes with additional procedures like tissue regeneration or grafting. Complications such as sloughing, reopening, or infection can occur. However, due to limited literature, more research is needed to establish clear guidelines for diagnosing and managing these conditions..

Conclusion: Apical fenestrations linked to endodontic problems are not frequently reported but carry significant clinical importance. Diagnosis can be challenging without concurrent mucosal fenestration, as symptoms vary widely from being asymptomatic to persistent pain after endodontic treatment. Effective management involves controlling root canal infections and restoring the root apex's anatomical position relative to the alveolar bone. However, there's a need for more research to establish clear guidelines for diagnosing and treating these conditions based on evidence.

*Strengthening Teeth with Ribbond - A case series**Dr. Ajita Rathi**Department of Conservative Dentistry and Endodontics, Army college of dental sciences,
Secunderabad*

Restoration of structurally compromised endodontically treated teeth presents a great challenge due to associated high risk of fracture compared to vital teeth. The conventional invasive restoration techniques with a cast post and core followed by coronal prosthesis increase the risk of tooth and root fracture. To avoid this, an alternative to reinforce structurally compromised teeth is the use of fiber-reinforced composites, so as to replace dentin, improvise strength, and provide biomimetic restoration of teeth. The following case series elaborates the technique of reinforcing endodontically treated teeth with fibre reinforced composite (Ribbond) in structurally compromised 2 anterior teeth and 1 molar tooth.

*An Immediate Implant Approach to Esthetic Rehabilitation of Failing Maxillary Anterior Teeth Associated with Replacement Resorption : Case series**Dr. Sruthy Prathap**Department of Periodontics, Yenepoya Dental College, Mangalore*

Introduction: Avulsion and reimplantation of permanent teeth represent a major challenge in terms of treatment and long term prognosis. Root resorption often results secondary to avulsive injuries indicating it for tooth extraction as its survival rate is compromised even after endodontic treatment. It's often a challenge to esthetically rehabilitate such patients who have undergone a traumatic tooth loss in their growing age as it often results in a thin alveolar ridge following trauma induced resorption.

Case Series: The case series presented here describes rehabilitation of patients with chief complaint mobile anterior teeth. The patients gave a history of replantation following avulsion few years back,

Discussion: The teeth was associated with significant external root resorption, mobility and thin supporting alveolar bone. Immediate implant was planned in the fresh sockets which was followed by prosthetic rehabilitation after healing.

Conclusion: The present case series offer an insight into effective strategies for treating patients with replacement resorption. The compromised dentition was successfully managed both esthetically and functionally using immediate implant and prostheses along with soft tissue grafting.

Interdisciplinary Approaches in Rehabilitating Patient's Lost Smile: A Dual Case Study

Dr. Anahita Punj

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Introduction: The patient's preference to go for rehabilitation of the smile always stems from concerns in the anterior maxillary teeth. Patients prefer to go for anterior rehabilitation first followed by the other dental concerns that may be present in the posterior teeth or mandible. Rehabilitation involves an interdisciplinary approach.

Case report: Two cases of a 47-year-old female and a 60-year-old male with complaints of pain and requiring rehabilitation of their smile utilizing interdisciplinary approaches with 2 year and 6 month follow up.

Discussion: Periodontal disease and caries are the two dental maladies which cause significant loss in supporting structures and tooth substance respectively. These dental diseases usually result in loss of tooth or vertical dimension which drops the confidence of the patient to smile again. Bringing back the patient's smile requires treating decay with restoration and root canals, augmenting and treating periodontal conditions followed by prosthetic rehabilitation.

Conclusion: Both patients were satisfied with the treatment and were able to regain their lost smile and oral health.

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Severe chronic periodontitis case treated with combination non-surgical periodontal therapy with 3- year follow-up

Dr. Madhuri Alankar Sawai

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Introduction: Periodontitis is a chronic inflammatory disease characterised by progressive destruction of tooth-supporting apparatus. With the occurrence of periodontitis, the patient usually develops a negative attitude towards their oral health causing physical and psychological problems. These patients are always at a higher risk of recurrence of the condition. Hence, such patients require a long-term follow-up to achieve healthy attachment apparatus and maintain their dentition.

Case report: A 42-year-old female patient reported with severe chronic periodontitis. She had generalized deep pockets, tooth mobility with secondary signs of disease like suppuration. She was provided with scaling and root planing and was advised for full mouth flap surgery. However, the patient was reluctant for periodontal surgery and hence was provided with a combination of different non-surgical therapies. She was kept on a frequent recall visit and followed-up for 3 years.

Discussion: In this reported case, combination of different non-surgical therapies was successfully used for the treatment of severe chronic periodontitis. These results could also be maintained for a long-term period even without instituting surgical intervention. The non-surgical periodontal therapy also could improve patient-based outcomes and reduce co-morbidities and enhanced the patients' acceptance.

Conclusion: Many newer developments in non-surgical periodontal therapies are available today. They can be used in combination along with daily oral hygiene care and a robust maintenance plan for successfully treating severe periodontitis and maintain the cases for a long-term.

To evaluate the effectiveness of Injectable –Platelet rich fibrin treated Mineralized Freezed dried block allograft with platelet rich fibrin membrane for alveolar ridge augmentation prior to implant placement.

Dr. Prashansa Sharma

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Introduction: Search for various biomaterial for periodontal regeneration is always the topic of interest. Most important requirement for biomaterial is presence of good amount of growth factors that can promote periodontal regeneration that to at fast rate. In this review, new bioactive material i-PRF (injectable platelet rich fibrin) that is autologous, rich in growth factors and stem cells with wide range of clinical implications has been discussed.

Aim & Objective: To evaluate effectiveness of Injectable –Platelet rich fibrin treated Mineralized Freezed dried block allograft with platelet rich fibrin membrane for alveolar ridge augmentation prior to implant placement.

Materials And Method: A case series was conducted in the Department of Periodontology and Oral Implantology, I.T.S. Centre for Dental Studies and Research, Muradnagar, Ghaziabad. The patients visiting the OPD who met the inclusion criteria and gave informed consent were included. A total of 10 cases were evaluated in this study. Defect Depth Measurement (DDM) was recorded with the help of UNC-15 periodontal probe (Hufriedey USA) for both hard tissue (intra surgical measurement) at baseline and at 6 months after ridge augmentation surgery during implant placement.

Result, Discussion & Conclusion: Result, Discussion and Conclusion would be elaborated at the time of presentation.

*Low Level Laser Therapy: An Incandescent Mode For Intensified Healing**Dr. Jeevika A Das**Department of Periodontics and Oral Implantology, ITS Dental College, Greater Noida*

Background: The low dosage lasers, emitting lowest energy level is considered to be a type of intensive, focal light therapy called Low Level Laser Therapy (LLLT). It is a non- invasive therapy gaining preference in all the fields because of the enhanced analgesia and healing properties aiding in post-operative reduction of edema, pain and inflammation.

Case series: This series consists of 6 cases of post-endodontic and pre-prosthetic management of reduced crown structure, i.e., Crown lengthening with Gingivectomy with or without LLLT application, and Crown lengthening with Apically Displaced Flap with or without Resective osseous surgery, with or without LLLT application. LLLT application is done using 980nm Diode Laser, 100 mW Power in continuous mode, 3 mm from the wound site for 20 seconds. Effects of LLLT on pain and wound healing is evaluated using VAS Score on 4th, 7th and 10th day; and Hollander Wound Evaluation Score (HWES) on 7th and 14th day respectively.

Discussion: LLLT with energy levels ranging from 4 to 20 J/cm² seems to produce favorable post periodontal surgery analgesia. Further clinical trials with similar settings are still necessary to find the most effective.

Conclusion: The LLLT finds its application in all domains of dentistry as it has a non-invasive, non thermal mode of application with minimal side effects. Post-operative pain reduction and enhanced wound healing was achieved with LLLT application after the periodontal surgery. Further research in this front should be aimed at incorporating larger sample size and standardizing maximum number of incorporated parameters, so as to obtain the best subjective and objective outcomes with its application in routine dental practice.

Hyper Oxygen Therapy in Dentistry

Dr. Bhaskar Agarwal

Department of Prosthodontics and Oral Implantology, King George's Medical University, Lucknow

Ozone has a long history of use in health sciences.

In the early days of its invention, it had limited use because it was such a powerful oxydiser that it used to oxydise anything through which it was passed so it could not gain popularity until the invention of ozone resistance material such as teflon and silicon in late fifties and late high grade stainless steel etc.

Various modes of application of ozone in Medical sciences are ozone gas, ozone water, ozone saline and ozone gel. The mode of administration are rectal, ear, boto (Nasal breathing) etc.

Use of ozone could not gain the popularity in dentistry because of lack of evidence based research. In recent decade many structured research has been done and this has led to the increasing awareness and acceptance of ozone in our field.

With many other properties the most important and powerful property of ozone is disinfection and the action is via oxidation.

Due to the properties of ozone it has the capacity to encounter most of the problems which we face in day to day dentistry, Pain, Inflammation, Infection control, Reminarization are some of them.

Many studies around the world have proven that ozone has a good role in practice of Restorative, Prosthodontics and Periodontics.

Educator Competencies as Identified by Prosthodontic Faculty: A Cross-sectional Study

Dr. Neeta Pasricha

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Introduction: Dental education is undergoing change and there is a continuing need to re-examine competencies required for a dental educator. Literature defining faculty competencies in dental education is limited in scope. Self-assessment of competencies by educators can provide a roadmap to identify, develop and improve the competencies necessary to function as effective educators.

Objectives: To identify educator competencies by prosthodontic faculty and their learning needs as an educator.

Methodology: Descriptive cross-sectional study was conducted on prosthodontic faculty members. After obtaining ethical approval, data was collected using a convenience sampling method. A well-structured, pre-tested and validated questionnaire was used to collect data through Google forms after informed consent. Relevance of competencies was rated on a Likert scale of 1 to 5. Data obtained were subjected to statistical analyses using SPSS version 26 software.

Results: Respondent's age ranged from 27-68 years with teaching experience of 1 to 40 years. Descriptive statistics, frequency and percentages were calculated for all the responses given by the participants. Thematic analysis was done for qualitative data. 90-95% prosthodontic faculty identified educator competencies as useful, valuable or essential. 89% prosthodontic faculty agreed that faculty development program should be conducted regularly in dental institutions and 85.6% agreed that health professions education should be made mandatory for dental faculty.

Conclusions: Prosthodontic faculty identified educator competencies as useful, valuable or essential. Faculty development program should be conducted regularly in dental institutions and health professions education should be made mandatory for dental faculty.

Transformative 3D Printing: Polymeric Restorations for Regeneration and Rehabilitation

Dr. J. Brintha Jei

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Introduction: Due to the advancements in 3D printing technology in digital work flow, fixed and removable dental prosthesis are fabricated with precise fit. Poly methyl methacrylate, polycarbonate, polyethylene, poly ether- ether ketone, poly urethane, poly ethylene glycol, polypropylene, poly lactic acid, poly di methyl siloxane and acrylonitrile butadiene styrene are the commonly used polymers in restorations.

Case report: The 38-year-old male patient presented to the department with a chief complaint of missing upper front tooth, expressing concerns about difficulty in chewing and compromised aesthetics. Seeking a solution, the patient preferred a 3D printed fixed dental prosthesis among the treatment options discussed.

Discussion: At present 3D printing polymers like poly methyl methacrylate, polylactic acid, acrylonitrile butadiene styrene, polyether ether ketone and poly urethane ethyl acrylate play a major role in creating dental models, customised special trays, complete removable dentures, fixed crown and bridge framework and removable partial dentures. One of the primary advantages of utilizing 3D printable polymeric resins in prosthetic restoration is the unparalleled precision and customization they offer. The ability to construct prosthetic devices layer by layer based on digital models ensures a perfect fit for each patient.

Conclusion: The intersection of polymer materials and 3D printing technology has significantly elevated the standards of dental care, offering a seamless blend of precision, affordability, and convenience

'Retention by attraction' - Role of Magnets in Prosthodontics

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Introduction: Magnets have been used in dentistry since 1960 as retentive devices for over dentures, removable partial dentures, implant-supported dentures and maxillofacial prosthesis. The newer coated magnets (Samarium iron nitride) which are corrosion-resistant make an important tool in treating patients with severe intra-oral defects without the fear of toxicity.

Case report: 3 maxillofacial patients came to the department of prosthodontics who were given the prosthesis using the retentive aid of magnets.

Discussion: Magnetic technology in the field of Prosthodontics is constantly improving. Fabrication of an extra-oral facial prosthesis challenges the artistic ability of the Prosthodontist. Retention of the prosthesis is also a difficult problem because of its size and weight; securing it in place can be a formidable task.

Conclusion: Regular review and recalls will have to be arranged to ensure the patency of coated magnets

Rehabilitation Of Glossectomy Patient With Palatal Augmentation Prosthesis Using 3D Printed Core

Dr. Prachi Rajput, Dr. Silvi Aneja

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INTRODUCTION - Effective speech production relies on tongue-palate contact. Proper tongue positioning on the palate is crucial during speech. After partial or complete glossectomy, patients often struggle to achieve necessary tongue-palate articulation, making it difficult to form certain sounds. A palatal augmentation removable prosthesis can significantly aid in speech rehabilitation. However, minimizing the weight of such prostheses, due to the extent of tissue being restored, presents a significant challenge. Various techniques have been explored in the literature to address this issue.

CASE REPORT - This case report outlines a straightforward and effective approach for rehabilitating a patient in need of a palatal augmentation prosthesis. The method involves using a 3D-printed hollow core, which reduces weight of prosthesis and helps to restore the patient's lost function.

DISCUSSION - The use of a 3D-printed hollow core in palatal augmentation prostheses offers a novel solution to the challenge of reducing prosthesis weight. This technique ensures the prosthesis is lightweight while still providing the necessary support for speech rehabilitation. The implementation of 3D printing technology allows for precise customization, enhancing the overall effectiveness of the prosthesis.

CONCLUSION - The presented method, utilizing a 3D-printed hollow core for the palatal augmentation prosthesis, is simple, straightforward, and efficient. It provides a practical solution for reducing prosthesis weight and effectively restoring the patient's speech function without hassle of complicated laboratory steps.

*Ameliorating the Equipment Designs in Prosthodontic**Dr. Aryen Kaushik**Department of Prosthodontics and Oral Implantology, ITS Dental College, Greater Noida*

Currently there are using various Prosthodontic equipments in our day to day clinical practice which are available commercially, and these equipments have proven to be indispensable to perform various clinical as well as laboratory procedures. However, with time some design shortcomings have been acknowledged by the practitioners. Although, there is a surge in the research pertaining to different dental materials and digital technological advancements, the designs of existing manual dental equipments like impression trays, cartridge mixing tips, laboratory glass plate and, foxplane analyzer may be further modified to better the efficiency and sustainability. The paper presentation mentions some of the few suggested modifications along with its rationale. The purpose of choosing this topic for the scientific presentation is to trigger an interesting academic discussion and receive valuable suggestions and insight from the esteemed jury and audience.

*Efficacy Of Different Irrigation Systems In Traditionally & Minimally Accessed Teeth**Dr. Divya Chowdhary, Dr. Akriti Dheer**Department of Conservative Dentistry and Endodontics, ITS- Centre for Dental studies and Research, Ghaziabad*

Introduction: This study compares the efficacy of irrigation. This study aims to investigate the effectiveness of different irrigation methods in root canal treatment, specifically comparing the use of conventional syringes and EndoActivators in both traditional and minimal access cavities. The goal is to determine whether the EndoActivator, a device designed to improve irrigation and debris removal, can compensate for the potential limitations of minimal access cavities.

Materials and Methods: 10 Single canal teeth and 10 premolars with two canals were selected which were further divided into two groups, i.e. Group I- single rooted single canal teeth with traditional access preparation. Group II- single rooted double canal premolars with minimal access preparation. In group I(10 teeth) five teeth were irrigated by syringe and remaining 5 by the endoactivator similarly for group II one canal of each premolars was irrigated by syringe whereas another canal with the endoactivator. After irrigation teeth were split into two halves and observed under Dental operating microscope and images were taken.

Results: The syringe group removed less amount of debris compared to that of endo activator in both traditional and minimal access preparation.

Conclusion: The endoactivator enhances the removal of debris from root canal as compared to conventional syringe irrigation.

A Comparative Evaluation Of Apical Sealing Ability Of Lateral Compaction And Single Cone Gutta-Percha Technique Using Different Sealer Under Scanning Electron Microscope – An In-Vitro Study

Dr. Setu Katyal, Dr. Shreeya Bhardwaj

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Aim and Objectives: To evaluate the sealing ability of two different types of sealers: AH Plus and MTA Fillapex in single rooted teeth when obturated with gutta-percha using single cone technique and cold lateral condensation technique respectively.

Materials and Methodology: Sixty four extracted non carious permanent single rooted premolars were randomly divided into two main Groups, Group I : Cold Lateral compaction group and Group II Single cone obturation group (n=32) and Group III: Control. The two groups were then further divided into two sub groups namely Group Ia: Cold lateral compaction with AH Plus sealer ; Group Ib: Cold lateral compaction with MTA Fillapex; Group IIa: Single cone obturation with AH Plus ; Group IIb : Single cone obturation with MTA Fillapex (n=16). These teeth were then obturated and kept at 37° C temperature and 100% humidity for 7 hours and the samples were evaluated under Scanning Electron Microscope after sectioning of the samples.

Results and statistical analysis: When intergroup comparison of microgaps was done using unpaired t-test the mean microgaps were significantly more in MTA Fillapex single cone, AH Plus single cone showed less microgaps than MTA Fillapex single cone, but more than that of AH Plus cold lateral and MTA Fillapex cold lateral, whereas MTA Fillapex cold lateral compaction showed more microgaps than AH Plus cold lateral compaction.

Conclusion: Cold lateral condensation technique and AH Plus sealer exhibited best adaptation and apical sealing ability, thus may be preferable to Single cone technique and MTA Fillapex sealers in terms of adaptability and sealing ability.

*Comparative Evaluation Of Apical Debris Extrusion With Four Different Retreatment File Systems –
An In-Vitro Study*

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Ghaziabad*

OBJECTIVE: Non-surgical endodontic retreatment plays a critical role in managing root canal failures, necessitating effective removal of previous filling materials to facilitate thorough disinfection and re-obturation. This study aimed to compare the efficacy of four retreatment file systems namely ProTaper Universal Rotary (PTUR), Endostar RE-Endo, Mani NRT-GPR, and Hyflex™ Remover on apical debris extrusion.

MATERIALS AND METHODS: Forty human mandibular premolars with single canals and standardized conditions were utilized. After initial root canal treatment and obturation, retreatment procedures were performed using the designated systems. Statistical analysis was conducted to compare outcomes across groups.

RESULTS: PTUR exhibited the highest apical debris extrusion, while Endostar RE-Endo showed the least. Mani NRT-GPR and Hyflex™ Remover also differed in extrusion levels, with Mani NRT-GPR exhibiting less debris extrusion, albeit statistically insignificant compared to Hyflex™ Remover.

CONCLUSION: Endostar RE-Endo emerged as a promising option demonstrating minimal apical debris extrusion, highlighting its potential in clinical endodontic retreatment. Further studies exploring clinical outcomes and patient comfort post-retreatment are warranted to validate these findings in broader endodontic practice

*Comparative evaluation of different beverages on shear punch strength of newly modified composites:
A prospective study*

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Ghaziabad*

Introduction: Mechanical causes alone do not destroy restorative materials; chemical considerations also play a part in the deterioration process. This could be accountable for the destruction, and untimely rupture of dental composites in the oral cavity. Dietary solvents are one of the most important substances in this regard. The introduction of composite-based restorative materials like compomer, Activa Bioactive, Nano-ceramics and Ormocers have improved the clinical use of ordinary glass ionomer cements.

Aim & Objective: To compare the shear strength of recently used esthetic restorative materials, i.e. Compomer, Ormocer, Nanocomposite and Activa Bioactive under the influence of different dietary solvents.

Methodology: 128 specimens in which 32 specimens of each of the following four materials were chosen for this study,: Compomer (F2000 3M ESPE), Ormocer (Admira VOCO), ACTIVA Bioactive (Pulpdent Corporation), and Nanocomposite (Filtek Z350XT). The conditioning media were divided into four subgroups (three different meal imitating materials): i) Heptane (37°C) ii) 50 percent ethanol-water solution (37°C) iii) 0.02 M Citric acid (37°C) iv) distilled water (37°C). The specimens after treating with dietary solutions were subjected for testing of the shear punch strength. Custom designed shear punch apparatus in Universal Testing Machine was used. The cross head speed was adjusted at 2.0 mm/min and recording of the maximum load to make punch through the specimen was carried out.

Results: It was observed that shear punch strength of nanocomposites was maximum in all four dietary solvents used in study. On the other hand, Compomer had least shear punch strength. It was further analysed that shear strength of Ormocer was greater than bioactive but less than nanocomposites in citric acid and heptane treatment. Bioactive had more shear strength than Ormocer but less than nanocomposites when the dietary solvent was 50% ethanol. It was observed that the strength of the bond was significantly affected by dietary solvents in restorative materials Ormocers and bioactive materials.

Conclusion: Based on results of this research it can be concluded that nanofilled composites had maximum shear strength while compomers had the minimum shear strength in all dietary solvents. Besides strength of the bond was significantly affected by dietary solvents in restorative materials Ormocers and Bioactive materials

Resistin- a potential biomarker in Patients with Type2 Diabetes Mellitus and Chronic Periodontitis

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Background: Chronic periodontitis (CP), a prevalent inflammatory dental disease, has been linked to systemic conditions like Type 2 Diabetes Mellitus (T2DM). This systematic review and meta-analysis aimed to evaluate resistin levels in the Gingival Crevicular Fluid (GCF) of CP patients with T2DM. The objective was to determine if resistin could be a reliable biomarker for periodontal disease in T2DM patients.

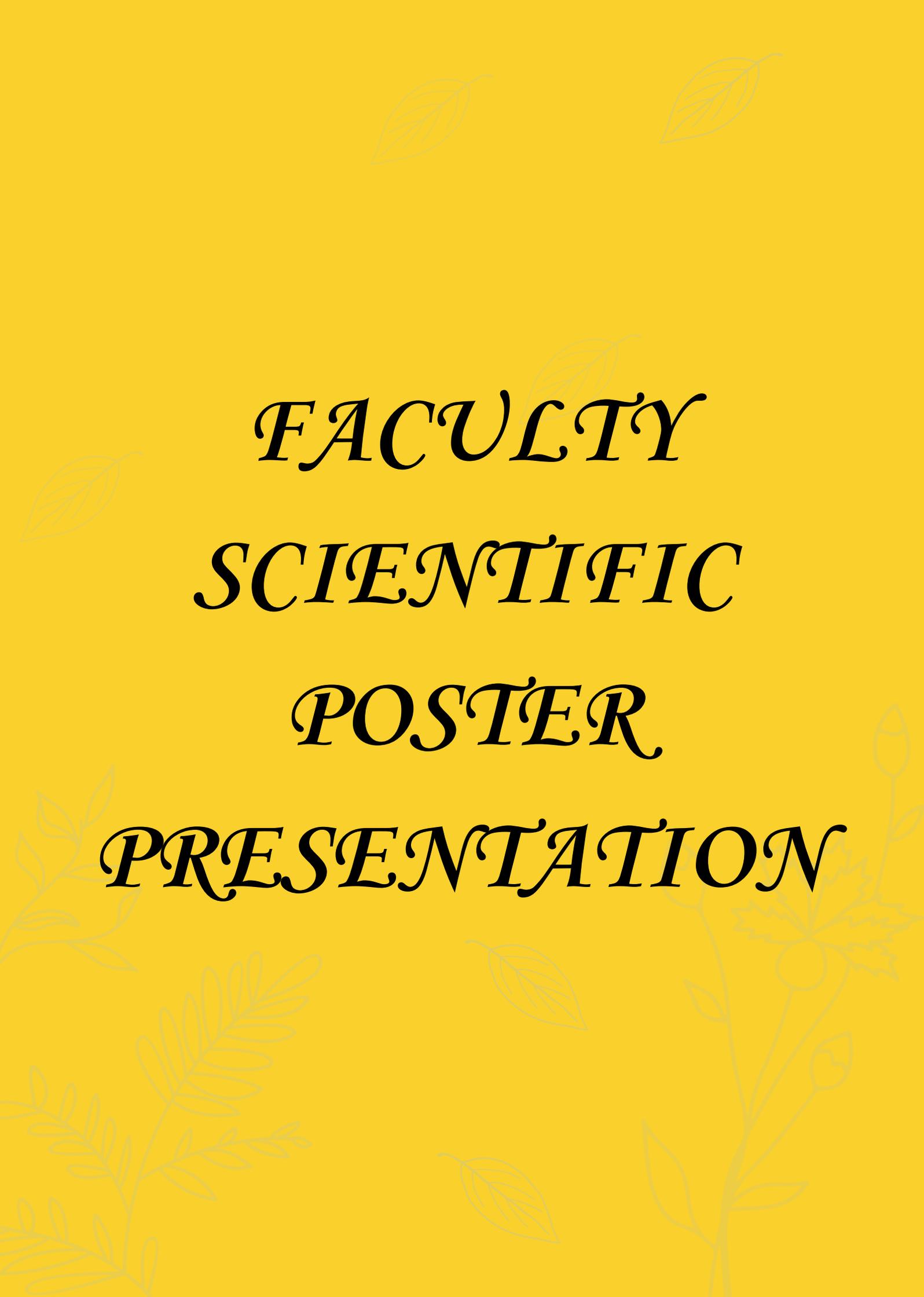
Methods: The review included data from seventeen clinical studies that investigated resistin levels in GCF of patients diagnosed with CP and T2DM. Data were sourced from PubMed, Scopus, and EBSCOhost, selected for their extensive coverage of medical and dental research, ensuring thorough retrieval of relevant studies. From the initial seventeen studies, five complied with the strict inclusion criteria for meta-analysis.

Results: The importance of GCF resistin levels in patients with CP and T2DM in comparison to the healthy groups was investigated using a thorough meta-analysis. Furthermore, a meta-analysis was conducted to investigate the association between CP and Type 2 DM and periodontal probing depth (PPD). In comparison to the other groups, the results showed a considerable rise in resistin levels in T2DM plus CP. Furthermore, when compared to other groups, the PPD in T2DM plus CP was much higher.

Conclusion: The present review highlights the potential role of resistin as a biomarker to probably diagnose patients with chronic periodontitis and T2DM.

Clinical Significance: The elevated resistin levels in GCF of T2DM with CP patients may serve as a potential biomarker. This finding could lead to improved early diagnosis and treatment methods, which could enhance patient outcomes and quality of life.

Plain Language Summary: In the current analysis, observational studies comparing patients with CP and T2DM to healthy controls and patients with CP alone without systemic illness were examined for Resistin levels in the GCF. The findings showed that individuals with CP and T2DM had significantly higher GCF levels of resistin, indicating that this biomarker may be utilized to diagnose patients with Diabetes Mellitus, a dangerous and crippling condition that affects people today.



*FACULTY
SCIENTIFIC
POSTER
PRESENTATION*

Plant wax effectiveness in Human Dentinal Tubule obstruction and retention

Dr. Sumanth Gunupati

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Andhra Pradesh*

Background & Objectives: Wax extract from the plant source is not been explored globally, the wax extract from Caralluma bhupenderiana Sarkaria (Asclepiadoideae: Apocynaceae) is a succulent subshrub medicinal plant grows in tropical areas. The usage of the animal wax is been studied and used as it is nontoxic resinous substance with anti-inflammatory, anti-microbial, anti-cytotoxic properties, including ability to decrease dentine hypersensitivity (DH). Increasing prevalence of DH has made it a global concern. The present invitro study was conducted with an objective to formulate and to evaluate plant wax on occlusion of dentinal tubules.

Materials and Methods: The plant Caralluma bhupenderiana Sarkaria is able to produce the wax on applying the stress at different levels, the wax was found to be by-product of induced stress. Phytochemical extraction of the plant was done, ten periodontally compromised teeth were extracted and stored in normal saline. Thirteen dentine Disc were prepared, and each disc was divided into two halves to represent as control and test. The discs surfaces were acid etched and applied with Control and plant wax; were subjected for SEM analysis.

Results: A significant reduction in diameter of dentinal tubules was observed with control and plant wax. Plant wax showed a better significance ($P < 0.01$) compared to control varnish in terms of dentinal tubule occlusion.

Conclusion: Plant wax application has beneficial effect on the occlusion of dentinal tubules when compared to control.

*Multidisciplinary Integration and Magneto-Dynamic Technology in Dental Rehabilitation**Dr. Ann Sales**Department of Prosthodontics and Oral Implantology, Manipal College of Dental Sciences,
Mangalore*

Achieving optimal esthetic and functional outcomes in dental rehabilitations, both simple and complex, necessitates multidisciplinary integration. This integration is crucial for planning and executing procedures with precise timing, thereby enhancing treatment predictability. The preservation of adequate volumes of both soft and hard tissues is imperative for the stability of prosthetic restorations, be they removable or fixed, including those involving dental implants. Central to successful outcomes is the use of appropriate surgical techniques that promote tissue healing and ensure the functional and aesthetic stability of prosthetic restorations. Factors such as the features of residual alveolar ridges significantly impact the feasibility of prosthetic rehabilitation with dental implants. Successful osseointegration of implants hinges on various factors like bone quantity and quality, primary implant stability, fixture design, and surface characteristics. In cases where there's a reduced amount of bone, innovative surgical techniques or reconstruction may be necessary. One such innovative technology is magneto-dynamic technology, which leverages the principles of electromagnetism to apply controlled forces to the body while minimizing impact time. The control and steadiness of these forces ensure safety for both patients and surgeons. The Magnetic Mallet (MM) device from Meta Ergonomica, Milan, Italy, is a prime example of magneto-dynamic technology in dental surgery. The MM, with its handpiece energized by a power control device, delivers forces precisely timed for various procedures. Its versatility is augmented by different inserts that can be attached to the handpiece, allowing for specific applications such as dental extractions, crestal sinus lifts, ridge expansion, implant placement, and implant site preparation. The advantages of magneto-dynamic technology, exemplified by the MM, are numerous. These include speed, precision, directionality, visibility, control, and the ability to perform procedures without drilling and cutting, all while maintaining a cold operating environment. This poster aims to showcase the superior capabilities of magneto-dynamic technology, particularly the Magnetic Mallet, in enhancing restorative, periodontal, and prosthetic outcomes in dental surgery.

*Robotic Arm: Utopian Vision Holding Interdisciplinary Dentistry**Dr. Shivangi Vats**Department of Conservative Dentistry and Endodontics, Manipal College of Dental Sciences, Mangalore*

A robot is a flexible machine with characteristics including mobility, individuality, intelligence, versatility with automated semi-human and semi-mechanical outputs. With technological advancement, robotics is progressing rapidly and has been applied in many fields such as machinery, electronics, aerospace, general and dental medicine. Robot-assisted dental surgery has gained significant attention in the field of dental implant therapy as an alternative to conventional free-hand surgery. It has even found purpose in the field of operative dentistry and endodontics during endodontic microsurgery at present. Yomi Robot's assistance and haptic guidance has been used during the osteotomy and root-end resection of the maxillary premolars. In the field of oral implantation robotics undertake preoperative digital 3D scanning of the implant site and imaging data collection and diagnosis, digital design of surgical plan and real-time navigation and drilling during the surgical procedure improving accuracy, reducing trauma and time duration of the procedure. An automatic tooth-cleaning mouthpiece robot consisting of a tooth-cleaning module, flexible arm, water supply system, and safety system has been developed to help elderly/disabled individuals unable to brush their teeth by themselves. Similarly, robotics has been developed to bring about accuracy and precision in various laboratory and clinical procedures serving various disciplines of dentistry while producing promising results.

Revitalizing Restorations: Modern Ceramic Inlays - A Case Report

Dr. Ravi Gupta

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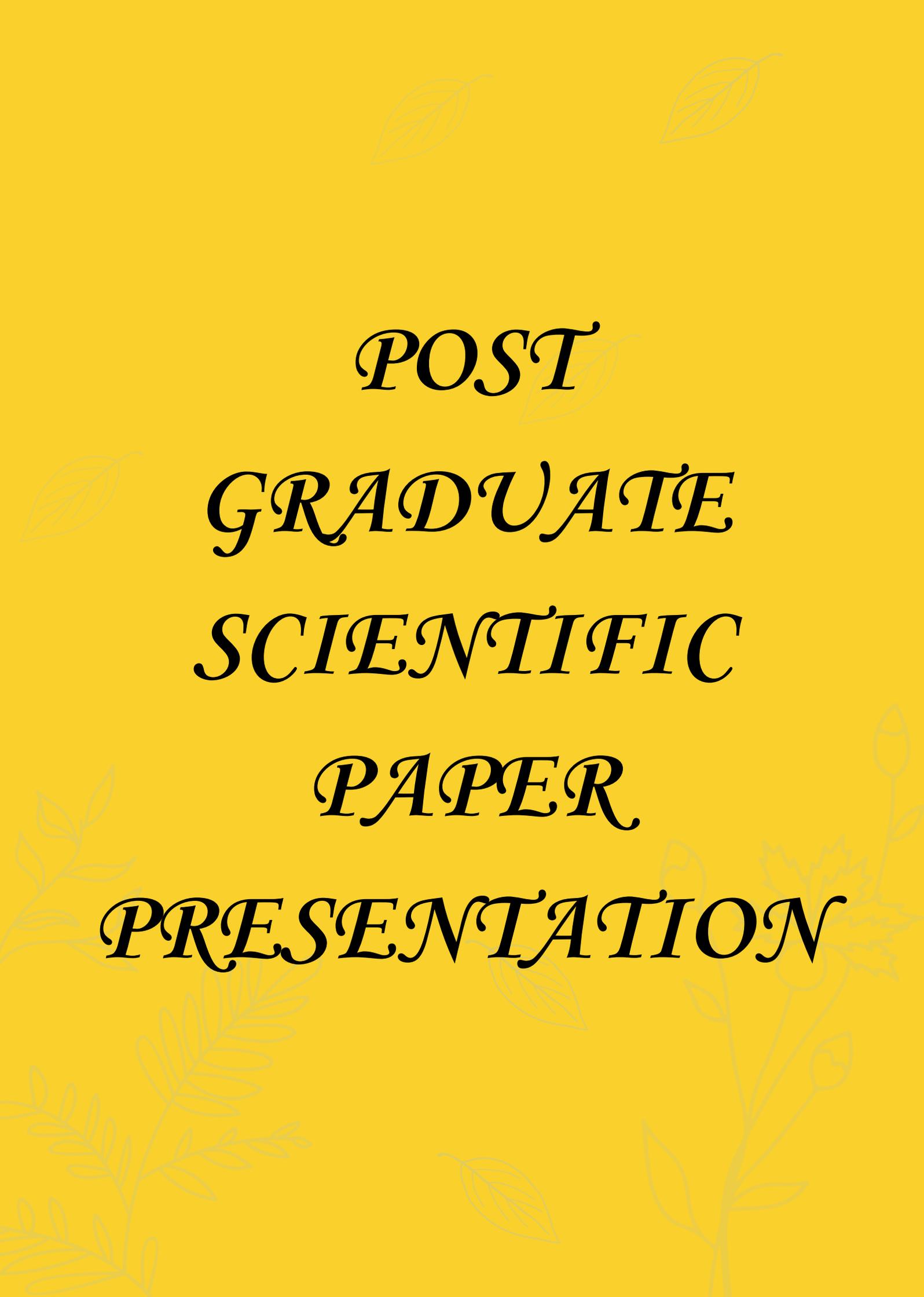
Introduction: In modern dentistry, aesthetics rank just behind pain relief as a primary patient concern. The demand for tooth-colored, aesthetically pleasing, and durable materials has never been higher. Ceramic inlays emerge as a superior alternative to composite restorations for posterior teeth, offering enhanced aesthetics and durability.

Case Description: A 33-year-old male patient presented with difficulty in chewing food. Clinical examination revealed a carious lesion on the mesial side of the mandibular first molar. The treatment plan included cavity preparation and a rubber base impression. All-ceramic inlays were fabricated using E-max CAD material. A trial fitting checked for high points, followed by cementation with resin. Occlusion was verified with shim stock, confirming no need for adjustments.

Results: Six months post-treatment, the patient reported satisfactory mastication and comfort. Clinical evaluation showed no food lodgement, secondary caries, or marginal discrepancies. The inlays remained intact without discoloration or fracture.

Discussion: Aesthetic demands now extend to posterior teeth. All-ceramic inlays offer superior marginal adaptation, aesthetics, and immediate post-restoration strength compared to traditional materials. Their ability to blend seamlessly with natural tooth structure makes them ideal for posterior restorations.

Conclusion: All-ceramic inlays, particularly those made with CAD-CAM technology, are a superior alternative to gold, base metals, and composites for medium to large carious lesions. These inlays enhance aesthetic appeal and improve the strength and longevity of restorations, meeting the functional and cosmetic needs of modern dental patients.



*POST
GRADUATE
SCIENTIFIC
PAPER
PRESENTATION*

Microleakage And Shear Bond Strength Of Newer Restoratives After Exposure To Sports And Energy Drinks: An In Vitro Study

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INTRODUCTION AND AIM- Consumption of artificially sweetened sports and energy drinks reduces the pH of the oral cavity, causing demineralisation, affecting the marginal integrity, strength and longevity of restorations. A significant effect is created on restorations that lie in the cervical region. Cervical restorations are vulnerable to failures from microleakage and shear stresses, therefore, this study aimed to evaluate and compare the microleakage and shear bond strength of various restorative materials after exposure to two acidic beverages.

METHODS – 180 extracted human maxillary premolars were taken for study. Class V cavities were prepared on the buccal surface of 90 premolars using a diamond bur, 1mm from the cemento-enamel junction. These were divided into three groups (n=30 each): NeoSpectra ST, Beautifil II, and Admira Fusion. Restorations were done as per manufacturer instructions. For shear bond strength assessment, 90 teeth were divided into three more groups (n=30 each) with the same materials. Specimens were abraded, bonded with restorative material, and underwent 200 thermocycles between 5°C and 55°C. For immersion cycling, specimens were immersed in artificial saliva (control), Gatorade, or Red Bull for 15 minutes, three times daily for 14 days, followed by cleaning and incubation in artificial saliva at 37°C. For microleakage testing, teeth were sealed, varnished, and immersed in Rhodamine B dye. Microleakage was assessed using Confocal Laser Scanning Microscopy. For shear bond strength testing, samples were embedded in acrylic blocks and tested with a Universal Testing Machine at 0.5 mm/min.

RESULTS- Intergroup comparison showed Group 1 had the highest microleakage, followed by Group 2, and Group 3 had the least ($p < 0.05$). Overall, microleakage scores were Group 3 < Group 2 < Group 1. For shear bond strength, intergroup comparison showed Group 6A had the highest values, followed by Group 4A, with Group 5A having the least. This pattern was consistent across subgroups B and C ($p < 0.05$). Overall, shear bond strength scores were Group A < Group B < Group C.

*CONCLUSION-*Ormocer demonstrated the least microleakage, superior marginal adaptability, and higher shear bond strength compared to Giomer and nanohybrid composite. The highest microleakage and lowest shear bond strength values were observed in specimens immersed in energy drinks.

Influence Of Different Access Cavity Designs On Root Canal Transportation And Fracture Resistance Using ProTaper Gold And TruNatomy File Systems: An In Vitro Study

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Introduction: Traditional access cavity design (TAC) encourages straight line access resulting in decreased fracture resistance. Minimally invasive access cavity (MIAC) design may provide better fracture resistance, however, possibility of ineffective canal instrumentation and procedural mistakes are more.

Aim and Objective: to compare the influence of different access cavity design on canal transportation and fracture resistance of endodontically treated teeth using Protaper Gold (PTG) and TruNatomy (TN) rotary file system.

Methods: Sixty extracted human mandibular premolars were divided into four groups: Group I (TAC/PTG), Group II (TAC/TN), Group III (MIAC/PTG) and Group IV (MIAC/TN). All specimens were scanned pre- and post-instrumentation using CBCT scanner to evaluate root canal transportation at 3mm, 5mm and 7mm from the apex. They were then embedded in acrylic block and tested under Universal Testing Machine for fracture resistance.

Results: TN with TAC and MIAC showed significantly lower transportation than PTG in both cavity designs at all three cross sectional levels. In addition, both the TN groups showed statistically higher fracture resistance. MIAC groups showed statistically higher fracture resistance.

Discussion: TN followed the canal curvature more precisely with better fracture resistance in MIAC. Statistically insignificant difference was observed regarding the access cavity design and root canal transportation.

Conclusion: TN followed the canal curvature more precisely with better fracture resistance in MIAC.

Comparative Evaluation Of Fracture Resistance Of MOD Cavities Restored With G-AENIAL Universal Injectable, GC EVERX POSTERIOR and TETRIC N CERAM: An In Vitro Study

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Restorative treatment is a most common approach, once the tooth tissue gets infected with dental caries which is the most prevalent non-communicable oral disease. Various direct filling materials are available for the dental practitioners for posterior load bearing restorations. The main concern regarding performance of these materials refer to their ability to bear stress, durability, ability to resist fracture, integrity to marginal sealing and aesthetics. Many efforts have been done to improve the mechanical properties of composite materials in past few years. The filler content, filler size, the distribution of the filler particles, the filler volume fraction and filler load level of the composites are directly related with the material strength and the fracture toughness of the material. A number of modifications have been made to improve mechanical properties of composite materials especially in highly stressed class II/MOD cavities. Since, the literature is deficit as regard to fracture resistance of G-aenial universal injectable composite, the aim of the present study was to evaluate the fracture resistance of flowable composite (G-aenial universal injectable), short fibre reinforced bulk-fill composite (EverX Posterior) and nanohybrid composite (Tetric N Ceram) in MOD cavities in maxillary and mandibular molar teeth. In addition, the fracture pattern was observed in all the three restorative materials.

Histological And Radiographic Evaluation Of The Effects Of Four Direct Pulp Capping Materials On Human Pulp Tissue- An In Vivo Study

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Aim: This in- vivo study was conducted to evaluate the response of human pulp tissue following direct pulp capping using four different pulp capping agents (MTA, Biodentine, TheraCal LC and Tristrontium Aluminate) in premolars scheduled for extraction in patients undergoing orthodontic treatment.

Materials & Methodology: Study included 40 premolar teeth from orthodontic patients requiring extraction of premolars as per orthodontic treatment plan. After standardized class I cavity preparation and iatrogenic exposure of 0.5mm the premolars were divided into 4 groups based on the material used for direct pulp capping: group I (n=10): Biodentine, group II (n=10): MTA, group III (n=10): TheraCal LC, group IV (n=10): Tristrontium Aluminate. After which the teeth were permanently restored using RMGIC as base and composite restoration. The pulp capped teeth were atraumatically extracted after 3 months, and were put to histopathological and CBCT evaluation for the assessment of the dentine bridge formed and pulpal response elicited by the materials. The data obtained was analyzed by Chi square test and Kruskal Wallis test.

Results: Statistical analysis represented that there was no significant difference in the reparative dentine formation, when analysed through both CBCT and histological evaluation. The difference in the pulpal response exerted by the materials was also statistically significant. The efficacy of tristrontium aluminate in terms of dentine bridge formation was similar to that of MTA, and it exerted equal pulpal response as to that of Biodentine.

Conclusion: It can be concluded that all the materials used in the study were able to maintain the vitality of the tooth and were successful in inducing the formation of tertiary dentine.

Cone-Beam Computed Tomographic Analysis Of Root Canal Volume Changes With Oneshape, Standard Mani Silk & Blueflex Acerfile: An In Vivo Study

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Introduction: The major goal of preparation of the root canal system is to enlarge the root canal space to facilitate the disinfection and to prevent reinfection by the placement of a fluid-tight filing followed by complete sealing of the access cavity with a sufficient coronal restoration so as to preserve the root canal anatomy.

Aim & Objectives: The aim of this in-vivo study was to evaluate the changes in canal volume after root canal preparation with three different file systems i.e. OneShape file, Standard Mani Silk file and Blue Flex Acerfile using CBCT and 3D reconstruction.

Materials and Methods: Forty-five permanent mandibular premolar teeth were selected from healthy patients visiting Department of Conservative Dentistry and Endodontics, Punjab Government Dental College & Hospital, Amritsar. Selected teeth were divided into three experimental groups comprising of fifteen premolars in each group: Group I (OneShape), Group II (Mani Silk File) and Group III (Blueflex Acerfile). CBCT scans before and after root canal preparation were taken and stored in DICOM format. The DICOM files were sent to the second workstation for 3D reconstruction and pulp segmentation with BlueSkyPlan software. Segmentated models were exported as STL file. Using 3D MeshMixer software, canal volume from CEJ to the apex of the tooth before and after preparation were calculated and results of the structure were obtained in mm³ in tabulated form. Student's t test for paired data was used to determine statistically significant difference between the before and after canal volumes. Anova test was used to determine statistically significant differences between in the percentage of canal volume increase between the groups and Tukey's post-hoc test was used for paired comparison.

Results: There was a highly significant difference in the volume change of the canal prior to the instrumentation and after preparation in all three groups ($p < 0.001$). There was a statistically significant difference between Standard Mani Silk file and Blueflex Acerfile and Blueflex Acerfile and OneShape file ($p < 0.05$). However, no significant difference in volume change was noted between OneShape file and Standard Mani Silk file ($p > 0.05$).

Discussion: The results showed highest change in the canal volume in Blueflex Acerfile, followed by OneShape file and Standard Mani Silk file showed least change in root canal volume. This may be due to the different instrumental design and thermomechanical processing of the files. Multiple factors are responsible for change in the canal volume which leads to unnecessary dentin removal from the canal, canal transportation and canal straightening. The excessive amount of dentin removal during instrumentation affects the strength of the tooth.

Conclusion: Blueflex Acerfile showed higher increase in the canal volume, followed by OneShape file, while Standard Mani Silk file showed minimum change in the canal volume during preparation.

S-006

Evaluation of Shaping Ability and Cyclic Fatigue Resistance of Newer Nickel-Titanium rotary file system in Curved Canals: An In vitro Study

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Aim and Objective- To evaluate and compare the shaping ability and cyclic fatigue resistance of three different nickel-titanium (NiTi) rotary file systems namely, XP Endo Shaper, Orodeka Plex V, and Zenflex in curved root canals.

Materials and methods- A total of fifty four extracted human mandibular first molars were used. The shaping ability was evaluated using cone-beam computed tomography (CBCT) to measure canal transportation and centering ability at three different levels. Cyclic fatigue resistance was assessed by subjecting thirty six brand new files to a static cyclic fatigue test.

Results- The results revealed significant differences in shaping ability and cyclic fatigue resistance among the three rotary file systems. XP Endo Shaper demonstrated superior shaping ability, with minimal canal transportation and excellent centering ability across all levels compared to Orodeka Plex V and Zenflex.

Discussion- The findings of this study can be attributed to its unique design features, including MaxWire alloy, snake-shaped configuration, and adaptive core technology. These features allow for enhanced flexibility, minimal stress on dentinal walls, and better adaptation to root canal irregularities. Additionally, the equilateral triangular cross-section and booster tip geometry contribute to optimal guidance and efficient debris removal during instrumentation.

Conclusion- XP Endo Shaper exhibited superior performance in both aspects, emphasizing its suitability for efficient and safe canal preparation in curved canals.

Prognosis of Vital Pulp Therapy on Permanent Dentition: A Systematic Review and Metanalysis of Randomized Controlled Trials

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Introduction: Vital pulp therapy (VPT) includes the procedures of pulp capping, partial pulpotomy (PP), and full pulpotomy (FP). Reversible pulpitis can be treated without any periapical diseases, noncarious pulpal exposure, or immature teeth, in order to promote root formation. When comparing VPT operations to traditional root canal therapy, it is generally found that VPT procedures are more conservative and cost-effective. The objective of this study was to conduct a comprehensive analysis of previously published clinical trials on VPT in order to assess the correlation between preoperative or intraoperative variables and treatment results throughout a 1-year follow-up period.

Search Strategy: Search keywords or Medical Subject Headings (MeSH) terms were utilized to perform searches in MEDLINE (PubMed), Embase, and the Cochrane Library between January 2000 and April 2024. The grey literature was also scrutinized in Google Scholar and ProQuest Dissertations and Theses. A systematic search was performed by manually examining the list of references in pertinent publications and book chapters.

Discussion: With a high level of uncertainty, this meta-analysis demonstrated a 93% efficacy rate of VPT (containing DPC, PP, and FP) in the treatment of reversible or irreversible pulpitis.

Conclusion: This study concluded that VPT using contemporary bioceramic materials was an efficacious treatment modality to treat permanent teeth with a 93% success rate

Effect of Anti-oxidant Application on Bleaching Efficacy, Post-Operative Tooth Sensitivity and Oxidative Stress in Smokers and Non-Smokers - A Split-Mouth Triple Blinded Randomized Controlled Trial

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Aim and Objective – To compare and evaluate the effect of anti-oxidant on bleaching efficacy, post-operative tooth sensitivity and oxidative stress in smokers and non-smokers.

Materials and methods - Thirty smokers and thirty non-smokers were selected having six maxillary anterior teeth with a shade C2 or darker. In-office vital bleaching was done with 35% hydrogen peroxide in two sessions with a seven days interval between each session. Split mouth design was used for the application of grape seed extract. Postoperative sensitivity was evaluated with VAS scale, shade evaluation was done using subjective and objective methods and change in the level of oxidative stress biomarker was evaluated using ELISA.

Results - Results showed significant difference among studied groups. Postoperative sensitivity was higher in smokers in comparison to non-smokers and a reduction in this sensitivity was observed with the application of grape seed extract. The application of grape seed extract had no effect on bleaching efficacy for both smokers and non-smokers. The level of oxidative stress biomarker was greater in smokers when compared to non-smokers which was reduced with the application of grape seed extract.

Discussion - The higher postoperative sensitivity in smokers is likely due to increased oxidative stress from nicotine consumption, compounded by bleaching-induced reactive oxygen species (ROS). The higher levels of biomarker 8-OHdG (T0) in smokers as compared to non-smokers was due to the greater chronic oxidative stress in these patients which was reduced with the application of grape seed extract due to its antioxidant properties.

Conclusion - Following the bleaching procedure, application of antioxidant showed reduction in postoperative sensitivity, no effect on bleaching efficacy and reduction in the level of oxidative stress.

Comparative Evaluation Of Bone Regeneration With L-PRF, Amniotic Membrane And Simvastatin Using CBCT After Endodontic Surgery: A Randomized Clinical Trial

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Introduction- Regenerative Techniques have been recommended as an adjunct treatment to periapical surgery with the goal of improving the quality of healing in terms of replacing damaged or lost tissue by cells, tissues, and structures that are the same as the original ones. Nevertheless, the use of regenerative techniques in endodontic surgery requires a meticulous and sterile operation, which is essential to minimize the risk of bacterial contamination of the surgical site and to increase the success rate of the surgery. The reasons for using Regenerative therapy (RT) in apical surgery are: (I) to accelerate periapical or periradicular healing, and (II), to allow healing in compromised clinical situations.

The probability of hard tissue healing following periradicular surgery can be increased by the use of bone regenerative therapy. This therapy involves use of synthetic bone graft or platelet concentrates or other anabolic drugs. These materials act as bone fill and as scaffold thus facilitates wound healing, trabecular bone formation. These regenerative therapies allow accelerated periapical or periradicular healing, and also enhance bone regeneration in compromised clinical situation.

Objective: The present study evaluates and compares the effectiveness of Leucocyte – platelet rich fibrin(L-PRF), Simvastatin (SIM) and amniotic membrane (AM) in bone regeneration of periapical defects.

Materials & methods - A total of 42 patients fulfilling all the inclusion criteria were enrolled for the study and randomly divided in three groups (n=14) by allocation concealment method. Group I (L-PRF=14), Group II (SIM=14), Group III (AM=14). A total of 36 patients (12 in each group) were statistically analysed for results after excluding the data lost to follow-up in all three groups. After completion of RCT and apicoectomy, the grafts were placed locally in the defect and sutured.

Results: Clinical and radiographic evaluation at 6 and 12 months assessed the outcome of results.

Conclusions: Intragroup analysis of CBCT- Periapical Index (PAI) scores at 6th and 12th month revealed a significant change in the SIM (p=0.053 and 0.231 respectively) compared to L-PRF group (p=0.135 and 0.406 respectively) and AM (0.531 and 0.494 respectively). Simvastatin as a bone graft material accelerated the healing rate much more than the other groups.

Simvastatin as a bone regenerative material can be promoted in the periapical defects. Though the effect of Simvastatin and L-PRF are comparable, the overall beneficial effects of the statin may surpass the beneficial role of L-PRF and AM in their role of bone formation because of its lesser price, easy handling properties, reduced risks of cross infection and no additional trauma to patient as in the case of autologous PRF

Colour doppler evaluation of photobiomodulation as a therapeutic adjunct in non-surgical management of periapical bone defects: A randomized controlled trial.

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Introduction- Periapical lesions of endodontic origin represent an inflammatory response to bacterial infection of the root canal. Non-surgical Endodontic treatment of teeth with periapical lesion, have been reported to have a success rate of 85%; with only few percentages of cases requiring a more invasive surgical approach. Photobiomodulation (PBM) is the application of light usually a low power laser in the range of 1 mW to 500 mW using wavelengths usually in the red and near-infrared spectrum (600-1000 nm). Low powered or therapeutic laser have shown to possess analgesic, anti-inflammatory and biostimulatory effect.

Aim- The present study was conducted with the aim to compare the role of Photobiomodulation in enhancing the efficacy of intracanal calcium hydroxide in non-surgical management of periapical bone defects using ultrasonography and colour doppler.

Methodology- Participants in the study were divided into two groups, each group comprising 12 individuals. Endodontic intervention was carried out in both groups. In Group 1, the intervention consisted of standard treatment, utilizing iodoform-based calcium hydroxide as an intracanal medicament. Meanwhile, Group 2 received photobiomodulation therapy, with iodoform-based calcium hydroxide utilized as the intracanal medicament. Photobiomodulation therapy was given on day 3, 5 and 7 at 1 W power, 10 Hz frequency, for 60 secs.

Results- The following parameters were measured at baseline, 1, 3 and 6 months size of the lesion (cms), volume of the lesion (ml), echogenicity, type of vascularity (arterial or venous), PSV (cm/sec), area of the lesion (cm²) using ultrasound and colour doppler. Clinical parameters that were measured are pain scale (visual analog scale) was used to measure the pain level at baseline, 14 days (which coincided with day of obturation) 1, 3, and 6 months. In addition to this tenderness on percussion, swelling or vestibular obliteration, sinus opening with or without pus discharge was checked at follow up appointments. Impact of history of trauma on neo-angiogenesis and PSV was assessed by comparing vascularity and PSV at baseline and at 6 months follow up.

Conclusion- Within the limitations of this study it was concluded that photobiomodulation group had better results when compared to calcium hydroxide group. However, Studies in large sample size and longer follow up are required for more confirmatory results.

S-011

Comparative Evaluation of Pulpotomy with Biodentine Using Diode Laser and Normal Saline in cariously Exposed Permanent Molars and Premolars: A Randomized Controlled Trial

Dr. Khushbu

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Conventional treatment for irreversible pulpitis, is the root canal treatment in which there is complete removal of pulp tissue, wherein the tooth loses its vitality. Instead of complete pulp tissue removal by pulpectomy, vital pulp therapy (VPT) has been considered as an alternative approach as the vitality of the tooth is maintained in VPT which is important to retain proprioceptive, neurosensory, and innervative functions of the tooth that defence the tooth against destructive stimuli and promote dentinogenesis. Pulpotomy is the vital pulp therapy in which coronally inflamed and diseased pulp tissue is removed and biocompatible material is placed over an exposed radicular pulp as a means to maintain integrity, the vitality of radicular pulp, and health of teeth and their supporting tissues. The purpose of the present study was to evaluate and compare the clinical and radiographic responses of the pulp- dentin complex after capping the radicular pulp with a new tricalcium based cement Biodentine in human permanent molars and premolars using diode laser and normal saline

S-012

Bioceramic MTA Putty Versus MTA Used As A Root End Filling Material : A Comparative Marginal Adaptation Study Using Scanning Electron Microscope.

Dr Maria Maryam Taj

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AIM: The aim of this study will be to evaluate the quality of marginal adaptation of two root end filling materials by using scanning electron microscope (SEM).

METHODOLOGY: Twenty extracted human permanent single-rooted single canal anterior teeth with mature apices will be prepared and obturated. Obturated teeth will be resected 3 mm from the apex using a cross-cut fissure bur at 90° angle to the long axis of the tooth. Root end cavities of 3 mm will be prepared in each of the teeth with an ultrasonic tip to receive the root end filling material. The teeth will be divided into: Group 1 – MTA and Group 2 – Bioceramic MTA Putty. The samples will be sectioned at different levels from the apex and viewed under scanning electron microscope for evaluating the material adaptation to the canal walls.

RESULTS: Study is in progress.

DISCUSSION: Successful surgical endodontic treatment depends upon achieving good marginal adaptation between the tooth and root-end filling material. This property will determine whether the material is suitable for clinical use, so the purpose of this study will be to compare the marginal adaptation of the conventional MTA and Bioceramic MTA Putty.

CONCLUSION: Results are awaited

Impact of various cavity disinfectants on the fracture resistance in tooth fragment reattachments: an in vitro study

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Introduction: Crown fractures are common, especially among children and adolescents. When the original tooth fragment is available, reattaching it is a conservative and cost-effective restorative approach. However, many patients delay seeking treatment, increasing the risk of complications. Disinfecting fractured surfaces can mitigate these issues.

Aim and Objective: This study aims to compare the effects of Four different disinfections on the fracture resistance of universal adhesive used in reattaching incisor fragments.

Materials and Methods: Incisal edges of 55 incisors were sectioned and then randomly divided into 5 different groups as follows: Group A: no disinfectant; Group B: 3% sodium hypochlorite solution; Group C: NaOCl + citric acid: 3% sodium hypochlorite followed by 20% citric acid solution; Group D: 2% chlorhexidine solution; Group E: Glutaraldehyde+(2-hydroxyethyl) methacrylate. Teeth were reattached using universal bonding agent. Fracture resistance was evaluated using a universal testing machine.

Result: Cavity disinfectant had a statistically significant effect on bond strength with the highest bond strength detected in NaOCl+ citric acid, followed by chlorhexidine, glutaraldehyde, sodium hypochlorite and control group.

Discussion: Uncomplicated crown fractures can have varying prognoses. To address this, several compounds with antibacterial properties are used as cavity disinfectants. However, there are concerns in the literature about the potential negative impact of these disinfectants on the sealing capacity of adhesive bonding resins when applied to dentin.

Conclusion: Application of citric acid following sodium hypochlorite treatment can improve dentin bond strength.

Relationship between Deep Marginal Elevation and Periodontal Parameters: A Systematic Review

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Introduction - Minimally invasive dentistry emphasizes biomimetic restorations to preserve tooth structure. Deep margin elevation (DME) addresses challenges like subgingival margins without invasive crown lengthening. Studies suggest DME maintains restoration longevity and periodontal health, though long-term effects on periodontium necessitate further research for comprehensive evaluation.

Search strategy - The systematic review employed a comprehensive search strategy using keywords and MeSH terms such as 'deep margin elevation,' 'coronal margin relocation,' 'periodontium,' and 'periodontal tissues.' The methodology was pre-registered on PROSPERO (CRD42023466642) to ensure transparency. Study selection involved two-phase screening by independent reviewers, with data extraction focusing on periodontal parameters and outcome assessments.

Discussion - The biological width, crucial for periodontal health, ranges variably from 2.04 mm to 3.25 mm. Deep margin elevation (DME) restores deep carious lesions while potentially preserving periodontal integrity. Its benefits include single-session restoration and reduced invasive procedures, though challenges like isolation and material adaptation affect outcomes and require skilled application.

Conclusion - Based on existing literature, the review found support for deep margin elevation (DME) as a less invasive alternative to surgical crown lengthening. However, its impact on periodontal tissues remains uncertain. Further research is necessary to assess clinical periodontal parameters and inflammatory biomarkers conclusively.

Evaluation of postoperative pain after single sitting root canal therapy using endo activator and multiple sitting root canal therapy with calcium silicon iodoform paste.

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The occurrence of post-operative pain is undesirable for the patient and clinician. Which affects the patient's daily routine, one of the most common protocols is multiple-sitting root canal therapy, but nowadays, a single-sitting root canal is gaining popularity due to its advantages like a decreased chance of contamination, time savings, and cost-effectiveness. Also, previous studies indicate significant inflammatory biomarkers like C-reactive protein decrease after a single sitting root canal therapy.

The present study evaluates pain after single-sitting root canal therapy, aided by the use of an endo activator. The endo activator works at a frequency of 160–190 Hz and improves root canal disinfection through acoustic streaming and cavitation, a single sitting, Root Canal Therapy excludes the use of intracanal medicaments. Multiple sittings allow various intracanal medicaments, despite various controversies about their use. Various intracanal medicaments are still used to enhance disinfection, heal periapical lesions, etc. Vitapex (calcium-hydroxide iodoform silicon paste) is one of the medicaments used in multiple-sitting root canal therapy. Studies indicated that vitapex enhances nonsurgical healing, disinfection, and pain reduction. The present study compares pre- and post-operative pain reduction after single-sitting root canal therapy with an aided endo activator and multiple-sitting root canal therapy with calcium hydroxide, and iodoform silicon-oil-based intracanal medicaments.

S-016

An in vitro evaluation of the Effectiveness of File agitation with BT Files, UltraX and XP-endo Finisher File on removal of debris and smear layer in curved root canals – A Scanning Electron Microscopic study.

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Curved root canals pose unique challenges in endodontic therapy due to their complex anatomy, which often harbors debris and smear layer. Smear layer is an irregular amorphous layer that is 1-2 μ m thick, which consists of organic and inorganic substances derived from ground dentin, predentin, pulpal remnants, odontoblastic processes, microorganisms, and their metabolic byproducts.

The effectiveness of endodontic therapy in curved root canals depends critically on the careful removal of debris and smear layer. Sufficient cleaning and disinfection is ensured through appropriate techniques and irrigation protocols, which ultimately promote good treatment outcomes and long-term tooth retention. The flexible, non-cutting XP-endo Finisher File has a special flute design that improves irrigant flow and makes debris removal easier. By enhancing the acoustic streaming and cavitation phenomena, ULTRA X increases the penetration and efficacy of irrigants. BT files reduce the chance of instrument separation and help remove debris throughout their length by having a variable helix angle. Their creations are intended to enhance endodontic procedures' effectiveness, safety, and predictability, which would eventually improve patient outcomes and treatment

S-017

Spectrophotometric Evaluation Of Colour Change Of Restored Teeth After Exposure To Various Beverages

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In contemporary dentistry, a paramount emphasis is placed on esthetics, with restorations crafted meticulously to harmonize seamlessly with the surrounding oral structures. Among the crucial attributes of an esthetic restorative material, colour stability stands out. Ensuring that the matched colour endures throughout its service life can be pivotal in determining the success or failure of the material. Various factors can influence the color stability of dental materials. Extrinsic factors contributing to discoloration encompasses staining through the adhesion or infiltration of colorants from external sources. Therefore, it is imperative that the restorative material exhibits resistance to such colour changes. In this study, the restored tooth were immersed in various beverages such as coffee, fermented milk & apple juice and their colour stability was examined. Colour measurement was done using a spectrophotometer. The ability of restorations to The use of various beverages may play an important role in maintaining the color of the restoration throughout their functional lifespan for their overall acceptability and effectiveness.

Comparative evaluation of the effect of three natural reducing agents on push out bond strength of AH Plus to sodium hypochlorite treated root dentine

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Introduction: The effective outcome of endodontically treated teeth is dependent not only on the apical seal but also on the coronal seal. In order to stop coronal leakage, endodontically treated teeth must be sealed right away. During biomechanical preparation, root canal irrigants may change the dentin's structure and how it interacts with composite resin. Diminished bond strength to NaOCl treated dentin might be recovered by applying an antioxidant to the dentin surface. So, the purpose of this in vitro investigation was to ascertain the impact of 3 naturally occurring reducing agents (Sodium Thiosulphate, p-toluenesulfinic acid, and Gallic Acid) on the push-out bond strength of AH + to root dentin treated with sodium hypochlorite.

Aim and Objectives: Aim of the study is to evaluate and compare the effect of three natural reducing agents on Push-out bond strength of AH Plus to sodium hypochlorite treated root dentin.

Materials and methods : Forty single-rooted human mandibular premolar teeth were used standardised to a root length of 14mm and were randomly assigned into 4 groups according to irrigant being used as final rinse. Push out bond strength measured using Universal Testing Machine.

Results: The results revealed Sod thiosulphate had greater push out bond strength as compared to other groups which was found to be statistically significant. On comparing the different thirds of same group (Intragroup-comparison) coronal third had greater push out bond strength as compared to middle and apical third.

Discussion: The reason could be attributed to Na₂S₂O₃ being a potent antioxidant, it is possible that it has some potential to neutralize the oxidizing agents through redox reaction of the treated substrate, thus facilitating complete polymerization of resin bonding materials. Furthermore, it can react with oxidants to neutralize unpaired electrons and form a stable product. Also, it is valid for upto 6 months when stored in a refrigerator making it a better material than sodium ascorbate and gallic acid which have a shorter shelf life.

Conclusion: Sodium thiosulphate had greater push out bond strength as compared to other groups and may be used as a potential irrigant for the recovery of bond strength of sodium hypochlorite treated root dentin.

Effect of natural extract sodium gluconate on removal of calcium hydroxide on root canal walls and subsequent microhardness of root canal dentin- An In-Vitro Study

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Aim: To evaluate the effect of NaOCl, ethylenediaminetetraacetic acid, citric acid, and natural extract sodium gluconate on removal of calcium hydroxide from root canal walls and subsequent microhardness of root canal dentin.

Methodology: A total of 40 single, straight-rooted, single-canal human premolars with fully formed roots was included in this study. Canal preparation was done using rotary file aiming to fit a F3 master apical file. Calcium hydroxide $\text{Ca}(\text{OH})_2$ was placed into the canal ensuring that it reaches the apex of the working length. All specimens were stored for 7 days at $37 \pm 10^\circ\text{C}$ with relative humidity of 100%. Teeth were irrigated with a syringe and a size 30 needle using the following irrigants: (i) 5% NaOCl, (ii) 17% EDTA (iii) 10% Citric acid (iv) 16% Sodium Gluconate. Volume of irrigant was 20 mL in each group, and irrigation time was 5 min. Evaluation of cleanliness of the blinded specimens was performed by two calibrated observers under SEM using a four-grade scoring system as described by Kuga et al(2010). Microhardness testing was carried out on a Vickers microhardness tester at 100gm load for a 15 sec dwell time. Statistical evaluation was performed using a SAS-macro for non-parametric multifactorial analysis ($P < 0.05$).

Results: Efficacy of calcium hydroxide removal was least in the apical third. Sodium Gluconate and EDTA had superior results when compared to citric acid and NaOCl.

Conclusion: EDTA is a preferred irrigant but causes dentinal erosion whereas Sodium gluconate, a natural extract, acts as a chelator similar to EDTA but with minimal dentinal erosion due to its selective action on hydroxyapatite crystals. This makes it promising as an endodontic irrigant.

S-020

Root Form and Root Canal Integration of Maxillary Ist Molar of Meerut Population- An In-Vivo CBCT study

*Dr. Duddu Sravan Teja, Dr. Ieeshan Farooq Shah
Department of Conservative Dentistry and Endodontics, Kalka Dental College*

Introduction: Research studies reveal that the morphology of root canals varies based on ethnicity.

Objective: One factor contributing to root canal failure is missed canals. Better root canal morphology is shown by a CBCT, which helps to avoid missed canals.

Procedure: Root canal anatomy of Maxillary Ist molar of meerut Population who visit to Kalka dental college was classified by using Verttuci's classification and Ahmmed et.al classification.

Results: Vertucci's classification:

Mesiobuccal canal of Maxillary Ist molar has 50% of TypeII, 36%of Type I and 14%of Type IV

Distobuccal canal and Palatal canal of Maxillary Ist molar has 100% Type I Canal Configuration

Ahmmed et.al Classification

MB2-1DB1P1-60%,

MB1DB1P1-30%,

MB2DB1P1-10%

Conclusions: By Using CBCT Missed Canals and excess removal of dentin were reduced

Dr. Anjali Meena

Department of Conservative Dentistry and Endodontics, Indraprastha Dental College, Sahibabad

AIM: This paper presentation aims to describe and discuss the management of instrument separation and furcal perforation. Clinician decisions should be based on a thorough knowledge of the success rates of each treatment option, balanced on potential risks of removal or file retention.

INTRODUCTION: Instrument separation may occur during the use of several endodontic instruments made of different materials. The mishap of instrument separation is a frustrating situation for the clinician as it may prevent access to the apex of the root canal. As a consequence, the level of difficulty of certain case augments, while the tooth healing is challenged. The management of a separated instrument can be conservative and/or surgical. There are three approaches to conservative treatment: a) bypass of the separated instrument, b) removal of the separated instrument, and c) instrumentation and obturation of the root canal coronally to the fragment. Furcal perforations are major iatrogenic complications and could lead to endodontic failure. Prognostic indicators that influence the treatment outcome are time of repair, size, level, and location of the perforation, presence of periodontal disease, and pre-endodontic pulp vitality status. Amalgam, super EBA, glass ionomer, light cure composite resin, calcium hydroxide, mineral trioxide aggregate (MTA), and biodentine have been used with different degrees of success for perforation repair. MTA, as a relatively new material, has shown excellent biocompatibility when used to repair furcal perforations.

CONCLUSION: In conclusion, the present case report shows that the retrieval of the instrument with the help of flap surgery, the immediate sealing of the perforation site, and the excellent sealing ability of MTA led to a favorable prognosis for the patient.

Regenerating And Restoring The Esthetics Through Immediate Rehabilitation Of Crown Fracture: A Multidisciplinary Approach

Dr. Shreya Dharni

Department of Conservative Dentistry and Endodontics, Inderprastha Dental College and Hospital

AIM: This paper presentation aims to describe and discuss the management of crown fracture using a multidisciplinary approach with a 6-month follow-up.

INTRODUCTION: Facial injuries are more prevalent in children than adults and are typically caused by sports, falls, car accidents, fights, and intentional assaults. Strikes to the face commonly impact the teeth, especially the upper front ones, which protrude slightly beyond the lower front teeth, often leading to crown damage. The complexity of restoring such fractures depends on the fracture type, occlusion, and prognosis. Treatment options vary widely, including preserving the tooth fragment temporarily or permanently, performing surgical procedures like implant surgery or crown lengthening, or using fixed partial dentures.

This paper aims to detail a comprehensive treatment approach for traumatized anterior teeth with crown fractures. In the case described, the mobile palatal fragment was stabilized using a fiber post and flowable composite, followed by gingivectomy to ensure complete coverage of the fragment with a metal-free crown.

CONCLUSION: The essential elements for successfully restoring complicated crown fractures and crown-root fractures, ensuring both functional and aesthetic aspects, entail employing multidisciplinary approaches involving surgeries, endodontic procedures, orthodontic interventions, periodontal treatments, and prosthodontic methods. With contemporary materials and suitable techniques, achieving aesthetically pleasing results with predictable outcomes is feasible. Consequently, reattaching a tooth fragment emerges as a practical technique, preserving tooth structure conservatively while restoring function and aesthetics, especially in cases of anterior tooth fractures, particularly in younger individuals.

Surgical root restoration after extensive internal and external root resorption- A Case Report

Dr. Radhika Sharma, Dr. Simran Bansal

Department of Conservative Dentistry and Endodontics, JN Kapoor DAV dental college

Introduction: Inflammatory root resorption is a pathologic condition caused by several etiologic factors including traumatic dental injury which can result in tooth loss if not treated properly. Correct diagnosis and proper management can result in successful outcome.

Case Report: In this case report, the treatment of the left maxillary central incisor is described, which was affected 6 years ago by trauma in the front tooth region, and root canal therapy was initiated 1 year ago with respect to 21. Tooth was found to be tender on percussion, and incomplete root canal therapy was revealed by digital intraoral radiography. On CBCT examination ballooning of the pulp canal, indicating extensive internal as well external resorption communicating with the canal in the middle and apical third of the root was observed. On buccal plate of the root there was complete bone loss. Tooth was treated endodontically and perforation was sealed with glass ionomer cement.

Discussion: Surgical treatment of a tooth with internal and external resorption is advantageous because it can potentially save the tooth, eliminate the need for extraction, and increases the life of the tooth. The treatment should aim toward the complete suppression and reconstruction of resorptive defect by the placement of suitable filling material.

Conclusion: Though the outcome cannot be predicted, it is worth an effort to try slow down the resorption process and maintain the tooth as long as possible.

Rehabilitation Of Fractured Traumatized Tooth With Post & Core : A Case Report

Dr. Sukhinder Kaur Soni

Department of Conservative Dentistry and Endodontics, Inderprastha Dental College and Hospital

Introduction: Post is a dental material placed in the root of structurally insufficient tooth when additional retention is needed to retain the core & coronal restoration.

Objective: Replace missing coronal tooth structure sufficiently to provide adequate retention & resistance for the crown that will eventually restore the function and the aesthetic of the tooth.

Case Report: This case report describes the post and core and fiber post treatment of a maxillary central and lateral incisors. An 18-year-old male patient reported to the Department of Conservative Dentistry and Endodontics with a history of trauma, falling from moving bike two months . On intra-oralexamination Ellis class 3 fracture in respect to 11,21 and Ellis class4 fracture in respect to 12 resulting in loss of significant tooth structure necessitating post and core treatment. Treatment was planned. Surgical crown lengthening was done followed by root canal treatment with removal of carious region, canals were located, working length was established followed by chemo mechanical preparation and obturation of canals. Post space preparation was done in the canal followed by post cementation and core build up. Then asthetics was restored with prosthetic crowns.

Discussion: Both rotary instruments and hot hand instruments can be safely used to remove adequately condensed gutta-percha when 5 mm is retained apically. Preserve as much tooth structure as possible. Prepare the finish line at least 2mm gingival to the core This establishes the ferrule.

Conclusion: Esthetic smile can be restored in patient by restorative treatment of post and core and fiber post along with crown lengthening and prosthetic crowns.

Advancing Dentistry: Exploring Deep Margin Elevation In Post-Endodontic Buildup Of a Mandibular Molar

Dr. Rashmeet Nagpal

Department of Conservative Dentistry and Endodontics, Inderprastha Dental College and Hospital

Aim: This paper presentation aims to describe and discuss a biomimetic method for post-endodontic buildup of tooth with deep proximal lesion extending below the gingival margin.

Introduction: The dental clinician has been consistently challenged by restoration of deep proximal lesions since they are usually associated with significant defects with subgingival margins exceeding cemento-enamel junction. With the help of minimally invasive techniques, even extensive and undermining defects can be restored, thereby preserving the sound tooth structure and providing long-lasting durability to the tooth. One of the most common yet challenging experiences faced in daily practice are, achieving durable restorations in the moist deep subgingival areas of Class 2 and Class 5 cavities. However, recently it has been shown that if moisture control is possible, these problems can also be overcome using newer materials alongside modified techniques even in deeper cavities. The deep margin elevation technique has been described as a more minimally invasive procedure that is both biologically sound and operatively friendly.

Conclusion: In conclusion, the present case report shows that deep margin elevation is a conservative and reliable technique to manage sub-gingival defects, when performed with meticulous attention to detail to ensure a smooth hard well-polished and sealed restorative surface against which a healthy periodontium can adapt and survive.

S-026

The Richmond Crown- Reviving Forgotten Wisdom

Dr. Arzoo Majra

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Introduction: Restoration of severely fractured/decayed teeth after endodontic therapy may require additional support from root canals to ensure proper restorative retention. Post and core therapy can improve tooth retention and resistance when the residual crown structure is insufficient to maintain full coverage. In cases where there is steep incisal guidance and very less overjet then restoration of such crown is not possible with routine post and core because of insufficient incisal clearance. In such cases, Richmond crown is advisable due to its single unit post retention and porcelain facing design.

Case report: A 67 years old patient reported to department of conservative dentistry and endodontics with fractured left central incisor with a history of dislodged restoration repetitively. Considering all the factors like deep bite, very less overjet and inadequate incisal clearance. Richmond crown has been given following root canal therapy.

Discussion: Richmond crown requires less crown cutting to make two axis parallel in grossly decayed tooth and also it require less thickness for best esthetic results. The advantages of this design are custom fitting to the root configuration, little or no stress at cervical margin, high strength, availability of considerable space for ceramic firing and incisal clearance, eliminate cement layer between core and crown so reduces chances of cement failure.

Conclusion: Conservation of tooth should always be first preference than extraction. Richmond crown is very much indicated in situations with very less overjet to accommodate core+cement+crown thickness.

Beyond decay: A multifaceted journey to Dental Renewal

Dr. Arthy Arrvind, Dr. Syeda Sumayya Mazhar

Department of Periodontics, Dr. Ziauddin Ahmad Dental College, Aligarh Muslim University, Uttar Pradesh, India.

Introduction: This case report details the comprehensive treatment of a 48-year-old female patient presenting with multiple carious lesions and missing teeth, significantly affecting her oral function and esthetics. A multidisciplinary approach was adopted, involving caries management, extractions, and dental implant placement, to restore function and improve the patient's quality of life.

Case Report: The patient had a chief complaint of difficulty in chewing and dissatisfaction with the appearance of teeth. Panoramic and periapical radiographs revealed extensive caries and sufficient bone height for implant placement in the edentulous regions. CBCT scan showed bone resorption in the upper left lateral incisor region compromising bone volume.

Initial Phase: Oral hygiene instruction and periodontal therapy, Extraction of non-restorable teeth

Restorative Phase: Caries management and restoration of salvageable teeth with direct composite restorations

Surgical Phase: Placement of dental implants and use of guided bone regeneration (GBR) technique where necessary

Prosthetic Phase: Fabrication and delivery of implant-supported crowns

Discussion: The patient's high level of satisfaction with both function and esthetics highlights the success of the treatment plan. Regular follow-up appointments are essential to monitor the implants and surrounding tissues, ensuring long-term success and addressing any issues promptly. Several challenges were encountered during the treatment process, including managing the patient's initial poor oral hygiene and ensuring sufficient bone volume for implant placement. It is crucial to maintain a flexible and adaptive treatment plan to address such challenges effectively.

Conclusion: Dental implants not only restore function and esthetics but also contribute significantly to the patient's overall quality of life.

A Collaborative Cure: Restoring Function And Aesthetics In Endo-Perio Lesions Through Interdisciplinary Treatment.

Dr. Anshika Sharma

Department of Periodontics, Inderprastha Dental College and Hospital

INTRODUCTION: Periodontic-endodontic lesions are complex in nature and have varied pathogenesis. Treatment, decision making and prognosis depends primarily on the diagnosis of the specific disease. To have the best prognosis, clinician must refer the case to various areas of specialization, to perform restorative, endodontic and periodontal therapy either singly or in combination. Furcation involvement poses a significant challenge in endodontic therapy when accompanied by periodontal issues. The present paper presentation shows the importance of regenerative periodontal therapy that includes mechanical open flap debridement followed by Laser debridement and placement of DFDBA bone graft and Emdogain in the furcation defect created by endo-perio lesion.

Clinical Findings: Clinical examination revealed Class-II caries and Grade II furcation involvement as measured by Naber's Probe at #46. A radiographic assessment confirmed a furcation defect in the same region.

Procedure: The treatment involved the root canal therapy, followed by regenerative flap surgery in the furcation defect. The furcation defect was first debrided using furcation curettes and then with 940nm diode laser. Demineralized freeze-dried bone allograft (DFDBA) and Emdogain (EMD) were applied to the defect area and the flaps were sutured using non-resorbable silk sutures. The sutures were removed after 10 days and patient was recalled at 1 month and 3 months for re-evaluation. PFM crown was given over the tooth after 3 months.

Results: The combined approach of root canal therapy and regenerative flap surgery ensured the restoration of masticatory function as well as aesthetics. The use of DFDBA bone graft and EMD provided a biocompatible scaffold that supported bone regeneration and excellent healing. Laser debridement aided in efficient reduction of bacterial load of the defect area. Bone fill was observed at 3 months radiographic evaluation.

Conclusion: A true combined endo-perio lesion may present with multiple pathogenesis ranging from simple to complex, rendering the outcome of the treatment unpredictable. The lesion from the root canal infection and periodontium must be treated with endodontic and periodontal treatment, respectively. Root canal therapy along with periodontal therapy and bone augmentation helps in resolving the complex endo-perio lesions. This case report demonstrates the effectiveness of an interdisciplinary approach in managing complex dental situations involving both periodontal and endodontic treatments.

An Inexplicable Case Of Inflammatory Enlargement

Dr. Asma Kadri

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Introduction: Gingival enlargement or gingival overgrowth a common trait of gingival disease is characterized by increase in size of gingiva. Based on etiopathogenesis ,enlargement could be inflammatory , drug induced ,those associated with systemic disesse neoplastic or false enlargement According to location ,enlargement can be marginal ,papillary, diffuse based on distribution it can be localized or generalized.

Case report: A case of 23 year old female who presented with diffuse gingival enlargement in relation to maxillary left quadrant. She expressed discomfort about her ability to chew food effectively and expressed mild concerns about esthetics. She expressed discomfort about her inability to chew food effectively and expressed mild concerns about the esthetics. She reported a history of and severe abdominal cramps during her menstrual periods and an erratic menstrual cycle. The pseudopockets measured upto 11 mm and gingivectomy was scheduled

Discussion: The goal of gingivectomy is to remove reddish pink diffuse overgrowth, which had lost its stippling and had a soft edematous consistency. Incisional biopsy was done and differential diagnosis was made ,The histological picture showed a parakeratotic stratified squamous epithelium with focal acanthosis and underlying stroma was edematous with proliferating capillaries. The unusual clinical presentation of gingiva made the diagnosis of inflammatory enlargement unclear. Following blood and hormone investigations, it was found that patient had elevated prolactin levels. Within a week following gingivectomy the overgrowth recurred. More research is required to determine the relationship between hormone and gingival hypertrophy

Conclusion: Although the histopathology report shows inflammatory enlargement diagnosis is still unclear enlargement could be due to hormonal imbalance .

Interdisciplinary Approach To Manage Mucosal Fenestration – Regenerating Mucosa And Restoring Tooth Integrity

Dr. Najmus Sahar

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INTRODUCTION: Mucosal or apical fenestration is a pathological condition where the roots of teeth perforate both the alveolar bone plate and the overlying mucosa.

PROCEDURE: A 25 Y old male patient reported to the department with the chief complaint of a defect in the lower left front tooth region since one month. The patient had a previous history of trauma 15 years back. On oral examination discoloration and crown fracture wrt #31 was noticed and mucosal fenestration wrt #31 seen but no mobility or tenderness on percussion was detected. Radiographic examination revealed periapical radiolucency wrt #31 and open apex wrt tooth #31. Pulp test showed negative response to EPT in #31 compared to the control teeth. Treatment started with oral prophylaxis and non-surgical root canal therapy. The prominent apical aspect of the root was resected. After that periapical surgery done in #31 for the closure of the defect. The roots were planed, and light-cured glass ionomer (GC Fuji II LC; GC America, Alsip, IL) cement was placed over the prepared root end. A CTG was harvested from the palate, placed in the resulting defect, and sutured in place. Simultaneously full thickness flap raised and connective tissue graft placed followed by flap closure. After one month follow up the affected mucosa was well-healed, intact, and uninflamed.

CONCLUSION: The endodontic and surgical techniques used in the management of alveolar or mucosal fenestrations alone are unremarkable, but combining them can give optimum outcome. Subepithelial CTGs, which have been widely used in most situations, can successfully be used in obtaining the soft tissue covering of the fenestrated root apices.

Surgical Exposure And Orthodontic Positioning Of An Unerupted Maxillary Canine: A Case Report

Dr. Rashmi Azim, Dr. Sadiqa Rehman

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Introduction: Tooth impaction is a condition in which the permanent tooth is unable to erupt into the mucosa of the mouth because it is still embedded in the alveolar bone. Surgical exposure is a procedure that involves opening the mucosa or alveolar bone that blocks the crown of the impacted tooth. This procedure helps the tooth to erupt normally. The most commonly impacted teeth are the upper canine, lower premolar, and third molar.

Objectives: To perform surgical exposure on the impacted upper left canine, followed by a fixed orthodontic treatment to guide the tooth into its proper position carefully.

Methodology: A 15-year-old female visited the clinic with a complain of missing tooth in maxillary arch. Surgery was performed to expose the impacted upper left canine, followed by fixed Orthodontic Mechanotherapy With Preadjusted Edgewise (MBT-022 X 028" Slot) Appliance.

Results: After 1.5 years of treatment, the canine was aligned.

Conclusions: Upper left canine successfully exposed via appropriate technique and fixed orthodontic appliance for good aesthetic and functional outcome.

Interdepartmental Collaboration In Managing Periapical Pathology.

Dr. Tooba Farid

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Introduction: Periapical pathology refers to inflammatory conditions affecting the periapical tissues at the apex of a tooth's root. These conditions are often the result of bacterial infections originating from the pulp of the tooth, typically following untreated dental caries or trauma. In these types of cases we need interdisciplinary approaches for a better treatment outcome.

Case Description:- A patient presented to the Department of Periodontology with complaint of tooth mobility in teeth 31 and 41 persisting for a year. Clinical examination indicated Grade I mobility and tenderness on percussion (TOP) wrt 31 and 41, both of which had undergone root canal treatment (RCT). Radiographic assessment revealed periapical pathology associated with these teeth. Despite initial RCT, the periapical pathology persisted, leading to the decision for surgical enucleation of the lesion. Subsequently, the defect was filled with a combination of sticky bone (a-prf + i prf + dfdba bone graft) to facilitate healing and regeneration.

Result: Three month post-operative, we observed a clinical reduction in mobility from grade 1 to normal physiological levels, and radiographic evidence showed bone fill in the treated area.

Conclusion: Understanding the relationship between endodontic and periodontal diseases is crucial for accurate diagnosis and effective treatment planning. Clinicians must be adept at identifying the primary source of infection and providing appropriate interventions to manage these complex cases successfully.

Palato-Gingival Restoration: MTA with Injectable Platelet Rich Fibrin and Deproteinized Bovine Bone- A case report

Dr. Sudheer Krishna

Department of Periodontics, SRMDC Ramapuram

Palato-gingival grooves present a clinical challenge in periodontal practice due to their intricate morphology and susceptibility to microbial colonization, which can lead to periodontal defects and compromise aesthetic outcomes. This case report discusses a case illustrating an innovative approach to restoring palato-gingival groove using Mineral Trioxide Aggregate (MTA) in conjunction with Injectable Platelet Rich Fibrin (i-PRF) and Deproteinized Bovine Bone (DBB) for regeneration.

MTA, known for its biocompatibility and sealing properties, is employed to effectively seal and reinforce the palato-gingival groove. i-PRF, a concentrate of autologous growth factors derived from platelets, is utilized to promote tissue regeneration, enhance wound healing, and foster a favorable environment for periodontal tissue repair. Complementing these actions, DBB, through its osteoconductive properties and ability to stimulate bone regeneration, provides structural support crucial for the stability and longevity of periodontal tissues.

The combined application of MTA, i-PRF, and DBB aims to synergistically address both functional and aesthetic concerns associated with palato-gingival defects. By promoting tissue regeneration, enhancing bone formation, and ensuring a durable seal of the groove, this integrated therapeutic approach offers a promising strategy for effectively managing palato-gingival grooves and restoring periodontal health. This abstract underscores the potential of multidisciplinary techniques in periodontal therapy to achieve comprehensive and sustainable outcomes in challenging clinical scenarios.

Implant Drilling- To Guide Or Not To Guide?

Dr. Tanya Attre, Dr. Divya Gupta

Department of Periodontics, ITS Dental College, Ghaziabad

Introduction: In the field of implant dentistry, advancements in technology, materials, and placement techniques continue to evolve. Traditionally, the process of determining implant position, size, and placement relies on pre-surgical diagnostic imaging, involving three or two-dimensional radiographs, and the fabrication of an acrylic stent based on duplicated casts. According to the documented literature, various limitations with this technique have been reported. In the pursuit of better accuracy, precision, consideration of anatomical landmarks and the ease of placement, the technology of DYNAMIC NAVIGATION come into the play Computer-aided implant surgery (CAIS) includes both a static surgical guide template and dynamic navigation features. The system allows real-time tracking of the implant drills and the patient throughout the operation based on motion tracking technology.

Aim & Objective: To compare the accuracy of free- hand implant placement, CBCT assisted surgical guide and dynamic navigation (DN) for dental implant placement. MATERIAL & METHODS: A case series of 3 patients selected for free- hand implant placement, CBCT assisted surgical guide and dynamic navigation technique. Accuracy between the 3 techniques was evaluated using CBCT parameters

Result, Discussion & Conclusion: Would be elaborated at the time of the presentation.

Iatrogenic Etiology: An Eye Opener For Clinicians

Dr. Muskan Aggarwal

Department of Periodontics, JSS DENTAL COLLEGE AND HOSPITAL, MYSORE

Introduction: The root canal anatomy and the surrounding attachment apparatus can communicate through pathologic or iatrogenic root perforations. The teeth which are treated with endodontic therapy, 2– 12% suffer iatrogenic root perforations, which can have major consequences. Several aspects are crucial for managing root perforations, including the early detection of the defect, the perforation's location, the choice of therapy, the materials employed and the host response, and the practitioner's experience.

Case Report: This report introduces the effective multidisciplinary management of a case with tooth perforation with bone loss in upper front tooth region and was managed by the periodontist and the endodontist.

Discussion: In the above case, a dental perforation resulted due to inappropriate performance of an endodontist. Then, a careful clinical and radiographic ,CBCT examination was performed to identify problems and develop an accurate decision-making process to treat the present case. As a result, the diagnostic process and interdisciplinary treatment approach produced an optimal clinical outcome.

Conclusion: The decision-making process used in this case report can help the clinician in managing and identifying iatrogenic etiology. In addition, long-term clinical outcomes are more predictable when there are optimal diagnostic processes, treatment sequences, and intervals. Therefore, the immediate and correct interdisciplinary management can prevent the loss of the involved teeth.

*Digitally Guided Three-Dimensional Model for Periodontal Aesthetic Interface Procedure: a Case Report**Dr. Tanya Singh**Department of Periodontics, Faculty of Dental Sciences, Ramaiah University of Applied Sciences,
Bengaluru*

Introduction: Contemporary periodontal practice emphasizes not just the biological and functional aspects of the periodontium but also the aesthetic concerns of the patient. Considering this, the digitally guided 3D model can be used for aesthetic crown lengthening procedure which can achieve both patients' satisfaction and functionality. Stereolithography has so far enabled the creation of intricate dental models and tailored surgical guides right in the clinical settings. Hence, visualizing treatment outcomes using virtual planning tools can also allow periodontists to educate patients effectively. Digitally customized Surgical guide used to perform aesthetic crown lengthening is a time-efficient tool that facilitates more predictability. The affordability and reliability of these technologies also make them indispensable in modern dentistry.

AIM: The present study was conducted to assess the competence of 3D surgical guide for aesthetic crown lengthening procedure.

MATERIAL AND METHODOLOGY: A female patient of age 25 years with no systemic illness was included in the study. The patient was undergoing digital smile designing procedure in the department of conservative and endodontics. After digital simulation it was observed that patient exhibited gingival type of frenal attachment and aesthetic crown lengthening was required in relation to 11,12 and 21 in both mesiolabial and mesiodistal aspects. Hence, the surgical guide was prepared with the help of EXOcad software. The virtual technique consisted of obtaining standard tessellation language (STL) files from the intraoral scans and from (CBCT) scan, after which Digital Imaging and Communications in Medicine (DICOM) files were converted to the STL format. These files were then merged and used for surgical planning of the crown-lengthening procedure and frenectomy. The guide was then tried over a 3D model and also intraorally to check the coronal level which was exactly like the probing depths taken clinically. LASER assisted frenectomy and Aesthetic crown lengthening procedure was performed. Thereafter, the old composite restorations were removed and evaluation of remaining tooth structure was observed followed by which 16 unit veneer preparation was done in relation to both mandible and maxilla (premolar to premolar). This Digital guide method offered the most accurate way to determine the available biologic space and provided a collaborative approach for Interdisciplinary outcomes.

CONCLUSION: Virtual planning and Digital guidance offers significant precedence for treatment planning and allows the periodontist to visualize the treatment outcomes before they are even initiated. The digitally generated 3D guides are reliable tools to perform surgeries precisely also making this an efficient

Enhancing Smile: Ridge Augmentation using Mandibular Symphysis Autograft

Dr. Subhashini Balaguru

Department of Periodontics, SRM Kattankulathur Dental College

Objective: This case report details the successful ridge augmentation in a 23-year-old male patient. The patient presented with significant alveolar bone loss in the maxillary anterior region (tooth no# 11 & 12) following trauma, resulting in insufficient bone volume for dental implant placement, necessitating a ridge augmentation procedure to restore the alveolar ridge dimensions.

Material and Methods: Preoperative assessment included clinical and radiographic evaluations, including cone-beam computed tomography (CBCT), identified the extent of the alveolar deficiency. A comprehensive treatment plan was developed, focusing on restoring the ridge dimensions to facilitate optimal implant placement and esthetic outcomes.

The surgical procedure involved the harvesting of a cortico-cancellous bone block from the mandibular symphysis under local anesthesia. The autograft was shaped to fit the defect site and secured with titanium screws. Autograft combined with xenograft material is used adapt residual volume. A resorbable collagen membrane was placed over the graft to enhance guided bone regeneration (GBR) and prevent soft tissue ingrowth. Postoperative care included a regimen of antibiotics, anti-inflammatory medications, and chlorhexidine mouth rinses to ensure proper healing and infection control.

Results: Follow-up evaluations at 1, 3, and 6 months postoperatively revealed successful integration of the graft with no signs of infection or graft resorption. CBCT at the 6-month mark confirmed significant bone regeneration, to support implant placement. Subsequently, 2 dental implants were successfully placed in the augmented site, achieving primary stability and satisfactory esthetic and functional outcomes.

Keywords: Alveolar ridge augmentation, autograft, endosseous implants, xenograft

Reviving Tooth: Synergistic Regeneration through root amputation and Prosthetic Precision: A Case Report

Dr. Sai Sri Soury

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Abstract: Root amputation is a strategic treatment option for preserving multi-rooted teeth affected by severe periodontal disease. This case report details the successful management of a maxillary first molar (tooth #16) presenting with advanced furcation involvement through root amputation, augmented with Titanium-Platelet Rich Fibrin (T-PRF) and Guided Tissue Regeneration (GTR), followed by prosthetic rehabilitation.

A 30-year-old male patient with chronic periodontitis and significant bone loss around tooth #16 sought treatment due to pain and compromised chewing ability. After comprehensive periodontal assessment and planning, root amputation of the distal root was performed to eliminate the source of infection and preserve the other roots. T-PRF, a biologically active fibrin matrix enriched with growth factors, was applied to promote tissue regeneration, while a GTR membrane was utilized to facilitate guided bone regeneration around the remaining root structure. Clinical follow-up at 12 months revealed marked significant bone fill in the furcation area, indicating successful regeneration of periodontal tissues. Subsequent placement of a prosthetic crown restored function and esthetics, ensuring comprehensive rehabilitation of the treated tooth.

This case illustrates the efficacy of combining root amputation with T-PRF and GTR techniques, emphasizing their synergistic role in achieving favorable outcomes in challenging periodontal cases. Such integrated approaches contribute to preserving natural dentition and enhancing patient quality of life.

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NFC Incorporated Prosthesis –A Case Report

Dr. Kriti Goyal

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Introduction: Denture marking has been advocated and recommended by many forensic organizations. The prosthodontists can play a significant role in the identification of geriatric population by adopting denture marking as a routine procedure. These stickers are easily readable and can be connected to smartphone devices without the need of specific equipment, store information in variety of ways, and cost-effective. The purpose of this study is to evaluate NFC stickers against physical insult; acid, base, and heat. Newer advances are focused on IMPLANTING MINIATURE NFC TAGS into various organs like eye prosthesis to collect, record and process different vital metrics pertaining to overall health of the patients.

Case Report: A 65-Year-old, Male patient with a chief complain of unsightly appearance of left eye since 5 years reported to the department of prosthodontics. Upon examination a Class III phthisis defect was observed and a decision to rehabilitate the patient with ocular prosthesis was taken.

Discussion: Apart from simply storing information, these tags can be programmed to initiate certain tasks on smart devices that include sending text messages and sharing GPS coordinates. This feature can help locate lost dentures, when scanned these tags can initiate location sharing via text message to any registered number. Once the details of reader are shared to registered number, patient or clinician can easily contact the reader device and locate lost denture.

Conclusion: Personal identification in situations such natural calamities, accidents and mass destruction can be very difficult to achieve.

- NFC tags incorporated into various prosthesis can be very useful in such situations.*
- Such tags, owing to their “Readable/Writable” can be used to obtain any detail about the patient, such as their medical records.*

Advancements in Cranioplasty Techniques and Materials : Innovations and Outcomes

Dr. Gagan Kumar, Dr. Akshita Mehta

Department of Prosthodontics, M.A.I.D.S , New Delhi

Introduction: Cranial defects are caused by certain congenital anomalies or are acquired due to cranial infections, oncological resection, decompressive craniectomies and traumatic injuries . These defects lead to disfigurement, social stigma and neurological complications. Cranioplasty is the surgical intervention to repair cranial defects for restoration of natural esthetics of skull ,regenerate patient's everyday life , provide a mechanical barrier, and maintain cerebral haemodynamics. The most important factor of a successful cranioplasty is the fabrication of an artificial cranial plate preceding an accurate impression and fabrication principles.

Case Reports: Regarding improvements in impression technique and the emergence of digital technology, the production of cranioplasts underwent a digitalization process using extraoral scanners, STL images obtained from CBCT data, and stereophotogrammetry, as opposed to traditional alginate impressions. Additionally, new and improved materials have been used, such as titanium, polymethylmethacrylate (PMMA), and the most recent being Polyether ether ketone (PEEK).

Discussions: During the past decades, different materials have served as bone substitutes, alike derived from biological products, synthetic materials are now being advocated. Engineered biomaterials are also being developed, with the characteristic to encourage cellular responses at a molecular level, in order to promote and accelerate osteogenesis.

Conclusions: By combining the advancement in materials and technological innovation owing To digitalization, cranioplasty emerges as transformative avenue in cranial reconstruction. Wider implementation of this strategy can lead to significant success in healthcare and patient satisfaction.

S-041

From Defect to Perfection: Ocular Prosthetic Rehabilitation Case Report

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Introduction: Ocular defects due to trauma, congenital issues, tumors, or infections often require enucleation, affecting patients' self-esteem and social interactions. Prosthetic rehabilitation aims to restore cosmetic appearance and improve quality of life.

Case Report: Chief Complaint: Missing teeth in the upper arch and lower back tooth region for 2 years.

Dental History: The patient had her right eye surgically enucleated 54 years ago following an infection. Plans included a complete maxillary denture, a mandibular partial denture, and a custom-made ocular prosthesis for the right eye.

Impression Making: A custom ocular tray and addition silicone impression material were used to capture the defect's exact dimensions.

Discussion: In this case impression was made with a custom made ocular tray using addition silicone impression material, light body consistency.

- Customization is an important aspect of prosthetic rehabilitation which brings the cosmetic appearance to natural level.*
- In an ocular prosthesis the challenge is to reproduce the iris color in the prosthesis.*
- The described technique is a simple, practical, and time efficient method of fabricating ocular prosthesis.*

Conclusion: A custom made ocular prosthesis provide better results functionally as well as aesthetically. The use of custom-made ocular prosthesis has been a boon to the patients who cannot afford for the implant replacements.

Full Mouth Rehabilitation with Implants: Case Series

Dr. Nitin Kaushik, Dr. Akriti Kaul

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Introduction: The objective of full mouth rehabilitation is not only the reconstruction and restoration of the entire stomatognathic system, but also a means to enhance the quality of life. Implant prosthesis has the ability to restore normal function, aesthetic, speech, and comfort of patients.

Case series: The aim of this paper is to present a case series on implant-supported fixed prosthesis used for full mouth rehabilitation, based on "All on Four" concept and "All on Six" concept. The implant-supported fixed restoration (FP-3) restoration replaces the natural teeth crowns and a portion of the soft tissue. Basically, two approaches for FP-3 prosthesis exist: a hybrid restoration of denture teeth, acrylic and metal substructure, and porcelain fused to metal restorations.

Discussion: Full-mouth rehabilitation entails the performance of all the procedures necessary to produce a healthy, esthetic, well functioning and self-maintaining masticatory mechanism. The patient's response to provisional restoration was assessed, first and then implemented in the final restorations.

Conclusion: The key to successful implant rehabilitation is appropriate diagnosis and accurate implant planning. Good impressions and meticulous attention to detail were crucial for successful implant-supported fixed prosthesis.

Rehabilitating maxillectomy patient with definitive obturator using CAD-CAM

Dr. Bindu Yadav

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Introduction: In this case series, clinical challenges faced during the rehabilitation of custom ocular prosthesis are reported.

Steps followed for the fabrication of prosthesis were - ocular impressions, iris and scleral wax trial, scleral characterization and processing of the ocular prosthesis. These steps were common for all of the cases.

Challenges of impression making, contouring of sclera, positioning of iris, achieving bilateral symmetry, fit and retention were seen in the cases and will be discussed in the case series along with the techniques that were adapted to mitigate the same.

Also, evaluation of scleral wax pattern, methods of positioning of iris and scleral characterization methods in ocular rehabilitation have been discussed.

Case Characteristics: Clinical examination of the eye socket was done and evaluated for healthy healing of mucosa. Volume and depth of socket were evaluated for retention and fit of prosthesis.

Condition of ocular bed and range of movements were assessed.

After thorough consideration of various treatment options, custom eye having more advantages over stock eye, it was decided to rehabilitate the patient with a custom made ocular prosthesis.

Discussion: Custom eye prosthesis for rehabilitation of patients with ocular defects and evaluation of functional and esthetic outcomes were done.

Custom-made prosthesis provide confidence and comfort to the patient improving their adaptability to normal life. Custom ocular prosthesis have better esthetic outcomes and patients were able to perform various eye movements.

Conclusion: Patients with ocular defects can be successfully rehabilitated with custom prosthesis fabricated with different impression techniques, scleral designs and iris positioning methods.

Ground Breaking: Low-Level Laser Therapy's Potential in Gag Reflex Control – An Original Research

Dr. Neha Singla

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INTRODUCTION: In prosthodontics, the fabrication of prosthesis requires impressions taken from patients. The gag reflex is exaggerated in some individuals which makes maxillary impressions extremely difficult. Various methods have been proposed to manage the gag reflex, Neiguan point or PC6 is an acupuncture point which is considered to be one of the best determined acupuncture points to control gag reflex, PC6 acupuncture point was stimulated by laser therapy.

AIM & OBJECTIVE: To evaluate the effect of Low-Level Laser Therapy in stimulating the PC6 acupuncture point for reducing the gag reflex.

MATERIALS & METHOD: A total of thirteen patients were selected based on inclusion and exclusion criteria. For each patient gag reflex was assessed and Conventional impression (Group A) was made and Conventional impression (Group B) with stimulation of PC6 acupuncture point using low-level laser therapy in which impressions were made 30 mins after the stimulation of PC6 point by low-level laser therapy keeping the tip of the Laser 3-4 mm away with a 1-inch spot size for 1 min. Dickinson and Fiske Index was used to assess gagging severity for both the groups.

RESULT: Gag reflex was significantly decreased as per Dickinson index after stimulating PC6 acupuncture point with Low Level Laser Therapy.

CONCLUSION: The present study indicated that LLLT is an effective technique to control gag reflex during impression making in prosthodontic patients. However, further studies on comparison with different acupuncture points are warranted in future.

Aesthetic Alchemy- The Power of Laminate Veneers

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Introduction: Veneers are a minimally invasive cosmetic dental treatment used to enhance the aesthetics of teeth. This case series evaluate the clinical outcomes and patient satisfaction associated with the application of veneers in patients.

Case report: Patients presented with aesthetic concerns regarding discoloration due to fluorosis. They underwent a thorough clinical examination, analogue smile simulation and shade selection. Teeth preparation was minimally invasive. The first case received conventionally fabricated veneers via traditional impression techniques and laboratory processes. The second case received digitally fabricated veneers using CAD/CAM technology. E-max veneers were bonded using resin cement. Post-procedure evaluations were conducted at one week, three months, and six months. Clinical outcomes were assessed based on the fit, aesthetics, and functional performance of the veneers.

Discussion: Digitally fabricated laminate veneers showed enhanced aesthetics and excellent patient satisfaction. The CAD/CAM method significantly reduced the overall treatment time compared to the traditional method. Both reported high satisfaction with the improved appearance and functionality of their teeth. The veneers effectively addressed discoloration and malalignment issues. They showed similar outcomes in terms of the functional performance of the veneers over a 6-month follow-up period.

Conclusion: Digital fabrication of laminate veneers offers distinct advantages in terms of patient satisfaction, and treatment efficiency. The improved precision and reduced chairside time make the digital approach a favorable alternative to conventional method. Both patients showed remarkable improvements in aesthetics, including color, alignment, and structural integrity

*Immediate Functional Loading Implants: Case Series**Dr. Manisha Bhagat**Department of Prosthodontics, ITS Dental College, Greater Noida*

Introduction: The concept of Basal Osseointegrated Implants (BOI), also known as Bicortical or Lateral basal implants, was pioneered by Dr. Stefan Ihde, which represents a distinctive approach within implantology, utilizing the basal cortical bone to achieve stable and long-lasting anchorage. Unlike conventional dental implants that depend on the spongy bone, basal implants engage the highly mineralized basal bone, which is less prone to resorption and infection. This feature makes them particularly suitable for patients with insufficient bone volume or quality, those with chronic periodontitis, or individuals who require immediate loading of implants.

The structural design of basal implants is distinct, often featuring a lateral basal disc that engages the cortical bone. This design distributes masticatory forces more evenly across the cortical bone, enhancing implant stability and reducing the necessity for bone grafting procedures. The minimally invasive surgical technique used for placing basal implants, which frequently involves flapless procedures, significantly reduces postoperative discomfort and accelerates the healing process. This aspect is particularly beneficial for patients who seek immediate restoration of dental function.

Clinical outcomes of basal implants have demonstrated high success rates, with reduced incidences of peri-implantitis and bone loss. The versatility of basal implants extends to their applicability in complex cases such as full-mouth rehabilitations, atrophic jaws, and immediate functional loading scenarios. Despite these advantages, the technique demands a high level of surgical expertise and a comprehensive understanding of the patient's anatomical and biomechanical conditions.

Case Report : A Female patient aged 59 years reported to the Department of Prosthodontics with the chief complaint of missing teeth in upper and lower back region of the jaw for one year. Patient had a history of failed attempt to adapt with removable partial denture due to xerostomia. On radiographic examination, bone height was found to be insufficient bone for conventional implants. After the initial diagnostic impressions and radiographic examination full mouth, immediate functional loading implants was planned.

Discussion: Despite these advantages, the placement of basal implants demands a high level of surgical expertise and a thorough understanding of the patient's anatomical and biomechanical conditions. The technique's success is contingent upon precise preoperative planning and meticulous execution. As such, continued education and training for implantologists are essential to fully leverage the benefits of this innovative approach.

Conclusion: Basal dental implants combine the advantages of instant function, shortened treatment times, and improved long-term durability to provide an effective option for patients with difficult dental conditions. Future advancements and continued clinical research will further define their role and optimize their use in contemporary implant dentistry.

Introduction: Aesthetics play a crucial role in restoring anterior teeth. Achieving proper aesthetics can be challenging in cases involving caries, pulp involvement, severe fractures, erosion, hypoplastic defects, and stains. However, the development of veneers has made it easier to maintain aesthetics and restore the form and function of teeth. The choice of veneer type, material, and technique depends on the available tooth structure for restoration and any associated deformities or anomalies. Porcelain veneers are the most reliable, durable, and recommended restorative material for anterior teeth due to their superior aesthetic, mechanical, and biocompatible properties. Among these advancements, indirect veneers are a superior option for patients seeking long-lasting and natural-looking restorations.

Case report: The following case report will include a case series of veneers performed in the department of prosthodontics. The following case reports include the anterior teeth with compromised aesthetics and spacing which were rehabilitated with the indirect veneers.

Discussion: Indirect veneers as they are custom-made allow for a higher level of precision and customization, resulting in a restoration that closely mimics the natural appearance and function of enamel. When selecting patients for veneers, it is important to consider the static and dynamic occlusal relationship and ensure a healthy periodontium on which the restoration can rest. The detailed examination of pre-existing carious lesions, restorations, the amount of tooth structure available for bonding, and the degree of teeth discoloration already present will dictate the type of veneer to be used. Additionally, patient attitudes towards maintenance after treatment will also contribute to the success of the treatment.

Conclusion : A porcelain veneer is a choice of restoration for most of the anterior teeth needing an alteration in shape, size, and color and another cosmetic point of view. With minimal tooth reduction and greater bonding with tooth structure, porcelain veneers provide long-term success as well as satisfactory results.

Innovative Solutions in Maxillofacial Prosthodontics: A Case report on Palatal Augmentation Prosthesis

Dr. Suraj Naidu

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Introduction: Maxillofacial prosthodontics plays a crucial role in restoring function and aesthetics for patients with congenital or acquired defects of the oral and facial structures. This paper presents an intriguing case of a palatal augmentation prosthesis designed and fabricated for a patient with a significant palatal deficiency. The patient, who experienced difficulties with speech, swallowing, and overall oral functionality, benefitted immensely from this tailored prosthetic solution.

Case Report: The patient presented to the Department of Prosthodontics Crown & Bridge, Manav Rachna Dental College, Faridabad, with the complaint of missing teeth in the upper and lower jaws since the past 2 months. The chief complaints of the patient were

- An inability to masticate efficiently*
- Impaired speech*

Discussion: The case study details the comprehensive treatment planning, meticulous fabrication process, and the innovative techniques employed to achieve an optimal outcome. Clinical outcomes, including the improvement in the patient's phonetic capabilities and quality of life, are discussed to underscore the effectiveness of the intervention.

This presentation aims to highlight the critical aspects of maxillofacial prosthodontics that contribute to successful rehabilitation of complex cases. It underscores the importance of interdisciplinary collaboration and continuous innovation in the field to address unique patient needs. Attendees will gain insights into the practical applications of palatal augmentation prostheses and the transformative impact they can have on patients' lives.

Conclusion: Surgeries in cases of oral carcinoma involving the tongue and the floor of the mouth often result in the reduced mobility of the tongue during speech and deglutition. Partial glossectomy patients require prosthetic augmentation with a prosthesis that lowers the palatal vault to restore tongue-palate contact. The case of glossectomy presented here underscores the intricate balance between therapeutic intervention and quality of life considerations. Patient exhibited improved speech and function, leading to a better quality of life. The patient's journey illustrates profound impact and importance of comprehensive pre-operative planning and post-operative support. Ongoing research and advancements in surgical as well as rehabilitation procedures will continue to refine outcomes, offering hope and improved quality of life to patients facing similar challenges.

Telescopic Denture – Alternate to implant supported prosthesis

Dr. Vedant Dhananjay Kulkarni

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Introduction: The double crown system, also known as telescopic attachments, serves as a retentive mechanism for removable partial dentures and as attachments for overdentures.

Case Report: A patient reported with the chief complaint of missing teeth in upper and lower arch and wanted replacement for the same. Tooth preparation done in remaining natural teeth in upper and lower arch followed by rehabilitation with telescopic denture.

Discussion: The telescopic denture is a distinctive form of prosthodontic treatment, characterized by the use of double crowns. Over time, various designs of these double crowns have been developed to cater to different clinical situations. The choice of design largely depends on the specific needs of the patient and the dentist's preference for using either a rigid or resilient type of attachment.

Conclusion: Patients have expressed high satisfaction with telescopic dentures due to their precision, aesthetics, and functional efficiency. These prostheses offer good retention and stability, with proper occlusion observed during consecutive follow-up visits. However, further long-term research is needed to continue improving and validating these outcomes.

Dr. Ridha Iqbal

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Introduction: The repair of compromised teeth can be achieved through direct or indirect restorations, with composite indirect restorations offering superior anatomical form, contour, and resistance properties. Deep margin elevation (DME), introduced by Dietschi and Spreafico in 1998, involves adding composite resin to relocate sub-gingival margins supra-gingivally, facilitating better isolation, impression taking, and adhesive cementation. This conservative approach avoids the drawbacks of surgical crown lengthening, such as attachment loss and delayed final restoration delivery. The present case report highlights the use of DME with partial indirect glass-ceramic restorations.

Case reports: Three clinical cases are presented to illustrate the DME procedure's application. Each case describes the stepwise process, highlighting key considerations such as isolation, bonding, and restorative material selection.

Discussion: The treatment of subgingival lesions encroaching on biologic width has traditionally involved surgical crown lengthening or orthodontic extrusion. Advances in adhesive technology have introduced deep margin elevation (DME) as a conservative alternative. DME relocates the restorative margin coronally, preserving healthy tooth structures and reducing micro-leakage, postoperative sensitivity, and secondary caries. It facilitates dry cavity preparation, improves marginal integrity, and eases excess luting composite removal. DME can also aid direct composite restorations by enhancing contours and proximal contacts, offering a convenient alternative to invasive procedures.

Conclusion: Deep margin elevation represents a minimally invasive and efficient method for managing subgingival deep carious defects. Its conservative nature and compatibility with modern restorative materials make it a valuable option for clinicians, warranting further investigation through long-term clinical studies.

Rescuing Teeth with Radisection: A Case Series

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INTRODUCTION- Issues such as severe decay, periodontal attachment loss, and procedural complications like ledges, blocked canals, and instrument breakage can jeopardize the preservation of teeth. Treatment options for such mishaps in multirouted teeth can range from endodontic treatment alone, combined endodontic-periodontic treatment, or extraction in cases with poor prognosis. Root resection procedure offers an economically viable treatment option for the patients to preserve the natural tooth.

CASE REPORT- This paper highlights two case reports of root resection in maxillary molar with endodontic, periodontic, and prosthetic management with resultant successful oral rehabilitation along with a follow-up of 6 months.

DISCUSSION- The upsurge want of the patients to preserve the dentition has enforced the dentists to save the teeth which are indicated for extraction. Tooth resection means the sectioning and removal of the tooth fragment or a root with or without crown portion. Root resection requires a Multidisciplinary advancement which starts with endodontic treatment followed by periodontal surgery, a prosthetic reconstruction, and maintenance of oral hygiene leading to a triumphant treatment outcome.

*CONSLUSION-*In accordance with the current case reports, radisection can be viewed as a valid treatment option to eliminate the diseased root so as to allow the remaining healthy tooth to survive. Appropriate case selection and interdisciplinary approach which include endodontic, periodontic, and prosthodontic management along with long term follow up, are key factors for the success of root resection procedures.

Orthodontic Extrusion to Treats Complex Crown-Root Fractures

Dr. Arjeet Ghosh

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Introduction: Complicated crown-root fracture of permanent incisors causes aesthetic, functional, and psychological problems to patients. Therefore, treatment is important and multidisciplinary treatment is required.

Case report: This case report describes the clinical procedures involved in the treatment of trauma-induced complicated crown-root fractures in the maxillary incisor of a young adult. Conventional root canal treatment was performed first. To expose the fracture margins to the supragingival level gingivectomy was done then to reestablish the biologic width, orthodontic extrusions with fixed appliances were performed followed by a retention period. During the retention period, fiber-optic posts and cores were built up and provisional crowns were placed. Finally, ceramic crowns manufactured using a computer-aided design/computer-aided manufacturing (CAD/CAM) system were placed.

Discussion: Complicated crown-root fractures have implications for the endodontic, periodontal, and restorative prognosis because the involved biologic width. Therefore, the main objective of the treatments is exposing the fracture margins to the supragingival level, so that clinical procedures can be performed without contamination with blood and saliva. If the length of the apical root is sufficient to maintain a favourable crown-root ratio (maximum 1: 1), the root can be orthodontically extruded to elevate the fracture margin supra gingivally and allow for a ferrule effect.

Conclusion: In 4 month follow up, the teeth presented satisfactory functional and aesthetic outcomes without relapse. The periodontal tissues were healthy

Restoring Smiles: A Case Report on Advanced Dental Trauma Rehabilitation in a Young Adult by Multidisciplinary Approach

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Traumatic dental injuries are frequent clinical issues that can arise from various causes, leading to both physical and psychological challenges. This paper aims to detail the management of a significant dental injury in a 21-year-old female patient who was involved in a road traffic accident. The patient presented to our department one week following the incident. We conducted a comprehensive clinical examination and radiographic assessment to determine the extent of the injury and formulate an appropriate treatment plan.

The treatment approach included an initial root canal treatment of the traumatised nonvital maxillary anterior teeth, followed by a gingivectomy to adequately expose the fractured tooth structure and create a favourable environment for subsequent restorative procedures. Following the gingivectomy, a post and core were placed to provide structural support for the restoration. The post and core procedure involved the removal of the gutta-percha, preparing the root canal, and placing a prefabricated post, followed by a core buildup with composite resin material.

The final restorative phase involved fabricating and placing a Zirconia crown to restore the tooth's function and esthetics. The crown was digitally designed to match the adjacent teeth in colour and contour, ensuring a natural and harmonious appearance.

Follow-up was periodically conducted to monitor the healing process and assess the success of the restoration. Clinical evaluations showed satisfactory esthetic and functional outcomes, with the patient reporting high satisfaction with the treatment.

This case underscores the importance of a multidisciplinary approach in managing traumatic dental injuries and highlights the effectiveness of combining periodontal, endodontic, and prosthetic procedures to achieve optimal results.

*Re-Anatomization To Substitute Missing Maxillary Incisors: A Multidisciplinary Approach**Dr. Himi Rathore**Department of Conservative Dentistry and Endodontics, King George's Medical University,
Lucknow*

Diastema defined as "anterior midline spacing greater than 0.5 mm between the proximal surface of adjacent anterior teeth". Gaps can occur anywhere in your mouth, but most common between your two front upper teeth. The first line of treatment is to ascertain the cause. Several aspects such as genetic and physiologic factors, abnormal habits, supernumerary teeth and iatrogenic factors can affect the occurrence and size of midline diastema. A carefully developed diagnosis and advanced planning allows the most appropriate treatment for cases to be determined for each individual case to address the patient's needs.

Dental Class III malocclusion is rare type of malocclusion. This type of malocclusion will not correct over time. It is important to prevent the problem from worsening particularly if it appears in young age. When maxillary central incisors are compromised by extensive decay (beyond the cementsoenamel junction), fracture, ankylosis, or inappropriate position, their atypical extraction is considered an acceptable alternative. In this case, several factors were considered, such as: facial biotype, tooth size and shape, type of occlusion, gap to be closed and frenum involvement. The case report describes the treatment of Class III subdivision malocclusion in a patient who reported to the orthodontic department post extraction of left maxillary central and lateral incisor and conservative dentistry and endodontics department for esthetic rehabilitation (overall a multidisciplinary treatment protocol was planned). Replacing the teeth with an osseointegrated implant and fixed prosthesis with an artificial tooth was declined as option due to the possibility of correcting class III malocclusion and space closure orthodontically. The option proposed and accepted by the patient was the extraction of the left maxillary central and lateral incisor, followed by diastema space closure and re-anatomization of right lateral incisor into right central incisor. Post extraction orthodontic therapy with upper and lower fixed appliances along with leveling and aligning of both the arches was done. Maintaining the midline overjet and overbite, the right maxillary central incisor was shifted from right quadrant to the left thereby, the right maxillary lateral incisor was camouflaged to like right maxillary central incisor. A minimally invasive approach was chosen for re-anatomization of maxillary lateral incisor by fabrication of direct veneers using composite resin restorations and gingival contouring using Diode laser (980 nm). Soft tissue diode laser contouring of gingiva is a common procedure that can be undertaken in a routine dental setting with excellent patient satisfaction and minimal post-operative sequale. The results obtained were considered satisfactory concerning occlusal, aesthetic and functional aspects and the patient was thoroughly satisfied to the esthetic rehabilitation treatment followed.

Management of severe canal curvature in relation to mandibular third molar

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The root canal system contains a number of anatomical variations that could lead to the therapy's failure. There are several unusual features as well as some common ones in the root canal anatomy of teeth, which can point to the steps required for successful endodontics (Slowey RR 1979). It is well known that third molars, sometimes called wisdom teeth, are the most atypical and prone to agenesis and reduction of all the molars. In certain clinical scenarios, maintaining the third molar could be crucial if it is a functional tooth. In order to guarantee the whole removal of the inflamed tooth pulp and microbial irritants from the root canal system, which, if left, would compromise the clinical outcomes of the suggested treatment plan, third molar teeth slated for endodontic therapy should be treated fully. It is crucial to have a thorough grasp of the anatomical changes in the roots and root canals of third molar teeth, as well as the endodontic consequences of these variations, before beginning any endodontic therapy. The key to the success of endodontic therapy is the cleaning and shape of the root canal. Regarding the chemo-mechanical setup, it requires an accurate evaluation of the root canal curvature. While treating curved canals, a few procedural mistakes might occur, such as ledge development, obstructions, and apical transportations and perforations. It was advised utilizing precurve files or flexible NiTi files to minimize procedural errors. Third molars face a variety of anatomical differences, such as merged canals, C-shaped canals, curved roots, and bayonet roots. Curved canals have become more common and been discovered to be comparatively higher in mandibular third molars (3.3 to 30.92%) as opposed to maxillary third molars (1.33 to 8.46%).

The aim of my presentation is to highlight the endodontic treatment of a mandibular third molar with highly curved canals, along with an overview of the several disciplines and modifications used in its management.

S-056

Dental Composite Resin: Past, Present and Future Perspectives

Dr. Shubham Tomar

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Introduction: Composite resin, a prevalent dental material, addresses biocompatibility and aesthetic concerns once associated with dental amalgam. It offers superior properties like mechanical strength, biocompatibility, and aesthetics.

Search Strategy: Data collection focuses on parameters such as surface finish, monomer leaching, shrinkage, penetration depth, stability, and strength.

Discussion: Composite resins are increasingly preferred due to adhesive bonding, aesthetics, and versatile clinical applications. Ongoing advancements promise high-quality composites, opening new avenues for development.

Conclusion: Technological advancements continue to enhance dental restorative materials, including composite resins. Formulation modifications aim to refine composite qualities, signalling exciting prospects for future innovations.

Art Of Indirect Restorations- Metallic Past To Ceramic Future- A Case Series

Dr. Sneha Elizabeth John

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INTRODUCTION: For more than a century amalgam was the material of choice for the restoration. Its use and success rate are well documented perhaps with the advent of adhesive dentistry and more aesthetic clinical demand amalgam and metal restoration repairs have now been replaced with toothcoloured restorative materials for improved aesthetics. Alternatives to dental amalgam, gold and metal restorations include ceramic dental restorative materials. Ceramic inlays/ onlays may be micromechanically bonded to the luting agents and have been reported to show clinically good marginal behaviour.

CASE SERIES: This case series will be showcasing the series of cases requiring re-restoration of fractured or dislodged amalgam or metal restoration which are replaced by ceramic restoration exhibiting a good marginal adaptation and shade match with surrounding natural tooth structure.

DISCUSSION: Ceramic inlays have shown better physical qualities than posterior composite resin restorations, and when preparation margins are located in enamel, they may minimize microleakage more than either amalgam or gold. When the cervical margin is placed in the dentin, existing adhesive techniques have not prevented microleakage. Ceramic inlay restorations must also be able to adapt to their surroundings to minimize resin cement deterioration and plaque build-up.

CONCLUSION: The physical properties of ceramics have improved dramatically in recent years, and with improvements in CAD/CAM technologies, internal and marginal adaptation of milled restorations continues to improve. Ceramic inlay / onlay are advantageous for restoring moderately sized defects when optimal control of restoration contours and desired esthetic.

Bleaching Vs Veneers – A Dentist's Dilemma

Dr. Ganesh Narayan R.

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INTRODUCTION: Discoloration of the anterior teeth causes considerable cosmetic impairment to the patients. Among various procedures performed for treating discoloration, tooth bleaching and veneer preparation poses dilemma to the dentist in selecting the apt procedure which would yield maximum results with minimal intervention.

CASE REPORT: This case report showcases a 30-year-old male, presented with dental fluorosis with attempted management by vital bleaching followed by providing direct composite veneers due to inconclusive results after bleaching.

DISCUSSION: Vital bleaching could be a less invasive procedure for stain removal. However, stains of intrinsic nature are particularly difficult to manage with techniques like bleaching alone. Although several treatment approaches are available, veneers with composite can provide minimally invasive, aesthetic treatment modality. The main aim of this direct procedure is to provide minimally invasive restorations that provide maximum esthetics. Due to advances in adhesive procedures, composite resins have become the principal restorative materials in modern dentistry.

CONCLUSION: Resins restorations have a high capacity for reproducing anatomic shape, color, dentin and enamel opacity levels, as well as good mechanical resistance. Moreover when a direct composite veneer is made, it has several advantages over lab-fabricated restorations such as requiring less chair side time, offer more precise control to dentist over the contours and contacts, more conservative, and pocket friendly in terms of patient

Enhancing Smiles: Management of Midline Diastema through Laser Frenectomy and Indirect Veneers

Dr. Dhaniba KC

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Esthetics refers to the evaluation of beauty and the sublime. A common issue in smile aesthetics is the presence of gaps between teeth, known as diastemas, which can be caused by variations in tooth size. One frequently encountered concern is the presence of a gap between the upper central incisors, known as the maxillary midline diastema, which patients often find aesthetically displeasing. Maxillary midline diastema is characterized by a space exceeding 0.5 mm between the adjacent surfaces of the two central incisors.

Addressing the formidable challenge posed by maxillary midline diastema in meeting rigorous aesthetic standards for dental restoration, this case highlights the additional complexity introduced by a highly attached labial frenum. The employment of laser-based labial frenectomy emerges as a promising solution, facilitating expedited healing and minimizing postoperative discomfort, thereby enhancing the overall treatment efficacy. This clinical case elucidates the successful rehabilitation of maxillary midline diastema through the application of IPS Emax ceramic laminate veneers, showcasing its efficacy in achieving satisfactory aesthetic results.

Esthetic rehabilitation of fractured incisor using Ribbond reinforced composite resin restoration

Dr. Supriya Choudhary

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Fractured teeth have always presented a challenge to the dentists. One of the widely accepted techniques involving restoration of extensively carious or badly fractured teeth is the fabrication of a post and core, utilizing the root canal space for anchorage. Traditional methods using metal or fiber posts have limitations in certain clinical scenarios. Ribbond, a high-strength, ultra-thin ribbon made of ultra-high molecular weight polyethylene fibers, offers an alternative reinforcement material for post and core restorations.

This case report presents the esthetic rehabilitation of a fractured anterior tooth utilizing Ribbond-reinforced composite resin restoration. A 28-year-old male presented with a fractured maxillary lateral incisor resulting from a traumatic injury. Clinical examination revealed a complex fracture involving enamel and dentin, compromising both function and aesthetics. Ribbond, a thin and flexible fiber material, was selected to provide reinforcement and support for the composite resin restoration. The fractured tooth was conservatively prepared, and the Ribbond material was bonded to the remaining tooth structure. A layered composite resin restoration was then sculpted to restore the tooth's natural contours and color. Clinical follow-up at 8 months demonstrated excellent esthetic integration and functional stability, with no evidence of restoration failure. This case demonstrates the successful use of Ribbond in achieving predictable esthetic outcomes in challenging clinical scenarios.

Radix entomolaris and paramolaris: an anatomical conundrum : A Case Report

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Introduction: Success of endodontic treatment depends on the proper identification of all the canals, thorough chemomechanical preparation, followed by obturation. A thorough knowledge of dental anatomy and an understanding of the potential for variations from the normal are required to achieve success. Morphologic variations in mandibular molars are seen in the number of root canals or the number of roots. An additional third root, first mentioned in the literature by Carabelli, is termed as Radix Entomolaris, located distolingually in mandibular molars, mainly first molars. An additional root at the mesiobuccal side is termed as Radix Paramolaris.

Case Report: This case report focuses on the diagnosis and management of variable root canal anatomies like radix entomolaris and paramolaris in mandibular molars.

Discussion: The presence of Radix Entomolaris and Paramolaris has clinical implications in endodontic treatment. An accurate diagnosis of these can avoid complications or a missed canal during root canal treatment. Preoperative radiographs can aid in identifying these accessory roots.

Conclusion: Dentist should be aware of the occurrence of Radix Entomolaris and Radix Paramolaris as an anatomical variant. Diligent diagnosis, management and proper post endodontic rehabilitation procedures will lead to the clinical success of such variants.

Dr. Mallika Banati

Department of Conservative Dentistry and Endodontics, School of Dental Sciences, Sharda University

Esthetic dentistry is characterized primarily by the smile. The goal in the creation of esthetic dental restorations is to stimulate, or improve upon, the appearance of the natural dentition.

The successful esthetic restorations must integrate harmoniously with the whole of the face, not just with the surrounding teeth.

•A range of materials are available in the market to restore aesthetic/functional complications by the mean of veneering teeth; the most common material is porcelain, resin composite

Composite and ceramic veneering are two prominent techniques utilized in restorative dentistry to enhance the esthetic appearance and functionality of dental restorations. Composite veneers involve the application of a tooth-colored resin material directly onto the tooth surface, which is then sculpted and polished to mimic the natural appearance of teeth. This technique is highly versatile, allowing for precise shade matching and correction of various dental imperfections such as discoloration, chips, or gaps. Moreover, composite veneers typically require minimal tooth preparation, making them a conservative option compared to other restorative methods.

•On the other hand, ceramic veneers, also known as porcelain veneers, are fabricated from durable ceramic materials and bonded to the tooth surface. Ceramic veneers offer exceptional strength, resistance to staining, and longevity. They are custom-made in dental laboratories based on precise impressions of the patient's teeth, ensuring optimal fit and esthetics. Ceramic veneers can effectively correct more extensive dental flaws, including severe discoloration, misalignment, and irregularities in tooth shape and size.

•In summary, both composite and ceramic veneering techniques provide viable solutions for enhancing dental aesthetics and functionality. The choice between the two depends on factors such as the extent of the dental imperfections, patient preferences, and the expertise of the dental practitioner. Ultimately, both techniques offer patients the opportunity to achieve natural-looking, long-lasting smile transformations.

*Non Surgical Periapical Healing Lesion- MTA Plug**Dr. Subiya Haque, Dr. Sarah Trivedy**Department of Conservative Dentistry and Endodontics, Kalka Dental College*

Periapical lesions are inflammatory conditions of the tooth attachment apparatus that are associated with the pulp. Untreated pulpal inflammation is gradually spread beyond the apex of the tooth. The resorption of cementum (and dentin) and alveolar bone is seen. Along with the process of resorption, some apical parts of the root will be lost as well. The original configuration of the apical canal anatomy is altered. Therefore, it is difficult to produce hermetically apical stop and root canal treatment may be more difficult with conventional gutta-percha obturation techniques in the teeth with periapical lesion. MTA has good sealing ability even in moistened area, good marginal adaptation, and high biocompatibility. The application of apical plug with MTA may create adequate apical seal, and may limit bacterial infection² in these teeth. As one of the aim of root canal treatment is to prevent the re-infection of the root canal system, MTA is one of the best material can be used for this purpose. MTA has shown to stimulate the formation of new hard tissue at the surface where the MTA material touches. We only aimed to obtain a hermetic plug with MTA.

3D Guided Implant Surgery: Precise and Safer Approach - A Case Series

Dr. Divya Goyal

Department of Periodontics, IDST Dental College, Modinagar

INTRODUCTION: In the field of modern dentistry, ideal three-dimensional positioning of dental implant with optimal prosthetic fit offers successful long-term outcomes. To achieve such accurate implant placement, presurgical evaluation of hard and soft tissue matters the most.

OBJECTIVE: The aim of this case series was to evaluate various hard and soft tissue parameters around dental implants placed with or without Guided Implant Surgery.

METHODOLOGY: A randomized controlled split mouth trial was done on four patients (2 males and 2 females) with eight edentulous implants sites which were randomly divided into control group where four implants were placed without the use of computer aided static surgical template and experimental group where four implants were placed with the use of computer aided static surgical template. STL file obtained through intraoral scan of patient along with the preoperative CBCT DICOM files were imported into the Blue Sky Bio implant planning software for the fabrication of 3D printed tooth supported computer aided static surgical template. Clinical parameters [modified plaque index (mPI), simplified gingival index (sGI), modified sulcular bleeding index (mSBI) and peri-implant probing pocket depth (PPD)] at four sites of the fabricated prosthesis (mesiobuccal, midbuccal, distobuccal, midlingual) and crestal bone level changes (using CBCT) were evaluated at baseline (on the day of prosthesis placement) and 3 months after baseline. Deviation in angulation between virtual planned implants and actual placed implants was evaluated by superimposing preoperative CBCT and baseline CBCT. Statistical analysis was performed using SPSS software.

RESULTS: The results showed statistically significant difference in mean deviation in angulation between virtual planned implants and actual placed implants between both the groups. There was statistically non significant difference in clinical parameters and crestal bone level, although the mean mPI, sGI, mSBI and PPD scores were less in experimental group than control group and mean crestal bone loss was higher radiographically in control group.

CONCLUSION: Guided implant placement with the use of tooth supported computer aided static surgical template demonstrated precision, greater accuracy and easy implant placement with accurate mesiodistal and buccolingual location, angulation and orientation of the implant with less mean deviation in angulation than conventional implant placement and less crestal bone loss over all the recall intervals. Guided implant surgery may be considered a useful tool to enhance the overall success of the implants.

Adjunctive use of Fibro-Gide® or PRF Membrane to Coronally Advanced Flap in the treatment of Gingival Recession.

Dr. Yashi Mishra

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Background: Gingival recession is a common clinical condition characterized by the apical migration of the gingival margin, leading to aesthetic concerns and potential root surface exposure. Amongst the various treatment modalities, coronally advanced flap (CAF) in combination with different adjunctive materials, have been most commonly used to manage localized gingival recession effectively. Objective -This case series aims to evaluate and compare the efficacy of CAF with either Fibro-Gide® or Platelet Rich Fibrin (PRF) membrane in the treatment of localized gingival recession and to study the adverse tissue reaction of Fibro-Gide® (if any).

Methods- A total of 4 patients with 8 Cairo RT1/RT2 localized recession defects were enrolled in this study. The selected sites were divided into: Experimental Group I (CAF with Fibro-Gide®) and Experimental Group II (CAF with PRF membrane). The Clinical parameters were Plaque Index (PI), Gingival index (G1), Probing Pocket Depth (PPD), Clinical Attachment Level (CAL), Gingival Recession Depth (GRD), Width of Keratinized Gingiva (WK_G), Width of Recession (WR), Thickness of Keratinized Gingiva (GT), Root Coverage Esthetic Score (RES), and Percentage Root Coverage (RC) which were evaluated at baseline, 3 months, and 6 months post-treatment for all the treatment sites.

Results- CAF with Fibro-Gide® showed better improvements in all the clinical parameters evaluated over the study period. There were no adverse tissue reactions observed in either group. However, the intergroup comparison did not reveal significant differences between the groups except the width of the keratinized gingiva and the thickness of gingiva in terms of clinical outcomes.

Conclusion- Coronally Advanced Flap either with Fibro-Gide® or PRF membrane demonstrated favorable outcomes in the treatment of localized gingival recession. Fibro-Gide® showed better clinical improvements as compared to PRF as it has the unique collagen matrix designed specifically for soft tissue regeneration and can be used as an alternative for autologous soft tissue grafts

Impaction to Traction of Canine: A Case Series

Dr. Natasha Singh

Department of Periodontics, Manav Rachna Dental College, Faridabad

Introduction: Canine impaction, especially of maxillary canines, is a frequent dental anomaly that can cause significant functional and aesthetic issues. Effective transition from impaction to alignment is vital for oral health and occlusion. This case series details the management of impacted canines using surgical and orthodontic techniques, illustrating methodologies and outcomes.

Case Report: Two patients, aged 16 and 21, with unilaterally or bilaterally impacted maxillary and mandibular canines, were included. Diagnostic procedures encompassed clinical examinations and radiographic imaging. The treatment protocol featured surgical exposure of impacted canines followed by orthodontic traction with fixed appliances.

Discussion: Factors influencing canine impaction, such as genetic predispositions, space discrepancies, and improper guidance, are discussed. The evaluation includes various surgical exposure techniques and their effects on orthodontic traction. Additionally, the timing of interventions, patient compliance, and comparison with existing literature provide comprehensive insights.

Conclusion: Coordinated surgical and orthodontic interventions successfully managed impacted canines in the presented cases. Early diagnosis and individualized treatment planning are crucial for favorable outcomes. This series highlights the necessity of a multidisciplinary approach, continuous monitoring, and patient-specific adjustments to optimize the transition from impaction to traction, thereby improving functional and aesthetic results.

Evaluation and comparison of the clinical efficacy of platelet rich fibrin and collagen membrane in the treatment of Miller's class I and class II gingival recession defects: A Case Report

Dr. Sakshi Kundu

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Introduction: Gingival recession is a common concern due to an ever increasing cosmetic demand in the field of periodontology. The main indications of root coverage procedures to treat recession defects, restoring the proper soft tissue anatomy, which in turn minimizes complications associated with gingival recession.

Aim & objectives: Assessment and comparison of the clinical efficacy of platelet rich fibrin and collagen membrane in the treatment of Miller's class I and class II gingival recession defects.

Materials & methods: In the present case coronally advanced flap technique along with collagen or PRF membrane was used to cover class I or class II recession defects. Coronally advanced flap with Platelet - rich fibrin membrane was done at one side while the contralateral side Coronally advanced flap with collagen membrane was placed. Clinical parameters were recorded at baseline and at ,3 and 6 months.

Results: Both coronally advanced flap with PRF membrane and coronally advanced flap with collagen showed improvement in clinical parameters over the six months period. Thus, both the treatment modalities are equally efficacious in treating Miller's class I and class II recession defects. There was improvement in GR, RW, CAL, KGW and GTH in both the sides. PRF membrane was superior in terms of increasing KGW and GTH. This could be attributed to the presence of growth factors present in PRF.

Discussion: Reduction in GR seen in the PRF site can be attributed to a study done by Jankovic et al in 2012. PRF has better wound healing properties. Also, the result seen in PRF site i.e. increase in gingiva thickness is in accordance with a study done by Aroca S et al in 2009.

Conclusion: PRF sites has shown better results over collagen membrane group in relation to clinical parameters like GTH and KGW but still histologic and long term studies are required.

S-068

Restoring The Hidden

Dr Luchun Tanya Pamei

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Introduction: The complexity of endo-perio lesions reflect the close interrelationship between the periodontium and the endodontic system. There are several different pathophysiologies for perio-endo lesions, ranging from quite simple to somewhat complex. To make the right diagnosis, one must be aware of various disease processes. Careful history-taking, examination, and the application of specialized tests can help achieve this.

Case Report: A 34 year male came with a chief complaint of pain and swelling in the lower right back tooth region. On soft tissue examination there was inflammation, bleeding on probing and pocket depth of 7mm and grade I furcation involvement with respect to 46. It was diagnosed as dental biofilm induced gingivitis with localized Stage III periodontitis wrt 46. The endodontic treatment followed by periodontic intervention was planned.

Discussion: It is crucial to keep in mind that determining the primary therapeutic measures for inflammatory lesions in the periodontium, as well as making a differential diagnosis, depend on the detection of pulp viability. True combined lesions demand both endodontic and periodontal regenerative procedures. Without this interdisciplinary treatment method, there will be no satisfactory prognosis, with the success rate dropping to 27-37% as reported in the literature.

Conclusion: Endo Perio Lesion can be a challenge to doctors as interdisciplinary collaboration is needed in order to obtain a favourable outcome.

Crown Lengthening : A Multidisciplinary Approach

Dr. Amol Ranjan

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Introduction: Adequate clinical crown height is essential for retention form which allows tooth preparation, impression procedure, crown placement and adjustment gingival levels for esthetics. Periodontist has a view to preserve biologic width during crown lengthening procedure so that the physiological dimension around the tooth is maintained. Crown lengthening can be done using scalpel, electrocautery, laser etc.

Case Series: The presentation includes case of crown lengthening approached by various treatment options. In first case, patient was treated using laser, the second case depicts lengthening done by scalpel and the third case excised the gingival tissue with electrocautery for inadequate crown height.

Discussion: Diode laser having affinity for pigments aids in achieving clean surgical field and better patient acceptance. Electrocautery also gives a clean, bloodless operative site with the disadvantage of lateral heat dissipation, offensive odour and possibility of bone damage. Scalpel approach done with precision excised the required tissue. All the mentioned treatment approaches done with adequate expertise, produced a good enough exposure of the tooth structure while removing a suitable amount of gingival tissue.

Conclusion: Though, the conventional method of using scalpel is most commonly used as the basic treatment approach. The diode laser and electrocautery can be used effectively as an alternative to the scalpel for the management of altered gingival contour.

S-070

Indirect Sinus Lift With Hydraulic Pressure

Dr. Kirti Pal

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Introduction- Implant with prosthesis is a challenge in edentulous posterior maxilla due to insufficient alveolar height. Indirect sinus augmentation is a minimally invasive procedure. Indirect sinus is involved with less procedure time, less complications, less postoperative pain, and have inferior morbidity rate.

Case Report- CBCT was performed before surgery. Indirect sinus with immediate implant was planned with CAS kit with hydraulic lifter. LA was given, a mid-crestal incision was given and full-thickness flap was reflected. Procedure started with a 2-mm twist drill then sequential drills was performed with CAS drill with stopper to enlarge the osteotomy and stopped 1 mm short of the sinus floor. Final CAS drill was connected with a stopper of the same height as residual bone and the maxillary sinus membrane was elevated. The hydraulic lifter was inserted into the drilled hole and saline solution was inserted slowly with the syringe to elevate the maxillary sinus membrane. The implant was placed. Finally, the flap was sutured. After 3 months, CBCT was repeated and prosthesis was delivered.

Discussion- Choudhary et al (2022) evaluated the sinus lift in indirect sinus lift with hydraulic pressure and the simultaneous placement of implant using platelet-rich fibrin. Shalash et al (2023) evaluated sinus lift using Densah burs for lifting the maxillary sinus membrane in with a residual bone height of 4–7 mm.

Conclusion- Indirect sinus lift with simultaneous implant placement using CAS Kit with hydraulic pressure proved to be safe and effective. CAS kit facilitated controlled handling during osteotomy preparation with the use of stoppers.

S-071

Management of Drug induced gingival enlargement by Non surgical periodontal therapy: A Case Report

Dr. Diwakar K

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Introduction – Drug-induced gingival enlargement is defined as an increase in size of gingiva, resulting from accumulation of microbial plaque and exaggerated in the presence of drug use such as anticonvulsants, calcium channel blockers and immunosuppressant. Drug substitution and surgery has already been proved as a treatment modality, here in this case report non surgical management alone has been emphasized.

Case report – A 17 year old female patient reported to the Department of Periodontology, UPVMS, Saifai with chief complaint of swollen gums in all teeth region since 20 days. Patient had medical history of epilepsy since 2 years and was under medication for the same for 1 year i.e., Tab. Phenytoin 150 mg thrice daily. On intra-oral examination, generalised gingival enlargement was present which was pale pink, discrete, erythematous, nodular in appearance, non tender with BOP present. Full mouth scaling and root planing was performed and patient was reevaluated on 15 days, 30 days and 3 months.

Discussion - The most effective treatment of such enlargement is withdrawal or substitution of medication, which may take 1 to 8 weeks for resolution of gingival lesions along with surgical management. Here we found that NSPT results in reduction of the inflammatory component in the gingival tissues and thereby avoids the need of surgery.

Conclusion – Full mouth scaling and root planing has been beneficial both for the clinician and patient as it avoided the need for surgery and therefore, reduces patient morbidity.

Amnion–Chorion membrane for Regenerative Procedures: Case Report

Dr. Damini

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INTRODUCTION: Recently, human amnion-chorion membrane (AM) has been reported to have regenerative potential that facilitates repair in the field of oral and periodontal surgeries.

AIM & OBJECTIVE: To evaluate the clinical outcome of amnion-chorion membrane along with minimally invasive coronally advanced technique in the treatment of gingival recession under an operating microscope.

MATERIALS AND METHOD: A 55 year old man reported to Department of Periodontology at ITS Dental College, Ghaziabad, with a chief complaint of sensitivity in upper front tooth region since 6 months. On clinical examination, Miller's class II recession was observed wrt 11,12 and 13. The treatment consisted of placement of amnion-chorion membrane with a minimally invasive coronally advanced technique under microscope. The patient was evaluated for the following clinical parameters; gingival recession depth (RD), probing depth(PD), clinical attachment loss (CAL), width of attached gingiva, relative attachment loss (RCAL) and soft tissue thickness at baseline and 3 months.

RESULT, DISCUSSION & CONCLUSION: Result, Discussion and Conclusion would be elaborated at the time of presentation.

Microsurgical management of gingival recession using pouch and tunnel technique with 20% propolis irrigation: A case series.

Dr. Akash Alok Bora

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Introduction: Pouch and tunnel technique is a minimally invasive procedure for attaining successful Gingival root coverage. Propolis can be used as an adjunct to this technique due to its antimicrobial, antifungal, anti-inflammatory and antioxidant properties. Platelet-rich fibrin (PRF), a platelet concentrate, has emerged as a successful surgical adjuvant that stimulates soft-tissue healing and facilitates wound closure, thereby offering enhanced esthetic outcomes.

Case report: A case series was conducted in the Department of Periodontology and Oral Implantology, I.T.S Centre for Dental Studies and Research. The patients visiting the OPD who met the inclusion criteria were included. 3 patients with Miller's class I or class II gingival recession were included where propolis irrigation was done prior to minimally invasive Pouch and Tunnel technique with PRF membrane under a surgical microscope. The clinical parameters viz. Gingival Index(GI), Plaque Index(PI), Pocket Probing depth(PPD) and Relative Clinical Attachment Level (RCAL), Recession depth (RD) and Width of Keratinized tissue(WKT) were recorded at baseline and at 3 months.

Discussion and Conclusion : Will be elaborated during presentation.

Ridge Preservation: Paving the Way for Augmentation-Free Implant Placement

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Loyara, Udaipur, Rajasthan*

Introduction: Ridge preservation is a critical procedure aimed at maintaining alveolar ridge dimensions after tooth extraction, thus facilitating future implant placement.

Case report: This case report details the management and outcomes of a patient who underwent ridge preservation followed by dental implant placement. A 24-year-old male presented with a failed root canal treatment in the right lower 1st molar. After atraumatic extraction, the socket was thoroughly debrided and grafted with demineralized freeze-dried and freeze-dried bone allograft, combined with prf and prf membrane to ensure optimal ridge preservation. After healing period of 3 months, clinical and radiographic evaluations confirmed the maintenance of ridge height and width, allowing for the successful placement of early implant. Stable peri-implant soft tissue health and satisfactory functional and esthetic outcomes were observed at 1 month follow-up.

Discussion: Ridge preservation techniques play a pivotal role in maintaining alveolar ridge dimensions, mitigating the common post-extraction bone loss. This case highlights the benefits of using an allograft bone substitute with prf, demonstrating successful bone regeneration and implant stability.

Conclusion: Ridge preservation significantly enhances the predictability of implant placement by preserving alveolar ridge volume and eliminating augmentation at implant placement. This case report shows the importance of incorporating socket preservation techniques in treatment planning for implant therapy.

Enhancing Peri-Implant Phenotype: A Life Saving Cocoon!

Dr. Shailja Jani

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INTRODUCTION: Peri-implant phenotype comprises keratinized mucosa width (KMW), mucosal thickness (MT), supra-crestal tissue height (STH), and peri-implant bone thickness. KMW is used to denote the height of keratinized soft tissue that runs apico-coronally from the mucosal margin to the mucogingival junction. An “adequate” amount of KMW around implants is often regarded to be ≥ 2 mm since this is the amount that requires to prevent soft-tissue recession, bone resorption and to facilitate adequate oral hygiene measures.

CASE DESCRIPTION: 40-year-old Male patient was referred to the department of periodontology for opinion regarding augmentation of keratinized tissue around implant site placement. On evaluation there was presence of inadequate KMW and muscle pull at the implant site so for that flap was apically repositioned, sutured & the recipient bed was adapted with FGG during the second stage implant surgery. Stable peri-implant soft tissue health & satisfactory functional outcomes were observed at 1 month follow-up.

DISCUSSION: Evaluation of the width of keratinized mucosa around implants should be an integral part of the regular oral examination during implant planning. Presence of adequate KMW is an important consideration for the long-term survival of dental implants as it ensures effective plaque control, thereby reducing the chances of peri-implant mucosal inflammation & long-term stability of implant.

CONCLUSION: The preservation or the reconstruction of keratinized mucosa is beneficial for maintenance of soft-tissue stability around dental implants. Ensuring adequate KMW is an effective and significant way to improve the chances for a successful implant and its long-term survival.

Assessment Of Peri-Implant Mucosal Augmentation Using Amnion- Chorion Membrane

Dr. Nancy Singh

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INTRODUCTION: Barrier membranes like Amnion-chorion membrane can be used as an alternative to Subepithelial connective tissue graft in peri-implant mucosa augmentation. Amnion-chorion membrane have proven to have excellent results in oral soft and hard tissue regeneration. This property can be utilized in Implant placement to improve the Peri-implant mucosal thickness and marginal crestal bone loss.

AIM & OBJECTIVE: The aim of this study was to assess the clinical efficacy of Amnion Chorion membrane for peri-implant mucosa augmentation and evaluate the changes in crestal bone level around implant.

MATERIALS AND METHOD: In this study, 10 edentulous sites with peri-implant mucosal thickness ≤ 2 mm were included in which Amnion-Chorion membrane post-implant placement was done and assessment of full mouth Plaque index, Gingival index, Peri-implant tissue thickness at Mid buccal mucosal level (MBML), and crestal bone loss via IOPA at Baseline, 3 months, and 6 months. Peri-implant tissue thickness at Occlusal part of alveolar crest (OAC) was evaluated at baseline and 3 months, while Crestal bone loss was assessed at baseline and sixth month.

RESULT, DISCUSSION & CONCLUSION: Result, Discussion and Conclusion would be elaborated at the time of presentation.

A Clinicomicrobiological Study On Efficacy Of Different Oils In The Management Of Plaque-Induced Gingivitis

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INTRODUCTION: Oil pulling is an ancient Indian folk remedy used to strengthen dental tissues and prevent tooth decay, oral malodour, bleeding gums, throat dryness and cracked lips. Oil pulling technique involves swishing oil in the oral cavity, spitting it out, and brushing teeth. Edible oils containing polyunsaturated fatty acids (PUFA) offers numerous health benefits in cardiovascular disorders, autoimmune etc. Gingivitis is a common oral cavity disease caused by microbial plaque accumulation in the teeth's cervical area.

AIM: To compare and evaluate the clinicomicrobiological efficacy of flaxseed oil, coconut oil and chlorhexidine mouthwash in prevention of plaque-induced gingivitis. To assess the impact of oil pulling with flaxseed oil, coconut oil and chlorhexidine mouthwash on clinical parameters. To analyze the changes in oral microbiota particularly the reduction of pathogenic bacteria.

OBJECTIVES: To evaluate various clinical parameters at baseline and after 1 month follow up. To determine colony forming units in plaque samples at baseline and after 1 month follow up.

MATERIAL AND METHODS: SAMPLE COLLECTION- Individuals were divided randomly into 3 groups using chit method namely- GROUP A: Flaxseed oil (test group), GROUP B: Coconut oil (test group) and GROUP C: Chlorhexidine mouthwash (control). Supragingival plaque collection by sterilized curette on baseline and 30th day. Samples were stored at -20°C for microbiological evaluation. Culture of the sample was made by streaking technique and total microbial count was assessed by Semi-quantitative colony counting method.

RESULTS: Awaited.

Comparative Evaluation Of Anesthetic And Antimicrobial Efficacy Of 10% Propolis Hydrogel With Scaling And Root Planing In Generalized Chronic Periodontitis - A Clinico- Microbiological, Split Mouth Study

Dr. Manav Varshney

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INTRODUCTION: Chronic periodontitis is characterized by inflammation and destruction of the supporting structures of the teeth. Scaling and root planing (SRP) is a traditional non-surgical treatment during which patient sometimes complains of sensitivity. Although mechanical treatment reduces bacterial load but it does not necessarily eliminate all pathogens. Propolis, a natural resinous substance produced by bees, has gained attention for its potential therapeutic properties including anesthetic, antimicrobial and anti-inflammatory effects. Hence it can be used as local drug delivery agent as an adjunct with SRP.

AIM & OBJECTIVE: To evaluate and compare the anesthetic and antimicrobial efficacy of 10% propolis hydrogel with SRP in generalized chronic periodontitis patients.

MATERIAL & METHODS: A randomized, split mouth study was performed. Twenty patients with chronic periodontitis having pocket probing depth ≥ 5 mm were selected and randomly subjected to Group A (placebo) or Group B (test gel) application before doing SRP followed by assessment of VAS score for Sensitivity between the groups immediately after completing the procedure. Placebo and test gel was also administered subgingivally in group A and B respectively. Gingival Index, Plaque Index, Pocket Probing Depth, Clinical Attachment Level and Quantitative analysis of sub-gingival plaque samples for anaerobic bacteria was recorded at baseline and at 1 month.

RESULT, DISCUSSION & CONCLUSION: Results, Discussion and Conclusion would be elaborated at the time of presentation.

Evaluation Of Laser Curettage Compared To Gingival Curettage With Placement Of Platelet-Rich Fibrin In The Treatment Of Periodontitis.

Dr. Shwetansh Rituraj

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INTRODUCTION: Periodontal disease is a complex, multifactorial inflammatory condition leading to loss of periodontal attachment. The goal of periodontal treatment is to eliminate pathogens to improve and maintain the periodontium. Scaling and root planing (SRP) has been effective in maintaining the periodontal health. However, deep pockets remain as confounding areas due to limited access.

A significant improvement in wound healing and regeneration can be achieved by platelet-rich fibrin (PRF), containing platelets, undifferentiated cells, and growth factors forming a mesh-like structure allowing the migration and differentiation of cells from nearby region resulting in improvement and regeneration.

Laser curettage will result in the disintegration and elimination of pathogenic bacteria from damaged tissues, promoting tissue regeneration and re-attachment to the root surfaces.

AIM & OBJECTIVE: To evaluate the efficacy of curettage with diode lasers compared to gingival curettage with PRF placement in periodontitis patients.

MATERIALS & METHOD: A Randomized split mouth study was performed. 20 sites with periodontitis having probing depth of 4-5mm were randomly allocated. Group I was treated with laser curettage and Group II with gingival curettage followed by PRF placement. Clinical parameters i.e., plaque index (PI), gingival index (GI), sulcus bleeding index (SBI), pocket depth (PD), clinical attachment level (CAL) and visual analog scale (VAS) were recorded at baseline and at 4 weeks.

RESULT, DISCUSSION & CONCLUSION: Will be discussed at the time of presentation.

Comparative Evaluation Of Chlorhexidine And Herbal Formulation In Dental Unit Waterline To Reduce Bacterial Load In Aerosols During Ultrasonic Scaling.

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Introduction: Ultrasonic instruments generate aerosols with significantly greater number of bacteria. Preprocedural mouthrinses or chemotherapeutic coolants are used for the reduction of bacterial load in dental aerosols. The use of chlorhexidine as an ultrasonic coolant has been well established. However, this application has not yet been investigated for herbal formulation which is known to have antibacterial and anti-inflammatory properties in vivo.

Aim and objective: The aim of this study is to compare and evaluate the efficacy of chlorhexidine and herbal formulation in the reduction of bacterial count in dental aerosols when used as an irrigant through DUWL during ultrasonic scaling.

Materials and method: Thirty patients with moderate-to-severe gingivitis were randomly divided into 3 groups of 10 patients each undergoing ultrasonic scaling. For experimental group I, CHX was added in dental unit reservoir before ultrasonic scaling. Similarly, in group II, herbal formulation was used and group III served as control where distilled water (DW) was used. The aerosols from ultrasonic units were collected on three blood agar plates at three different positions which were incubated at 37°C for 48 h and total colony forming units (CFUs) were counted.

Result: A significant reduction in the total CFUs' counts was observed at all the three sites sampled in test groups (chlorhexidine group and herbal formulation group) as compared to control.

Conclusion: The addition of antiseptic agents to the water source contributed to a significant reduction of the cultivable microbial counts in the aerosol and hence can be used to reduce the risk of cross-infection during ultrasonic scaling

Gum Drop Technique, A Minimally Invasive Surgical Procedure Using Autologous Platelet Concentrate For Treatment Of Multiple Recession Defects

Dr. Nidhi Prasad

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INTRODUCTION: Gingival recession is defined as apical migration of gingival margin beyond the cemento-enamel junction (CEJ). The treatment of recession defects associated with multiple teeth poses greater challenge to clinician as avascular root surface area is more extensive. Also, thin biotype, decreased keratinised tissue width (KTW), root prominence and root proximity make the choice of surgical treatment difficult as compared to localized gingival recession type defects. Different tunnel techniques that can maintain the better blood supply and maintain critical papillary integrity have been attempted for management of recession defects. Gum drop technique, a minimally invasive surgical procedure using autologous platelet concentrate as a biomaterial, has shown successful and predictable outcomes in treating multiple adjacent gingival recession defects.

AIM AND OBJECTIVE: The objective of this case series was to evaluate the treatment of multiple recession defects using Gum drop technique, a minimally invasive surgical procedure using autologous platelet concentrate.

METHODOLOGY: A total 10 patients with multiple Miller's Class I (Cairo's RT1) gingival recession defects were included. Clinical parameters recorded : Gingival Recession Depth (in mm), Width of Keratinized Gingiva (in mm), Clinical Attachment level (in mm) and Probing Depth (in mm) were measured at baseline and 3 months.

RESULTS, DISCUSSION and CONCLUSIONS : Results discussions and conclusions will be elaborated at the time of presentations.

Aesthetic Rehabilitation With Early Implant Placement And Immediate Loading In Anterior Maxilla After Traumatic Avulsive Injury Of Right Lateral Incisor

Dr. Priya Darshani Pradhan, Dr. Anant Sindhwani

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INTRODUCTION: Patient reported with an avulsed left maxillary lateral incisor (2 and half month back). Clinical and radiological evaluation (CBCT) revealed adequate alveolar bone and absence of periapical pathology. The treatment included early placement of dental implant followed by immediate loading of the implant on 6th day.

TREATMENT OPTION: Maryland bridge Implant supported crown 3-unit bridge resin bonded restoration (FRC Bridge) Cast partial denture Removeable partial denture

TREATMENT PLAN: Replacement of tooth 21 by early implant placement with immediate loading using final restoration in CAD-CAM multilithic zirconia crowns. 4. IMPLANT PLACEMENT AND PROSTHETIC PHASE: Implant was placed and primary stability was achieved with an insertion torque >45 NCM. On 6h day of implant placement CAD-CAM multilithic zirconia crown was cemented and restored in full final occlusion both in centric and eccentric contacts.

DISCUSSION: Patient reported to department of prosthodontics with avulsion of 21.2 ½ nmonth after CBCT analysis early implant placement was planned with immediate functional loading. Often, dental implants are put to function using a temporary prosthesis that will remain in position (for 2-3 months) until the final rehabilitation is delivered. In our case immediate loading was done based on webner et al (2004) consensus of loading protocol i.e. 6-7 days of implant placement with final crown.

CONCLUSION: This case report showcases a technique involving early implant placement with immediate functional loading in the maxillary anterior region, offering a prompt and effective approach to address edentulism while preventing any potential loss of hard and soft tissues. This method also ensures optimal esthetics and functionality, providing a swift solution to the issue.

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Introduction: The key for successful implant treatment is to have an optimum selection for designing of the implant position and angulations based on the clinical situation but every clinical scenario will not be the same hence the need of customization of abutment comes into play. The advantage of customized abutment is to establish a precise fit and emergence profile of the prosthesis. Malo bridge with customized abutment will be the best treatment of choice. Separate crowns are cemented on the framework to improve both biomechanics and esthetics of the prosthesis.

Case Report: A patient reported with the chief complaint of missing upper and lower front teeth. Implants were placed in maxillary and mandibular anterior tooth region followed by rehabilitation with implant supported fixed prosthesis after 3 months made with customized DMLS framework and cement retained CAD-CAM fabricated layered zirconia malo bridge.

Discussion: Metal ceramic fixed prosthesis for implant restoration proposes disadvantage like bulky prosthesis, excessive weight and thermal expansion. The malo bridge concept has individual crown that can be removed and repaired without the need to remove the entire structure with added advantages of good precision, esthetics and no casting defects.

Conclusion: Patients showed satisfaction in respect to accurate, aesthetic, and functionally efficient prosthesis. Retention and stability were found to be good with proper occlusion after consecutive follow up visits. It is concluded that the implant-supported malo bridge enhances the psychological support and was more functionally efficient as compared to conventional implant supported fixed prosthesis.

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Introduction: Implant supported restorations have become well established treatment options since the past four decades and have evolved to a standard of care in dentistry. Initially, dental implants were mainly used to rehabilitate multi-units prosthesis, however, it has become common to replace single teeth, especially in the aesthetic zone. With the increase in demand to achieve esthetic outcomes, the need for preservation of the buccal bone after tooth extraction has led to the development of various techniques.

The socket shield technique represents a significant advancement in implant dentistry, specifically addressing the challenge of preserving the buccal bone structure and maintaining optimal aesthetic outcomes following tooth extraction. Traditional extraction methods often result in resorption of the buccal bone, leading to compromised support for soft tissue and potential aesthetic concerns during implant placement.

Case report: The following case report will include a case series of socket shield technique performed in the Department of Prosthodontics with or without immediate loading. The following case reports include non restorable anterior teeth which were subjected to implant placement following administration of local anesthesia, the tooth was sectioned at gingival level.

Discussion: The socket shield technique offers a novel approach by strategically retaining a portion of the tooth root within the socket. By leaving the root fragment within the socket, the technique aims to maintain the integrity of the buccal bone plate, which is crucial for supporting soft tissue contours around dental implants. Key advantages include reduced bone resorption, improved gingival aesthetics, and potentially faster healing times. However, careful case selection and surgical precision are essential for successful implementation.

Conclusion: In conclusion, the socket shield technique represents a significant advancement in preserving buccal bone and has shown promising aesthetic outcomes in implant dentistry. Continued research and refinement of clinical protocols are essential to further establish the efficacy and expand the application of the socket shield technique in routine dental practice.

Comparative Evaluation of Antifungal Effects of Herbal Extracts and Commercially Available Denture Cleanser on Heat Polymerized Acrylic Denture Base Resin

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Aim: The study aims to evaluate and compare the antifungal effects of herbal Extracts and commercially available denture cleanser on Heat-polymerized Acrylic Denture Base Resin

Objectives: To evaluate and compare the antifungal effects of herbal extracts and commercially available denture cleanser on Heat-polymerized Acrylic Denture Base Resin

Methodology – A total of 39 samples was divided into 3 groups with 13 samples in each group:

- Group 1: Origanum oil*
- Group 2: Distilled water*
- Group 3: Fittydent tablet*

*Acrylic Specimens with the dimensions of $10 \times 10 \times 2$ mm³ were fabricated. These samples were immersed in Sabouraud dextrose broth consisting of *Candida albicans* for 16 hours at 37 °C for inoculation and later in the solutions for 8 hours and their antifungal efficacy was measured using a spectrophotometer.*

Results: 1. Optical density in group 1 was significantly lower than group 2 (mean difference = -0.203, $P < 0.01$, highly significant).

2. There was no significant difference for optical densities between group 1 and group 3 (mean difference = -0.144, $P > 0.05$, not significant) and; group 2 and group 3 (mean difference = 0.059, $P > 0.05$, not significant).

Conclusion: 1. Herbal oil extracts exhibited superior efficacy compared to a commercially available denture cleanser in diminishing fungal colonies.

2. The potential of Origanum oil as a viable alternative to conventional denture cleansers for managing denture stomatitis devoid of adverse effects.

A new approach to anterior guidance with a 3D Printed Curvilinear path incisal guide table.

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Introduction - The main goal in a full mouth rehabilitation case is to establish an anterior guidance that is influenced by the mandibular movements as the teeth contact the maxillary anterior. In a normal healthy dentate individual, the palatal surface of maxillary anterior play a major role as they help in establishing the incisal guide factor.

This incisal guide factor plays a major role in disocclusion during protrusive movements, as the palatal anatomy in natural dentition is different from the anatomy in fixed partial dentures. The established incisal guidance in full mouth rehabilitation on semi-adjustable articulators is flat, the palatal anatomy that is fabricated is also the same to achieve proper disocclusion.

Case Report – A male patient aged 65 years reported to the Department of Prosthodontics with the chief complaint of worn out teeth and multiple RCT's already performed. After complete evaluation, diagnosis and treatment planning, a comprehensive Full mouth rehabilitation was planned. After the initial diagnostic impressions and facebow transfer, a digital mock up was done, with the help of the newly fabricated custom guide table the all the movements, i.e., protrusive and latrotrusive were checked and evaluated. The patient was temporised for 8 weeks with the help of CAD milled temporaries and after that the final prosthesis was delivered.

Discussion - Thus, the need for a new type of incisal guide table arises that provides a curvilinear path as seen in the natural dentition. The curvilinear path can only be generated when we modify the incisal guide table and incisal pin in a way that it is able to move into protrusion from the centre point of the guide table.

Conclusion - With the help of 3D modelling, designing and printing, a new guide table has been fabricated which allows us to achieve anterior guidance as seen in natural dentition.

Rehabilitating maxillectomy patient with definitive obturator using CAD-CAM.

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Introduction: Maxillectomy is an acquired condition caused mainly by carcinomas. These defects leads to hyper nasal speech, nasal regurgitation, impaired mastication, speech, swallowing and aesthetics, hence our main objective is separation of the oral cavity from the sino nasal cavities and closure of the maxillectomy defect using prosthetic obturator. Conventional obturator falls short in terms of retention, stability, and support, hence implementing CAD-CAM technology offers the final obturator a better fit, function, and aesthetics.

Case Description: A 42 year old male patient with hemimaxillectomy defect in the right posterior region with the reason been squamous cell carcinoma complained of a loose definitive obturator made approximately 10 years earlier. Preliminary and secondary impression was made. The virtual cast created from the scan data (die stone model) was than digitally surveyed and the framework was designed using Exocad software. The definitive cobalt-chromium framework was fabricated by using 3D DMLS technology. After framework trial placement, the obturator prostheses was processed using conventional heat-polymerizing resin.

Discussion: The use of implant improves the retention of prostheses. However, it requires additional surgery, cost, health of the patient, bone quality and long standing treatment limits the use of implants. Hence opting other alternative namely CAD (Digital surveying and designing of the framework) and CAM (DMLS - printing the metal framework) compared conventional method offers a good fit, function and aesthetics.

Conclusion: Cast partial framework when fabricated using CAD - CAM, provide better mechanical properties, increased patient satisfaction, improved speech and mastication, shortens laboratory time and the preserves data for future.

Correlation Of Survival And Long Term Success Of Dental Implants In Diabetic And Smoker Patients

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INTRODUCTION

Dental implants are widely accepted and practiced treatment modality for quite a period of time for the oral rehabilitations. The success of implant depends upon surgeons skill, Implant design (macro and micro design), host response, underlying systemic diseases like Diabetes mellitus, Anaemia, thyroiditis and certain adverse habits like bruxism, smoking. Diabetes and smoking are most come prevailing risk factors.

AIM

The purpose of this retrospective study is to assess the correlation of survival and long term success of dental implants in smoking and diabetic patients.

Material and method

482 patients with a total of 1848 implants placed were selected. Risk factors, such as smoking and diabetes were considered, and patients were followed up for a period of 2 to 5 years for assessing failure.

Result

Out of 1848 implants placed, the success rate was 97.52% . Among the total number of failed implants 2.5% implants failed in smokers; and 4.5% in diabetic patients

DISCUSSION

Smoking is a well-recognized risk factor for periodontal diseases that contributes to an anaerobic environment, growth of periodontal pathogens, and detachment of the periodontal ligament. So, we can say that smoking increases the risk of implant failure by 3 times in case of immediate loading of implants placed in fresh extraction socket. Diabetes is a known risk factor for impaired wound healing after surgery due to irregular blood sugar levels and a disrupted immune response, which may lead to implant failure

Conclusion

Based on this study's results, it is concluded that risk factors, such as smoking and diabetes play a role in success rate of dental implants.

Influence of dental implant length on failure rates.

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INTRODUCTION:-The placement of dental implant of a certain length is not always possible due to the available bone volume and encroachment of anatomical structures, which further restricts the placement of implant of ideal dimension. Suggesting, placement of implants of shorter length. Hence, the present study is aimed to evaluate the impact of implant length on failure rates between short (<8.5), standard (<11.5) and long implants (>11.5).

AIM:-Influence of dental implant length on failure rates.

OBJECTIVES:- To compare the prosthetic and biological implant failures rates among short , standard and long implants

MATERIALS AND METHODS:-1800 implants placed in 482 patients since year 2011 were selected and evaluated for their failures.

RESULTS:- Out of 1800 implants ,Total 46 cases of implant Failure were observed . Out of which 188 short implants , 778 standard implants and 860 longer implant which had a failure rate of 3.1%, 2.6%and 2.0 % respectively.

DISCUSSION:- The result of present study suggest that short implants have a higher risk of failure than longer implants probably due to lesser bone to implant contact and increased crown to implant ratio.

CONCLUSION:- Though high rate of failure is found in short implants but the result seems to be insignificant. So, careful planning of implant placement according to implant site can ensure a successful treatment option.

A Comparative Evaluation of Masticatory Efficiency and Patient Satisfaction using Three Different Impression Techniques in Completely Edentulous Resorbed Mandibular Ridge: A Randomized Controlled Trial

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ABSTRACT:

Complete dentures are vital for restoring masticatory function and enhancing patient satisfaction in individuals with completely edentulous resorbed mandibular ridges. The choice of impression technique plays a crucial role in the success of denture fabrication, with conventional, cocktail, and neutral zone techniques being commonly utilized. This study aims to assess the impact of these techniques on masticatory efficiency and patient satisfaction.

A total number of 24 patients were selected from OPD. Informed consent was obtained from each patient before enrolling them in the study. Patients were randomly allocated into three groups, each consisting of eight participants. Group 1 utilized the conventional impression technique, Group 2 employed the cocktail impression technique, and Group 3 used the neutral zone impression technique. The remaining steps of complete denture fabrication were same in all the three groups and were as per standardized protocol. Masticatory efficiency of the subjects was assessed with the help of pre-weighed chewing gum. Patients were subjected to a specified number of chewing strokes, followed by desiccating the chewing gums and weighing them again. The difference in weight was calculated. Patient satisfaction was assessed using a OHIP EDENT questionnaire. Responses to items will be given by the patient on a 5-point Likert scale. The response values of all the items were added up to give the total score. The data obtained was subjected to statistical analysis and comparative evaluation was done.

Based upon the results of the study, statistical difference was observed it was concluded that the neutral zone technique significantly improves both masticatory efficiency and patient satisfaction in patients with resorbed mandibular ridges, followed by the cocktail technique, with the conventional technique showing the least effectiveness. However, no statistical difference was noted between neutral zone technique and cocktail impression technique. Further research is recommended to validate these findings and explore strategies for optimizing both outcomes.

Comparative Evaluation Of Neuroplastic Activity And Chewing Efficiency In Different Prosthodontic Treatment Protocols – An Original Research

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INTRODUCTION: In edentulous arches, alveolar ridge atrophy after tooth extraction is a common problem. Implant-supported fixed restorations are a well-proven treatment option for edentulism. Function of the stomatognathic system is controlled by neuromuscular co-ordination between jaw bones, teeth, periodontium and masticatory muscles.

In literature insufficient evidences were found regarding co-relation between chewing efficiency and neuroplastic changes of cerebral cortex in edentulous patients and how it modifies after different prosthodontic rehabilitation.

AIM AND OBJECTIVE: Assessment of chewing efficiency of edentulous arches in different prosthodontic protocols

To co-relate the neuroplastic changes with chewing efficiency and adaptability of the prosthesis.

MATERIAL AND METHODS: Patients selected for this study was selected regardless of age and sex in harmony with the inclusion and exclusion criteria, divided into two groups. Group 1 includes healthy dentulous patient and group 2 includes edentulous patient. Edentulous patient was first rehabilitated with conventional complete denture followed by all- on -four (interim and definitive) prosthesis. To evaluate the cortical changes 1.5 Tesla functional MRI was done and to check the chewing efficiency color coded chewing gum was used.

RESULTS: After statistical analysis it was found that in frontal, parietal and cerebellum region showed more significant activation in participants rehabilitated with A04 prosthesis then for complete denture prosthesis. Similarly for chewing efficiency interim and A04 subjects were statistically significant than CD patients.

DISCUSSION: In near future implant retained overdenture, full mouth conventional implant fixed prosthesis, all on six implant supported prosthesis, pterygoid and zygomatic implant supported prosthesis should be analysed for evaluation of chewing efficiency and its relation with activated cortical regions

CONCLUSION: Rehabilitation of edentulous patients causes synergistic effects in increasing neuronal activity and chewing efficiency. Increased neuronal activity and chewing efficiency may lead to better quality of life and masticatory performance.

Incidence of implant fracture over a 10-year follow up.

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INTRODUCTION: Over a 10-year period, a study evaluated the incidence and causes of implant fractures among 1848 implants with osseointegrated implant-supported prostheses. Despite a high success rate of 95-97%, complications like implant fractures occur in about 0.2 to 2.3% of cases, posing challenges in retrieval and replacement without damaging the implant.

AIM: The study aimed to assess the incidence of implant fractures and document their causes.

MATERIALS AND METHODS: Out of the total patients, 46 reported implant failures, with 10 cases specifically due to implant fractures.

RESULTS: The study represents an overall implant failure rate of 2.48%.

Implant fracture rate accounted to 0.54% of total implants and 21.7% of all implant failures.

DISCUSSION: Implant fractures are serious complications that impact implant stability and functionality, resulting from both biological and mechanical factors. Common causes include excessive bite forces, bruxism, overextended prostheses, material defects, design flaws, bone loss, short implants, and improper placement or abnormal loading. Symptoms reported by patients include pain, mobility, and inflammation. The only treatment is implant removal, highlighting the need for preventive measures. Ensuring the stability of the marginal bone is crucial to reducing the risk of implant fractures.

Clinical outcome and Radiographic Marginal bone level changes in implants placed with high insertion torque: A 1 year pilot study

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INTRODUCTION: Traditionally implants were preferably placed with a torque not exceeding 45Ncm. High implant insertion torque (≥ 50 Ncm) is considered a prerequisite by some clinician for clinical success in implant dentistry.

Aim: To evaluate the influence of high insertion torques (≥ 45 Ncm) during implant placement vs. conventional torque ($25 < 45$ Ncm) on radiographic marginal bone level (RMBL) changes and implant survival rate.

Objectives of the study: To radiographically evaluate marginal bone level changes and to compare implant survival rate in both groups, at 1-year follow up.

Material and method: Patients were divided into 2 groups based on the insertion torque achieved at the time of dental implant surgery : high insertion torque group (≥ 45 Ncm) and conventional/regular insertion torque group ($25 < 45$ Ncm). The insertion torque will be acquired at time of surgery by a manual torque wrench. In 1-year follow up, analysis will be performed by measuring radiographic marginal bone level (RMBL) changes at T0 (1 month), T1 (3months), T2 (6 months), & T3 (12 months)

Results: In conventional loading, high insertion torque during implant placement did not affect implant survival rate or marginal bone loss.

Discussion: The torque to be applied to the implants at the time of installation is still providing great grounds for debate. Felipe et al stated that increasing the insertion torque beyond certain level, however, may not be suitable for every implant system or every type of bone and it could result in bone resorption, localized bone necrosis, soft tissue recession, and subsequent failure of osseointegration.

Conclusion: There was no difference in radiographic marginal bone level changes and clinical outcome in implants placed either with high insertion torque (≥ 45 Ncm) or regular insertion torque (< 45 Ncm) followed upto 1 year.

Introduction: In the dynamic field of dental prosthetics, interim restorations serve as indispensable tools, providing temporary solutions that bridge the gap between tooth preparation and the final restoration. A critical factor influencing their clinical success is the material chosen for fabrication, which directly impacts the crucial parameter of marginal adaptation—the precise fit along the restoration's margin.

Aim: The aim of the study is to compare and evaluate marginal adaptation of interim restorations fabricated with polymethylmethacrylate resin, bisphenol A-glycidyl methacrylate resin and photopolymer resin.

Objective: 1. To evaluate the marginal adaptation of interim restoration, polymethylmethacrylate resin, bisphenol A-glycidyl methacrylate resin and photopolymer resin.

Result: A pairwise comparison of means of marginal adaptation showed that the mean difference in Group 3 was significantly greater than Group 2 and Group 1 and Group 3 there was highly significant difference between groups.

Discussion: A well-fabricated provisional prosthesis should have a precise marginal fit in order to minimize the microleakage, protecting the pulp of the prepared tooth and minimizing bacterial accumulation at the margins of the restoration, thus preventing the inflammation of the soft tissues around the tooth and the implant-supported restorations.

Conclusion: 1. The marginal adaptation of digitally fabricated interim crown is superior when compared to manually fabricated interim crown.

2. Interim crowns fabricated from 3D-printed resins have better adaptation when compared to polymethylmethacrylate resin, bisphenol A-glycidyl methacrylate resins. Hence, they can be used as a reliable alternative to other resins.

Comparative Evaluation of Accuracy of Three-Dimensional Printed Casts, Digital Casts and Conventional Casts: An In Vitro Study

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INTRODUCTION: Digital casts and rapid prototyped replicas are becoming increasingly popular among prosthodontics as a part of modern trends. It is possible to create digital models by directly scanning the patient's teeth or indirectly scanning the cast or impression allowing prosthodontists to perform diagnosis, treatment planning, and fabrication of the final restoration

OBJECTIVE: To compare the linear measurements and interarch measurements made on the three-dimensional printed casts, digital casts and conventional casts.

METHOD: A total number of 32 casts was fabricated, comprising of 4 groups with 8 samples in each group. Group 1: Conventional dental stone casts, Group 2: Digital cast made using desktop scanner, Group 3: Digital cast made using using intra oral scanner, Group 4: 3D printed cast made using intra oral scanner

A typodont with full set of maxillary and mandibular teeth was used in this study as the reference cast. Linear measurements were taken mesiodistally and occlusocervically for first molar, first premolar and canine in addition to intermolar width and intercanine width on both arches and sides. Reference, conventional and 3D printed casts were measured using digital vernier caliper. Digital casts was measured using 3D Geomagic imaging software.

RESULT: Statistical significant difference were found suggesting that the linear measurements and interarch measurements made on the 3D printed casts is more accurate as compare to digital casts, and stone casts. ($p < 0.005$)

CONCLUSION: The 3D printed casts may be considered as a substitute for digital cast and stone casts with clinically accepted accuracy that can be used in diagnosis, treatment planning, and fabrication of prosthetic restoration.

Role Of Dermatoglyphics In Genetic Association For Chronic Periodontitis: A Clinical Study

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Introduction: Dermatoglyphic features are strongly affected by genetic and environmental factors, using it as supportive evidence in the diagnosis of hereditary disorders becomes a reality. Offspring of patients suffering from chronic periodontitis have a high prevalence rate of periodontal breakdown, suggesting strong familial influence.

Aims: The present study intends to evaluate and compare the dermatoglyphic patterns in controls and periodontally compromised patients.

Materials and Methods:

The dermatoglyphics prints will be collected by using stamp ink pad. Care was taken to ensure that full prints of ridges were obtained. The periodontal status of all 56 participants was assessed. Clinically one group comprised stage 3 or 4 periodontitis patients (as per 2017 classification of periodontitis) and control group had periodontally healthy subjects.

Statistical Analysis: The data will be obtained by using suitable statistical analysis.

Results: Results are awaited

Quantitative Assessment Of Bacterial Growth On Various Suture Materials Used In Periodontal Flap Surgeries: A Randomized Controlled Trial

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INTRODUCTION: Periodontal surgical procedures aimed at correcting anatomical, developmental, traumatic and plaque related defects are followed by suturing. Surgical sutures controls bleeding, provides strength, integrity to the operated tissue and promotes wound healing. These sutures are susceptible to microbial infections and promotes bacterial adhesion and proliferation. So, to alleviate this, various antibiotic coated sutures have been developed. Hence, this study was planned to assess and compare the difference in colony forming units amongst different coated and uncoated sutures.

AIM AND OBJECTIVES: To evaluate and compare the quantitative differences in bacterial growth on various suture materials used in the periodontal flap surgeries.

MATERIALS AND METHODS: After initial randomization of allocation of sutures by chit-pick method, patients who underwent periodontal flap surgeries were given Chlorhexidine coated, Triclosan coated, and Uncoated sutures respectively. Sutures were removed after 7 days and placed in blood agar petridishes and were then incubated at 37°C for next 72 hours. Colony forming units (CFU) of bacteria will be assessed using digital colony counter after 24 and 72 hours respectively. S

STATISTICAL ANALYSIS: The data obtained will be subjected for suitable statistical

Assessment Of Implant Stability And Bone Healing With Osseodensification Protocol In Single Stage Implant Placement

Dr. Ankur Tyagi

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INTRODUCTION:

Edentulism, the irreversible loss of teeth, remains a significant oral health challenge despite preventive dentistry advancements. Dental implants, particularly endosseous implants, offer effective solutions. Osseointegration, crucial for implant success, can be enhanced through innovative techniques like osseodensification.

AIM & OBJECTIVE: This study aims to assess osseodensification drilling protocol in single-stage implant placement by evaluating ISQ values and RANKL & OPG levels in peri-implant crevicular fluid.

MATERIALS AND METHOD: This study includes 10 sites with missing maxillary and/or mandibular teeth, in which one-stage implant placement with osseodensification protocol was done and following Clinical parameters (GI, PI) were assessed at baseline and 12 weeks, ISQ immediately after implant placement, at 4 and 12 weeks, and RANKL/OPG at 10 days, 4 and 12 weeks. Radiographic assessment (IOPA) was performed at baseline and 12 weeks.

RESULT, DISCUSSION & CONCLUSION:

Result, Discussion and Conclusion would be elaborated at the time of presentation.

Comparative Evaluation of Antimicrobial Efficacy Of 1% Chlorhexidine and Diode Laser After Non-Surgical Therapy In Endo-Perio Lesions - A Clinico-Microbiological Study.

Dr. Ankita Priya

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INTRODUCTION: Treatment of endodontic-periodontal lesions poses a challenge due to its multi-origin nature. Due to its multifactorial nature, establishing a single treatment protocol is challenging. Recently, diode laser has proven to give satisfactory results in treating the pockets around endodontically compromised teeth. Also, Chlorhexidine is proven to show reduction in pocket depth after non-surgical therapy in Endo-perio lesions.

AIM & OBJECTIVE: To evaluate the antimicrobial efficacy of diode laser and 1% chlorhexidine after non-surgical therapy to treat endo-perio lesions.

MATERIAL & METHODS: A randomized study including twenty patients with Endo-perio lesions having pocket probing depth ≥ 5 mm were selected, who underwent SRP and then were randomly allotted to either Group A (1% chlorhexidine application sub gingivally) or Group B (diode laser application sub gingivally). Gingival Index, Plaque Index, Pocket Probing Depth, Clinical Attachment Level and Quantitative analysis of sub-gingival plaque samples for anaerobic bacteria was recorded at baseline and at 1 month.

RESULT, DISCUSSION & CONCLUSION: Results, Discussion and Conclusion would be elaborated at the time of presentation.

Comparative Evaluation Of Wound Healing After Gingivectomy With Application Of Topical Oxygen Releasing Gel Using Laser And Conventional (Scalpel) Procedure.

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INTRODUCTION: Gingivectomy remains a cornerstone procedure in periodontal treatment. It may be indicated to remove diseased tissue, for prosthetic reasons, to improve esthetics, to establish normal gingival architecture, and to reduce probing depth of periodontal pockets. Oxygen-releasing gels directly introduce oxygen to the wound site, potentially stimulating tissue regeneration and wound closure. This study aims to compare the clinical efficacy and patient experience with topical oxygen releasing gel after gingivectomy using Laser and conventional procedure.

AIM & OBJECTIVE: To evaluate and compare the assessment of Pain and Wound healing with topical oxygen releasing gel (Blue-M) using Laser and conventional (scalpel) procedure.

MATERIAL & METHODS: A total number of 10 patients were selected on the basis of inclusion and exclusion criteria. Random allocation was done with Group 1 treated by LASER using Diode Laser (n=5) and Group 2 treated by Conventional (scalpel) procedure (n=5). Both the groups were treated with topical oxygen releasing gel (Blue-M) following gingivectomy. Parameters assessed were Pain using VAS (Visual Analogue scale) and Landry wound Healing index at baseline, 3 days, 7 days & 2 weeks postoperatively.

RESULTS, DISCUSSION & CONCLUSION:

Results, Discussion and Conclusion will be elaborated at the time of presentation.

Evaluation Of Oral Health Related Quality Of Life (Ohrql) In Patients With Periodontitis: A Cross Sectional Survey

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INTRODUCTION: Health related quality of life is attaining more attention and is considered as an important marker of patients' perception of disease. The impact of oral diseases on the oral health related quality of life (OHRQL) is of immense importance, but very few studies exist on the impact of periodontitis on quality of life.

AIM: This study was aimed to find out the relationship between periodontitis and Oral health related quality of life (OHRQL).

OBJECTIVES: To evaluate various clinical parameters at baseline and after 1 month follow up.

MATERIAL AND METHODS: A cross sectional survey was conducted at the outpatient Department of periodontology and implantology Institute of Dental Sciences Bareilly among 80 patients presented with periodontitis who satisfied the inclusion criteria. Data collection was done by using a proforma for recording age, gender and socioeconomic status. Clinical periodontal parameters such as Clinical attachment loss (CAL), Probing pocket depth (PPD), Simplified oral hygiene index (OHI-S), Gingival index (GI) using UNC 15 probe were examined. OHRQL was assessed using the OHIP-14. Stastical Analysis: The data will be obtained by using suitable stastical anaysis

RESULTS: Result are Awaited

Regenerate, Restore And Rehabilitate: Implant Placement with Guided Precision

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Introduction: Guided bone regeneration (GBR) is a well-established technique in implant dentistry aimed at augmenting bone volume in deficient areas to facilitate successful implant placement. This technique involves the use of barrier membranes and bone grafts to support new bone formation and exclude undesirable soft tissue ingrowth.

Case Report: A 37-year-old female presented with a missing 14. On CBCT examination, inadequate buccal bone volume was noted. After thorough evaluations, a treatment plan involving guided bone regeneration with simultaneous implant placement was formulated. I-fix implant was placed with buccal bone augmentation using freeze-dried bone allograft and Ossix Plus collagen membrane.

Discussion: The utilization of FDBA and Ossix Plus membrane for GBR in this case aimed to restore buccal bone volume for implant placement in maxillary premolar region. FDBA provides a scaffold for new bone formation through osteoconductive properties, while Ossix Plus membrane enhances stability and cell exclusion into the grafted site. Adequate bone formation and integration of the dental implant was observed, indicating successful GBR in complex implant cases with simultaneous implant placement.

Conclusion: The combination of FDBA and Ossix Plus membrane facilitates predictable bone augmentation and favorable implant osseointegration outcomes. GBR remains a valuable tool in managing challenging implant cases with long-term functional and aesthetic success in implant placement.

Instant Aesthetic Rehabilitation with Natural Tooth Pontic Using Ribbond Fiber Splint in Periodontally Compromised Patient – A Case Report

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Introduction: The rehabilitation of periodontally compromised patients often poses significant clinical challenges. Conventional prosthetic solutions may be complicated due to inadequate periodontal support. An innovative and conservative approach involving the use of a natural tooth pontic supported by a Ribbond fiber splint was employed in this case. This technique aimed to preserve natural dentition while providing an aesthetic and functional solution.

Case Report: A patient presented with a horizontal root fracture in the maxillary left central incisor accompanied by severe periodontal disease. The clinical scenario was challenging, with compromised periodontal support making traditional prosthetic solutions unsuitable. To address this, a careful selection of tooth pontic of the fracture tooth was used after extracting the fractured root segment. A Ribbond fiber splint, known for its non-invasive and biocompatible properties, was used as a framework to support the natural tooth pontic till the final prosthesis was delivered. Throughout the treatment, the patient's periodontal health was meticulously monitored and maintained to ensure the long-term stability of the natural tooth pontic.

Discussion: This case underscores the importance of individualized treatment planning in managing periodontally compromised patients. The use of Ribbond fiber splints as a supportive framework for natural tooth pontics offers a valuable adjunct in restorative dentistry. The approach provided both functional and aesthetic benefits, highlighting the potential of such innovative techniques in overcoming complex dental challenges.

Conclusion: The successful rehabilitation of this periodontally compromised patient illustrates the potential of innovative techniques in enhancing the quality of life while preserving natural dentition. The use of a Ribbond fiber splint to support a natural tooth pontic demonstrated both functional and aesthetic benefits, serving as an encouraging example for addressing similar dental challenges in the future.

*Management of Class-II Furcation with Endodontic Complications Using Regenerative Materials**Dr. Anupama Pradhian**Department of Periodontology and Oral Implantology, Inderprastha Dental College and Hospital*

INTRODUCTION: The management of endo-perio lesions, which involve both endodontic and periodontal disease, necessitates an integrated approach emphasizing the crucial role of periodontics. This case highlights the importance of periodontal evaluation in accurately diagnosing these complex lesions and in formulating effective treatment plans. It reviews how periodontal health impacts the success of endodontic therapy and discusses various periodontal treatments that enhance therapeutic outcomes. Clinical evidence underscores that addressing periodontal issues significantly improves the prognosis of affected teeth. The case advocates for a multidisciplinary approach in dental practice to optimize patient care and treatment success in endo-perio cases.

CASE DESCRIPTION: A 35 year old male reported to the department of Periodontology, Inderprastha dental college and hospital with the chief complaint of food lodgement and bleeding gums in left lower back teeth region since 2 months. His past medical and personal history was non-contributory. Upon clinical examination, the site revealed signs of inflammation, increased vertical probing depth and buccal furcation involvement in #36 and 37.

RESULT: Treatment of Class-II furcation with endodontic complications utilizing regenerative materials yielded promising outcomes. Clinical assessments revealed significant improvements in Clinical Attachment Level (CAL) and Probing Depth (PD), indicating successful reattachment and healing of periodontal tissues. Radiographic analysis showed substantial bone fill in the furcation area, confirming regenerative potential. Additionally, patients reported reduced symptoms, and tooth mobility decreased post-treatment. Overall, the use of regenerative materials proved highly effective in addressing complex furcation defects with endodontic involvement.

CONCLUSION: Within the limitations, the current clinical case highlights a new modality for management of mandibular grade II furcation defects with endo-perio lesions through a nano hydroxyl apatite bone graft. The results have shown substantial enhancement in the clinical parameters of the gingival index and probing pocket depth (horizontal and vertical). There was a significant amount of bone fill also that was evident radiographically. Thus, this modality could prove to be a boon for treating furcation defects.

Microsurgical intervention for recontouring of gingiva: A case report

Dr. Prajwal Shahi

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Faridabad*

Background: Gingivoplasty, a procedure aimed at reshaping the gum tissue for both aesthetic and functional purposes, has evolved significantly with the advent of microsurgical techniques. This approach enhances precision, reduces recovery time, and improves patient outcomes. Microsurgery in gingivoplasty involves the use of magnification tools and fine instruments, allowing for meticulous handling of the delicate gingival tissues.

Methodology: A detailed review of recent literature on gingivoplasty microsurgery was conducted, alongside a retrospective analysis of patient cases treated with this technique. The study focused on various aspects, including surgical precision, healing time, postoperative pain, and aesthetic outcomes. Patient satisfaction was measured through surveys and follow-up interviews.

Results: The findings demonstrate that gingivoplasty microsurgery significantly enhances the accuracy of gingival contouring. Patients experienced minimal discomfort and faster recovery compared to traditional methods. The aesthetic results were markedly superior, with smoother gingival margins and more natural gum lines. High magnification allowed for the preservation of more healthy tissue and reduced the risk of complications.

Conclusion: Gingivoplasty microsurgery represents a substantial improvement over conventional techniques. Its ability to provide precise tissue modification with minimal invasiveness translates to better clinical outcomes and higher patient satisfaction. Future advancements in microsurgical tools and techniques are expected to further refine this procedure, making it an indispensable part of periodontal and cosmetic dentistry.

Elevating Implant Dentistry: Osseodensification in Redefining Bone Quality for Implant Excellence - A Case Report

Dr. Sweta Jha

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INTRODUCTION: Prosthetic rehabilitation of missing teeth using dental implant has been an established procedure for a long time. Conventionally it involves the use of twisted drills to prepare the implant site. However, the use of modified drills such as Densah burs is relatively new. It works in densifying mode by compacting the bone into a prepared osteotomy site which leads to an increase in primary stability due to an increase in bone-implant contact. This method is based on the principle of bone conservation and it can be used as an essential treatment alternative.

*CASE REPORT: This case report describes the utilization of the novel technique, osseodensification for the implant site preparation when there is alveolar ridge deficiency in buccolingual direction (Siebert Class I deficiency) and the successful osseointegration of dental implant without the need of the surgical procedure to carry out any bone augmentation. The patient came with a chief complaint of missing tooth in his upper front tooth region due to trauma. The cbct of the patient revealed inadequate bone width in relation to 21. The implant site was prepared with densah drills of size 1 and 2 and implant of 3.5*13 mm was placed. After a period of 4 months, healing abutment was placed, closed tray impression taken and screw retained prosthesis given.*

CONCLUSION: Adequate implant primary stability with preservation of alveolar ridge integrity was achieved was achieved by this technique

Evaluation of Crestal Bone Levels Around Rough Surface Basal Implants After Prosthetic Loading in Atrophied Ridges: A Case Series

Dr. Gaurav Das

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INTRODUCTION: Basal implants were developed with the goal to overcome the limitations of conventional implantology, primarily for atrophied ridges or inadequate bone with the protocol of immediate loading and help to minimize treatment duration, cost and trauma. The KOS implants are compression screw design with different abutment options and highly polished necks.

AIM & OBJECTIVE: To evaluate crestal bone levels around KOS rough surface basal implants after prosthetic loading in atrophied ridges.

MATERIALS AND METHOD: A case series was conducted in the Department of Periodontology and Oral Implantology, I.T.S. Centre for Dental Studies and Research, Muradnagar, Ghaziabad. The patients visiting the OPD who met the inclusion criteria and gave informed consent were included. A total of 20 rough KOS rough surface basal implants were evaluated in this study. The mean crestal bone levels were assessed at baseline and 6 months using IOPA with grid. Gingival index was measured at baseline and 6 months. VAS score was assessed at baseline, 3rd and 7th day and patient satisfaction was done using Likert scale.

RESULT, DISCUSSION & CONCLUSION: Result, Discussion and Conclusion would be elaborated at the time of presentation.

Efficacy of Ascorbic Acid infused Platelet Rich Fibrin Membrane to Improve Peri Implant Mucosa Thickness

Dr. Shreya Mishra

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INTRODUCTION: The quality of peri implant tissues determines the overall success of implants and has shown to affect the bone stability and resist mechanical trauma. Various methods have been applied to improve soft tissue quality. Lately PRF membranes are being considered as a viable approach for directly targeting the tissues. Consequently, the addition of biomolecules like Ascorbic acid to PRF may elicit a positive response on periodontal health.

AIM: The aim of this study is to analyse the efficacy of Ascorbic Acid- PRF membrane in improving peri implant mucosa thickness around immediate implants.

MATERIALS & METHOD: A total of 8 sites indicated for immediate implant were included in the study which was followed by placement of AA-PRF membrane. The clinical parameters assessed included Wound healing index (Landry, Turnbull, Howley, 1988), Keratinised Tissue Width (KTW), Mucosal Thickness (MT) And Crestal Bone Level on mesial and distal aspect of implant.

RESULT, DISCUSSION & CONCLUSION: Results, Discussion and Conclusion will be elaborated at the time of presentation.

Evaluation of healing post diode laser frenectomy with or without surgical microscope

Dr. Mayank Singh

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Ghaziabad*

Introduction: Aberrant frenum attachment poses several aesthetic, phonetic and functional problems. Laser frenectomy is a sophisticated solution to correct position of frenum. Surgical microscope in adjunct to laser frenectomy might provide added advantage of bleeding control, reduced trauma and precise incisions.

Aim: To evaluate and compare the post operative healing and wound epithelialization after the treatment of aberrant frenum attachment employing a diode laser with or without surgical microscope.

Materials and method: This study was a randomized control clinical trial which included a total of 18 sites with high frenal attachment.

The sites were randomized into group I (Laser excision of frenum without magnification) and group II (Laser excision of frenum using surgical microscope).

Parameters evaluated: Epithelization using toluidine blue as indicator dye and wound healing index, Follow up at: 3 days, 1 week and 15 days.

Results and Conclusion: Results, discussion and conclusion will be elaborated at the time of presentation.



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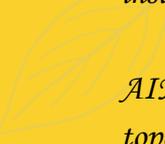
Effects of different mechanical debridement instruments on Titanium implant surface - An In-vitro study using scanning electron microscope.

Dr. S Archana

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INTRODUCTION: Oral bio-films are considered the primary etiologic factors for both, periodontitis and peri-implantitis. Mechanical debridement, aiming at the removal of the biofilm architecture is accepted as a gold standard. Changes to the implant surface topography after mechanical instrumentation can negatively affect healing and may abet bacterial colonization.



AIM AND OBJECTIVES: The in-vitro study aimed to evaluate the changes in the implant surface topography of commercial implants after instrumentation with 4 different mechanical debridement instruments.

MATERIALS AND METHODS: A total of 12 implants, 3 each were assigned to one of the 4 groups namely (i) Stainless steel curette (ii) Plastic Curette (iii) Carbon fibre curette (iv) Titanium curette. The surface characteristics of the dental implants in the 4 groups were studied under scanning electron microscope at different magnifications.

RESULTS: Results will be elaborated at the time of presentation.



Evaluation of Emdogain® in the treatment of multiple adjacent miller's class I/II gingival recessions using minimally invasive vestibular incision subperiosteal tunnel access (VISTA) technique.

Dr. Megha Sharma

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INTRODUCTION: When it comes to root coverage the connective tissue grafts serve the gold standard with the only major drawback of associated secondary surgical site and limited tissue availability when treating multiple recession defects therefore the current research aims to assess the efficacy of Emdogain® for correction of multiple adjacent gingival recession defects with minimally invasive VISTA technique.

AIMS AND OBJECTIVES: To determine efficacy of Emdogain® for correction of multiple adjacent gingival recession defects with minimally invasive VISTA technique. Clinical parameters of gingival recession depth, width of keratinized gingiva, relative clinical attachment level (RCAL) and probing depth at baseline and 3-months were recorded.

MATERIALS AND METHOD: 11 patients were included in the sample with Miller's class I/II multiple adjacent gingival recession defects. Clinical parameters were recorded with the help of customised stents. VISTA technique was employed for the treatment of multiple recession defects followed by application of Emdogain®.

RESULTS: A significant improvement was found in all the clinical parameters at 3-month follow up.

DISCUSSION: Vista with application of Emdogain® establishes itself as an alternate to extensive coronally advanced flap which is the most documented root coverage procedure for single and multiple recession defects.

CONCLUSION: Emdogain® can be successfully employed with the minimally invasive VISTA technique in order to obtain root coverage in multiple adjacent gingival recession defects

Effect of Sleep Status on oral health related quality of life (OHRQoL) in patients with Periodontitis- a questionnaire-based survey.

Dr. Pankaj Gangil, Dr. Rashmi Gupta

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INTRODUCTION: This study was undertaken with a tenet to assess the oral health and Sleep Status with the help of OHIP-14 and Mallampati Index in a semi-urban population of Greater Noida. There is little scientific evidence implicating direct relationship between OSD & oral health.

AIM & OBJECTIVE: To validate and determine the applicability of OHIP-14 in assessing the impact of oral health on the quality of life.

To observe the position of the tongue using Mallampati Index indicating the risk for OSA.

METHODOLOGY: Sample size -100

Sample method –Random Cluster Sampling

Scale -Oral Health Impact Profile -14, Mallampati Index and Stop Bang questionnaire.

RESULTS: The result showed positive correlation between poor sleep quality and oral health related quality of life (OHRQoL) in patients with periodontitis.

DISCUSSION: There is a lack of knowledge and perception in public pertaining to the relationship between sleep and periodontal health. It is a vicious cycle established between periodontitis, sleep and QoL in which one contributes to sustain or worsen the other into a bidirectional relationship that may be difficult to break,

CONCLUSION: There is a need to make population aware of importance of sleep as an important co-etiological factor impacting the status of overall oral health of the patient.

Self-Assembling Peptides: A New Frontier In Periodontal Healing.

Dr. Himani

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Introduction: Self-assembling peptides are short sequences of amino acids that can spontaneously organize into well-defined nanostructures, such as fibers, sheets, or hydrogels, under physiological conditions. They form scaffolds that provide a three-dimensional framework conducive to cellular activities. They mimic the extracellular matrix and play a crucial role in tissue regeneration by supporting cell adhesion, migration, proliferation, and differentiation. This review aims to evaluate the potential of these peptides in promoting tissue repair, caries prevention, antimicrobial action, and enhancing the efficacy of dental implants, ultimately advancing dental healthcare practices.

Search Strategy: A comprehensive review of current literature and research was conducted to assess the effectiveness of self-assembling peptides in dental applications. This analysis covered studies on enamel and dentin regeneration, periodontal tissue engineering, caries prevention, bioactive coatings for dental implants, wound healing, and drug delivery systems.

Discussion: Self-assembling peptides showed substantial promise in promoting enamel and dentin regeneration by forming scaffolds conducive to mineral deposition. They enhanced periodontal tissue repair by stimulating cell growth and differentiation. These peptides also played a significant role in caries prevention through remineralization and exhibited strong antimicrobial properties, thus reducing infection risks. Additionally, they improved the osseointegration of dental implants and accelerated wound healing. Their use in drug delivery systems facilitated targeted therapeutic interventions.

Conclusion: Self-assembling peptides present innovative solutions for periodontal tissue regeneration, caries prevention, and infection control. Their ability to replicate natural biological processes and promote healing highlights their potential in advancing dental healthcare. Further research is required to optimize their application and enhance their stability and biocompatibility for wider clinical use.

Retention Enhancement Of A Complete Denture In Patients With Shallow Vestibule: A Surgical Approach

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Shallow vestibule has long been considered a deterring factor in the use of removable dental prosthetics. Adequate attached gingiva is essential for continued proper oral hygiene. In the long-term, this causes the suprastructure to fail and, ultimately, the restoration also fails. Therefore, shallow vestibule with reduced attached gingiva should be identified in the diagnostic stage and should be effectively managed prior to restoration of lost tooth structure (Budijono SCS et al.2019).

Surgical repositioning of the mucosa and insertion of muscles, whicj increase the depth of the vestibule and the area of the denture flange for retention and stability determine the success of the prosthesis. Vestibuloplasty is a surgical treatment that involves repositioning the mucosa and muscle attachments in the vestibule to increase the depth of the vestibule.

Dr. Natasha Handoo

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For many years, there has been conjecture, uncertainty, and disagreement regarding the connection between endodontic and periodontal disorders. Today, Pulpal and periodontal problems are a major cause for more than 50% of tooth mortality. The pathophysiology of an endo-perio lesion can vary, ranging from quite simple to relatively complex. The combined EPL disease is caused by simultaneous inflammation in varying degrees of the endodontic system and periodontium (Shenoy N et al. 2010). The relationship between the periodontium and the pulp was first discovered by Simring and Goldberg in 1964 (Simring M et al. 1964). The diagnosis and prognosis of the affected teeth can be complicated by these abnormalities, which frequently provide difficulties for the dentist. Making the right diagnosis, is crucial to delivering the right course of treatment.

In order to correctly diagnose these lesions, a clinician must possess a comprehensive awareness and scientific knowledge of them. Treatment options for these lesions may include restorative, endodontic, or periodontal therapy, either separately or in combination.

In order to attain the optimum result, this review paper will emphasize the diagnostic, clinical guidelines, and decision-making processes in the treatment of these lesions from the perspective of an endodontist and periodontist.

Role Of Enamel Matrix Derivatives (EMD) In Periodontal Regeneration

Dr. Shivani Dhama, Dr. Aditi Dhama

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INTRODUCTION- EMDs are protein extracted from unerupted porcine tooth buds and contains approximately 90% amelogenins and smaller amounts of tuftelin, ameloblast in, enamelin and other non-amelogenin proteins. Mixture of these natural proteins induce biological processes that stimulate cells involved in the healing process of soft and hard tissues.

SEARCH STRATEGY- Periodontal disease presents a significant challenge in dentistry, often resulting in tissue deterioration and tooth loss. Traditional methods like bone grafts have limitations, but EMDs offers a promising alternative by enabling stability and possible regeneration of the affected bony defects on single and multirrooted teeth. EMDs are used for the potential to initiate the transformation of blood thrombus cells into cementoblasts, fibroblasts and osteoblasts, periodontal ligament formation and even induction of angiogenesis to upregulate vascular endothelial growth factor production by fibroblasts, with deep periodontal regeneration.

DISCUSSION- Regenerative therapy aims to restore the tissues, with recent emphasis on EMD which helps in tissue regeneration. It is considered as choice of important in the complex treatment of destructive periodontal disease and gives required promising improved treatment outcomes in periodontal regeneration

CONCLUSION- Enamel Matrix Derivatives has the potential to improve clinical measures of periodontal status to an extent and is widely considered as modern standard for periodontal regeneration therapy.

Hydrogel In Periodontal Regeneration

Dr. Pooja Yadav

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Introduction : Periodontal regeneration aims to restore the structure and function of periodontal tissues lost due to disease or trauma, a challenge for conventional treatments. Hydrogels, characterized by high water content and biocompatibility, have gained attention as potential scaffolds for tissue engineering. Mimicking the natural extracellular matrix, hydrogels provide an environment conducive to cell proliferation, differentiation, and tissue formation.

Search Strategy: Articles were selected based on their relevance to the application of hydrogels in promoting the regeneration of periodontal tissues. Studies highlighting different types of hydrogels and their effectiveness including both preclinical and clinical studies, to cover a broad range of hydrogel applications and outcomes in periodontal regeneration.

Discussion: Natural hydrogels (collagen, gelatin, hyaluronic acid) and synthetic hydrogels (Polyethylene glycol, Polyvinyl alcohol) have demonstrated significant promise in periodontal regeneration. Natural hydrogels are known for their biocompatibility and support for cell attachment, while synthetic hydrogels offer tunable mechanical properties and degradation rates. Composite hydrogels combine the advantages of both. Hydrogels' ability to deliver bioactive molecules, such as growth factors and stem cells, directly to the injury site enhances regeneration.

Conclusion: Hydrogels present a versatile and promising approach for periodontal regeneration, with benefits including biocompatibility, extracellular matrix mimicry, and bioactive molecule delivery. While there are challenges in mechanical properties and degradation rates, advanced biofabrication techniques like 3D bioprinting offer potential solutions. Ongoing research and clinical trials are crucial to optimizing hydrogel formulations and validating their effectiveness, paving the way for their integration into clinical practice.

*Antiresorptive Therapy In Periodontology**Dr. Priya Yadav**Department of Periodontology and Oral Implantology, SGT Dental College, Hospital and Research*

Introduction: Periodontitis, a chronic inflammatory disease affecting the supporting tissues of teeth, is a significant public health concern. Traditional treatment modalities, while effective, often fail to address the underlying host-mediated destructive processes. Antiresorptive therapy, a novel approach targeting the excessive tissue breakdown characteristic of periodontitis, holds promise in complementing conventional treatment strategies.

Search Strategy: This abstract is based on a comprehensive literature review of peer-reviewed articles and clinical studies published between 2010 and 2023, retrieved from reputable databases such as PubMed, Scopus, and Web of Science. Keywords used in the search included "antiresorptive therapy," "periodontitis," "host modulation," and "tissue breakdown inhibitors."

Discussion: Antiresorptive therapy aims to modulate the host's excessive inflammatory response and associated tissue destruction by targeting key mediators and pathways involved in the pathogenesis of periodontitis. Several promising therapeutic agents, including matrix metalloproteinase inhibitors, bisphosphonates, and novel synthetic compounds, have shown promising results in preclinical and clinical studies. These agents have demonstrated the potential to inhibit alveolar bone and connective tissue breakdown, promote healing, and enhance the long-term stability of periodontal treatment outcomes.

Conclusion: Antiresorptive therapy represents a promising adjunctive approach to conventional periodontal treatment. By modulating the host's destructive response, these therapeutic strategies may improve clinical outcomes and potentially prevent disease progression. However, further well-designed clinical trials are necessary to establish the long-term safety and efficacy of antiresorptive agents in the management of periodontitis.

A Periodontal approach to Esthetic dentistry: Case Report

Dr. Viyanti Wadhwa

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Introduction: The Lip stabilization technique (LipStat) is a novel surgical approach for the management of gummy smile. Rubenstein and Kostianovsky were the first to introduce such a technique in 1973, also in 2015 Bholra described the lip stabilization technique (LipStat) allowing it to be a surgical technique, very used in last decade which allows reducing the force generated by the lifting muscles of the upper lip, thus showing the patient a smile with a more pleasant aesthetic. It is an outpatient technique, minimally invasive, with low risk of morbidity and low incidence of complications. The goal of the technique is to reduce the excessive gingival display during smile. Labial hyperactivity, gingival overgrowth, delayed passive eruption, vertical maxillary excess or a combination of them may result in excessive gingival appearance.

Case Report: A case of 38-year-old female patient who reported with the chief complaint of gummy smile has been discussed. On extra-oral examination, the face was found to be bilaterally symmetrical with competent lips. Intraorally, gingival display was 6 mm during dynamic smile which extended from premolar to premolar. The treatment planned was to surgically minimise the gingival display in her smile using LipStat technique.

Discussion: The present paper also discuss in detail about the indications of LipStat, clinical case selection, treatment, possible complications and post care instructions.

Conclusion: The LipStat technique is a safe outpatient procedure that allows to obtain predictable results, which are well accepted by patients.

Tooth Troopers-Battling Internal and External Root Resorption of Endo-perio lesion: A Case Report

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Introduction: Endo-perio lesions are challenging conditions that involve communication between pulp and periodontal tissues.

Case report: A 27 year-old male patient was referred to department of Periodontics after emergency access opening with respect to 46. Clinical examination revealed a Periapical abscess and deep periodontal pocket in relation to distal surface of 46. Periapical radiograph showed periapical radiolucency, external root resorption with distal root of 46. Cone-beam computed tomography confirmed the presence of an Endo-perio lesion having internal and external root resorption at the junction of middle and apical third of distal root of 46 with extensive bone loss. Root canal treatment was followed by periodontal surgery to access and debride the lesion. Biodentine was used to treat root resorption. Bone graft with PRF Membrane was placed to treat bone loss. Patient was placed on a strict follow-up regimen. At 2-month review, tooth was asymptomatic, and radiograph confirmed no further progression of disease.

Discussion: Advanced imaging facilitated precise diagnosis and treatment plan. Studies have shown use of Biodentine to treat root resorption. Bone graft with PRF membrane helps in further healing and bone regeneration.

Conclusion: Timely diagnosis of Endo -perio lesions helps in good prognosis and treatment of a case and thus saves the natural tooth.

Sequential Treatment For A Complex Endo-Perio Lesion With Prosthetic Restoration

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Department of Periodontology and Oral Implantology, People's Dental Academy, Bhopal

Introduction – The term "Endo-Perio lesions" are characterized by inflammatory products affecting both periodontal and pulpal tissues, leading to treatment challenges due to their interconnected nature.

Case Report- A 34-year-old female patient reported the department with a sinus tract formation w.r.t 46 and discoloration of tooth. Pre-operative IOPA showed radiolucency in the furcation area w.r.t. 46 and grade II furcation involvement was present. Root canal treatment w.r.t 46 was done. After 3 months postoperatively, I.O.P.A still showed the furcation involvement w.r.t 46. After that a regenerative surgery was planned w.r.t. 46 and novabone putty was placed in the furcation defect. The lesion healed completely and prosthetic restoration was done after 6 months of surgery.

Discussion-In this case report, after three months of endodontic treatment no changes in the furcation area were seen both clinically and radiographically in relation with 46.

This confirmed the presence of secondary periodontal involvement. This case report indicates that understanding any endo- perio lesion and its complexities is of utmost importance to prevent tooth salvage and utilization of bioactive glass led to notable bone regeneration in the furcation area .

Conclusion- A comprehensive diagnostic examination typically identifies the primary cause, guides the appropriate treatment plan, as demonstrated in this case.

Prosthodontics –Periodontics Interrelationship: Case report

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& Research*

Introduction: Determining the appropriate margin placement is critical for the longevity and esthetics of PFM crown. Restorative considerations will frequently dictate the placement of restoration margins beneath the gingival tissue crest. When the restoration margin is placed too far below the gingival tissue crest, it will impinge gingival attachment apparatus. Crown lengthening procedure is done to increase clinical crown length without violating biologic width.

Case report: A 32-year-old female patient was reported to Department of Prosthodontics with chief complaint of continued dislodgement of crown w.r.t 37. Patient underwent RCT and PFM crown placement 5 years back. On clinical examination it was found that clinical crown length was short as of 2mm which was ascertained as a reason for displacement. The patient was later referred to Department of Periodontics. Clinical and radiographic examination done. Less than adequate width of attached gingiva (< 2mm) have been found. Crown lengthening was planned; amount of osseous resection was done in a manner to accommodate supracrestal gingival tissue apical to anticipated finish line while gingiva was displaced apically to maintain keratinized tissue. After surgery, sufficient amount of crown structure achieved and after 3 months PFM crown placed.

Discussion: All parameters probing depth, bone sounding, biologic width, width of keratinized tissue and attached gingiva, need consideration before performing crown lengthening.

Conclusion: A stable gingival margin and a predictable crown lengthening can be achieved if the amount of osseous resection is based upon anticipated prosthetic finish line and maintenance of supracrestal gingival tissue.

Periodontal Treatment In A Patient With Perio-Endo Lesion: A Case Report

Dr. Neeraj Bansal

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Introduction: Pulp tissue and periodontal tissue have a close relationship, both anatomically and functionally. A primary periodontal lesion with secondary endodontic involvement (Simon et al 1972) arises when a periodontal pocket reaches the apex of the tooth and leads to pulpal involvement via either a lateral canal foramen or the main apical foramen and the pulp becomes necrotic. Such cases require a combined treatment modality

Case Report: A 28-year-old female patient reported to the Department of Periodontology, with a C/o swelling, bleeding gums, and mild pain in lower right back tooth region since 8-10 days. No history of systemic disease, drug allergies or trauma. Clinical and periodontal examination depicted clinically inflamed gingiva with localized periodontal pocket depth of 12mm wrt 44 and 10mm wrt 43 and grade I mobility and periodontal abscess wrt 43,44. No caries found. Patient was diagnosed as localized stage III grade C along with a periodontal abscess in a periodontitis patient. Debridement and Abscess drainage were performed on the initial visit. The vitality test resulted in non-vital wrt 44 with delayed response in 43. RCT was initiated. Scaling and Root planning were then performed. Reevaluation 3 months post RCT, persisting periodontal pocket wrt 43, 44 were treated with Periodontal Flap surgery. 1 year postoperatively there was a significant gain in radiographic and clinical attachment level achieved.

Discussion and Conclusion: An appropriate diagnosis and timely combined management of Perio-endo lesion is essential for its successful treatment.

Periodontal Intervention For The Treatment Of Severely Attrited Lower Anterior Teeth In Case Of A Deep Bite.

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Introduction: In dentistry, clinicians often need to consider crown lengthening to address biological, functional, and aesthetic requirements. It's important to expose enough tooth structure above the osseous crest (about 4mm) to provide for a stable dentogingival complex and proper tooth preparation, ensuring a good marginal seal for restorations

Case report: A 38-year-old female patient was referred to the Department of Periodontology from the Department of Prosthodontics with significantly reduced clinical crown height. Upon clinical examination, it was noted that significant attrition was evident in the lower anteriors, along with the presence of a deep bite, leading to a reduction in the vertical dimension of the dentition. Selective crown lengthening was done in the upper anteriors' and osseous recontouring was performed in the lower anterior following the crown lengthening.

Discussion: The planning and execution of the crown lengthening procedure chiefly depend on the width of the attached gingiva, as well as the crestal bone position. It is generally accepted that a minimum of 2 to 3 mm of attached gingiva should always be maintained to prevent gingival inflammation and irritation.

Conclusion: Clinical crown lengthening is often necessary to provide adequate retention and resistance form by gaining supracrestal tooth length and re-establishing the biologic width to prevent impingement of restoration margins on the attachment apparatus.

Efficacy Of Curcumin And Indocyanine Green-Mediated Antimicrobial Photodynamic Therapy As An Adjunct To Selective Caries Excavation In Reducing Cariogenic Bacterial Load And Its Influence On Clinical And Radiographic Outcome In Permanent Molars: A Triple Blinded Randomized Controlled Trial

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Aim and Objective- To evaluate and compare the efficacy of Curcumin and Indocyanine green-mediated antimicrobial photodynamic therapy as an adjunct to selective caries excavation in reducing cariogenic bacterial load and its influence on clinical and radiographic outcome in permanent molars.

Materials and methods- In this randomized controlled clinical trial, 54 patients presenting with Class I deep dentinal caries extending to the inner part of the dentin in permanent molars were randomly assigned into two groups. Group 1 received antimicrobial photodynamic therapy (aPDT) with Indocyanine green photosensitizer; group 2 received aPDT with Curcumin photosensitizer. The amount of load reduction of two bacteria; Streptococcus mutans and Lactobacillus casei by both the groups were evaluated using Real-time PCR analysis. The paired t-tests and Independent t-tests were used for statistical analysis.

Results- There is a significant reduction in bacterial load in both the groups as compared to their respective control groups ($p < 0.05$). Curcumin showed significantly more load reduction of both the bacteria as compared to Indocyanine green ($p < 0.05$). Irrespective of the treatment groups, the load reduction of streptococcus mutans was significantly more than Lactobacillus casei ($p < 0.05$).

Discussion- The finding of this study can be attributed to the mechanism of action of PDT. Photodynamic therapy utilizes photosensitizer along with suitable wavelength light to produce cytotoxic singlet oxygen and free radicals which exert detrimental effects on microorganisms.

Conclusion- Antimicrobial photodynamic therapy was effective in minimizing the bacterial load of cariogenic microorganisms, specifically Streptococcus mutans and Lactobacillus casei, by using both Curcumin and Indocyanine green photosensitizers.

Comparative Evaluation Of The Effect Of Different Light Curing Protocols On The Degree Of Conversion And Cuspal Deflection Of Three Newer Bulk-Fill Composites: An InVitro Study

Dr. Zadeno Kithan

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Introduction: Composite restorations are favored for their aesthetics but pose challenges like secondary caries, microleakage, and postoperative sensitivity, often linked to polymerization shrinkage influenced by the degree of conversion (DC). High polymerization shrinkage causes cuspal deflection, leading to sensitivity, occlusion changes, and tooth fractures.

Aim and Objectives: To evaluate the impact of different light-curing protocols on the DC and cuspal deflection of three newer bulk-fill composites.

Materials & Methods: Filtek Bulk Fill Posterior Restorative (3M ESPE), Mani Bulk-Fill Composite (Mani Inc.), and Beautifil-Bulk Restorative (Shofu, Japan) was subjected to two light curing protocols : Bluephase N (15 seconds) and Bluephase PowerCure (3 seconds). DC was measured using FTIR on samples made from a stainless steel cylinder (4 mm depth, 5 mm width). Cuspal deflection was assessed with a digital micrometer at intervals of 5 minutes, 24 hours, and 48 hours on restored human premolars.

Results: DC results for both 15 seconds and 3 seconds curing times were: Mani Bulk Fill > Filtek Bulk Fill > Beautifil-Bulk Restorative. Cuspal deflection at all time intervals for both curing times were: Mani Bulk-Fill > Beautifil-Bulk Restorative > Filtek Bulk Fill.

Discussion: Mani Bulk Fill's lower filler content (77 wt%, 57 vol%) allowed better light penetration, resulting in a higher DC. The higher cuspal deflection in Mani Bulk Fill composites is attributed to their ability to adapt better to cavity walls due to their higher flexibility.

Conclusion: The composition and viscosity of bulk-fill composites significantly influence their DC and cuspal deflection. Longer curing times enhance polymerization and DC more effectively than shorter, high-intensity curing, although results may vary by material.

Effect Of Different Post Space Irrigation Regimen On The Push Out Bond Strength Luted With A Self Adhesive Resin Cement

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Aim: The aim of the study was to evaluate and compare the effectiveness of different irrigation regimen on the Cleaning Efficacy of post space and Push-Out Bond Strength of fibre post luted with self-adhesive resin cement. This is an in vitro laboratory study.

Materials and Methods: Eighty mandibular premolars were prepared using Protaper Gold system and irrigation was done with sodium hypochlorite. Four groups of teeth samples were considered for postspace preparation and irrigated with different solutions: Group 1: 5ml of Distilled water (control group); Group 2: 5.25% Sodium hypochlorite + 17% EDTA; Group 3: 1% Phytic acid; Group 4: 0.2% Chitosan nanoparticle using scanning electron microscope (SEM). This was followed by the luting the posts with RelyX U200. After a week, from each sample, 1 mm thick slices were obtained from each third of the root and subjected to push-out bond strength testing using universal testing machine (UTM).

Statistical Analysis Used: One-way analysis of variance and Bonferroni's Post hoc analysis was used for assessing the results. The statistical significance level was set at $P < 0.05$.

Discussion: Irrigation regimen significantly impacts bond strength. Studies suggest using a combination of sodium hypochlorite (NaOCl) and EDTA might be most effective for cleaning the dentin and promoting a strong bond between the post and root canal.

Results: The cleaning efficacy of the post space were better with phytic acid and chitosan nanoparticle. Bond strength values were improved with phytic acid and chitosan nanoparticle.

Conclusions: The results showed that Phytic acid and Chitosan nanoparticle could be advantageous for post space irrigation when fiber posts are bonded with a self-adhesive resin cement.

Synergistic Effect Of Herbal Intracanal Medicaments With Gold Standard Ca(OH)₂ Against E. Faecalis: An In Vitro Study

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ABSTRACT: Root canal failure cases presented with high prevalence of E. Faecalis. that is upto 70 % .Calcium hydroxide is extensively used as an intracanal medicament owing to high PH values of around 12.5. Addition of other herbal antimicrobial agents like carnosic acid , propolis may have the synergistic effect on Ca(OH)₂. This study was done to compare antimicrobial efficacy of herbal intracanal medicament and Ca(OH)₂ against E. Faecalis at different time duration also the combined effect of Ca(OH)₂ and herbal intracanal medicaments were evaluated in this study. In this study, Enterococcus faecalis, a common pathogen in root canal infections, was used as the test organism. The antimicrobial efficacy of different combinations was tested: in GROUP I calcium hydroxide , GROUP II carnosic acid , GROUP III carnosic acid with calcium hydroxide , GROUP IV propolis , and GROUP V propolis with calcium hydroxide and These combinations were evaluated against E. faecalis at 24, 48, and 72 hours. Sterile discs of specific diameter were impregnated with the respective intracanal medicaments is inoculated in agar plates. Zone of inhibition assays were conducted to measure antimicrobial activity, and comparative analyses were performed to determine the most effective intracanal medicament over the different time periods. The zones of inhibition were measured and analyzed using ANOVA to assess statistical significance.

Comparison of the accuracy of two electronic apex locators: An In Vivo Evaluation

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Successful endodontic treatment needs accurate determination of working length (WL). Electronic apex locators (EALs) are as an alternative to radiographic methods; and since then, they have evolved and gained popularity in the determination of WL. However, there is insufficient evidence on the accuracy of EALs in determining WL. This study was done to analyze the clinical accuracy of two apex locators, Root ZX and Woodpecker, to determine the position of the apical constriction. Patients with single-rooted teeth were included. Endodontic access opening was done and the apical constriction was determined by one of the apex locators. When the electronic marker indicated that the tip of the endodontic file was at the apical constriction, the working length was evaluated and confirmed by radiographs .

Exploring the Antibacterial Properties of Plant-Infused Endodontic Sealers on Root Canal Pathogens

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Aim and objectives - The purpose of this study was to assess and compare the antimicrobial effectiveness of various types of root canal sealers when combined with herbal extracts

Methods and materials - The antibacterial effectiveness of three endodontic sealers (zinc-oxide-eugenol-based sealer, calcium-hydroxide-based sealer and bio ceramic sealer) when mixed with herbal extracts was tested by means of the agar-diffusion test (ADT). The bacterial suspension of individual microorganism was applied separately onto the agar plates for ADT. Subsequently, freshly mixed and set sealer was applied on to the sterile discs. After 48h of incubation, the inhibition zones were measured.

*Discussion- An ideal endodontic sealer should have good sealing ability and long-lasting antibacterial efficiency. The *E. faecalis* species is detectable in about 40%–77% of the cases of infected root canals which is resistant to conventional root canal disinfection protocols. Zinc oxide-based sealer's antibacterial activity is probably because of the existence of zinc oxide and thymol iodide. Calcium hydroxide-based sealer exhibited a good antibacterial activity. The antimicrobial effect of this sealer stems from the release of hydroxide ions, which raise the pH to above 12.5. Bio ceramic sealers are typically composed of calcium silicates, calcium phosphate monobasic, calcium hydroxide, zirconium oxide, and other additives. These components contribute to the material's antibacterial properties. By addition of certain plant extract which have antimicrobial properties we might enhance the activity of various sealers.*

Conclusion -The use of bioactive compounds from herbal plant extracts shows great promise in dentistry, particularly in combating dental diseases. These extracts can be mixed with various root canal sealers (zinc oxide eugenol-based sealer, epoxy resin-based sealer, calcium hydroxide-based sealer) to enhance their antimicrobial properties and decrease cytotoxicity through the additive effects of the combination. This approach can potentially improve the effectiveness and safety of endodontic treatments.

Comparative Evaluation Of Physical And Anti- Cariogenic Properties Of Conventional Glass Ionomer Cement Adding Grape Seed Oil And Sesame Seed Oil: An In Vitro Study

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Selecting a direct restorative material depends on factors such as the location and extent of the restoration, patient preferences, and the clinician's judgment to achieve optimal oral health outcomes. One of the most widely used direct restorative materials is glass ionomer cement. GIC is a versatile direct restorative material commonly employed in dentistry. One significant advantage of GIC is its ability to bond chemically to tooth structure, creating a strong and durable connection. This feature helps in reducing microleakage and providing a stable restoration. GIC is also valued for its fluoride-releasing properties, which prevent secondary caries and enhance the remineralization of adjacent tooth structures. While GIC offers numerous advantages in dentistry, it is important to acknowledge its limitations and areas for improvement. Firstly, GIC can be relatively brittle, rendering it susceptible to fractures, especially in load-bearing areas. This limits its use in scenarios where higher-strength materials are required, such as in large posterior restorations. Secondly, GIC exhibits lower mechanical strength compared to other restorative materials like composite resins or amalgam, posing concerns in areas of the mouth subjected to moisture during the setting phase, although less than some other dental materials. To address these disadvantages and enhance overall performance, ongoing research and development efforts are focused on improvement strategies and tremendous modifications have been put forward. Recently, the antimicrobial activity of many natural oils has been proven through different in-vitro studies such as olive oil, grape seed oil, sesame seed oil, fenugreek-extracted oil, cinnamon bark oil, copaiba oil, coconut oil and among these oils grape seed (GS) oil and sesame seed (SS) oil were selected for this study. SS oil and GS oil were selected for the present research due to their already proven health benefits. Despite the previously known advantages of conventional glass ionomer cement, it can be topic of research to further enhance the physical, anti-cariogenic and mechanical properties of conventional glass ionomer cement after adding 3%grape seed oil and 3%sesame seed oil. Hence, the study was up taken to assess and compare the ability of GS oil and SS oil as a natural bioactive additive to reinforce conventional glass ionomer cement.

Fabrication Of Doxycycline-Modified Nanotubes And Its Application In Dental Adhesives

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INTRODUCTION: In spite of advances, the resin-dentin interface remains susceptible to degradation due to the structure and composition of dentin, as well as to the non uniform infiltration of resin into dentin and suboptimal micro-mechanical interlocking after acid etching.

An additional concern in dentin bonding relates to the degradation of the hybrid layer (HL) by host derived endogenous matrix metalloproteinases (MMPs) found within mineralized dentin.

Meanwhile, doxycycline (DOX), a tetracycline derivative, at subantimicrobial dosages has displayed a valuable therapeutic role of MMP inhibition in periodontal disease.

Notably, several recent studies have highlighted the potential of using Halloysite nanotubes (HNTs) as safe reservoirs for drug encapsulation and sustained release.

Accordingly, the synthesis of DOX-encapsulated nanotube-modified dentin adhesive could serve as a carrier for the sustained release of DOX at the adhesive layer for MMP inhibition and overall improvement of dentin bond durability.

MATERIALS AND METHODS: Synthesis of DOX-encapsulated nanotubes

•Doxycycline 20% (w/v) used to modify Halloysite nanotubes(HNT).

•HNT powder sieved using a 45 µm sieve and mixed with DOX 20%, then sonicated for 2 hrs.

•Vacuum and drying at 37°C , store in incubator for 7 days

After drying, DOX loaded nanotubes will be sieved before incorporation into the adhesive resin of a commercial bonding system.

RESULT: DOX encapsulated Halloysite nanotube powder

CLINICAL RELEVANCE: Yet to be studied

Comparitive Evaluation Of Fracture Resistance Of Mesio-Occluso-Distal Cavity Restored With Direct And Indirect Composite Resin – An In Vitro Study

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Aim: To evaluate and compare the fracture resistance and mode of fracture of mesio-occluso-distal (MOD) cavity restored with direct and indirect composite resin

Materials and Methods: Ninety non-carious premolars extracted for orthodontic reasons were selected and mounted in acrylic bases. Group 1 (control) remained intact, while the others had large MOD cavities prepared. Restorative materials were divided into five groups: direct restorations (G2-Ceram.x, G3-Solare Sculpt, G4-Admira Fusion x-tra) and indirect restorations (G5-SR Nexco, G6-Gradia Plus). G2 and G3 were incrementally restored, G4 was bulk filled, and G5 and G6 were lab composites. Stored in distilled water, the samples underwent fracture resistance (FR) testing with axial compressive loading. The force required for fracture and the mode of FR were recorded.

Results: On overall comparison statistically significant difference was found among all the groups. Highest FR resistance was exhibited by Group 2, comparable to Group 1 (control). Lowest value was shown by Group 6.

Discussion: The study found that direct composites, especially Ceram.X Spectra ST, provide superior fracture resistance (FR) compared to indirect composites for MOD cavity restorations. Incremental application enhanced FR in direct composites. No significant differences in failure modes were observed across groups. Future research should validate these findings in clinical settings.

Conclusion: Direct composites, applied directly on teeth, outperform indirect composites in fracture resistance (FR). Among direct options, Ceram.X Spectra ST ranks highest, followed by Solare Sculpt, and then Admira Fusion xtra. Indirect composites are crafted outside the mouth and then placed; SR Nexco slightly outperforms Gradia Plus, though the difference isn't significant. Failure modes for both types show no significant statistical differences, commonly resulting in types II and IV fractures. Overall, direct composites offer better immediate resilience, while indirect composites like SR Nexco are top among custom-crafted options.

Evaluation Of Bending Stiffness And Buckling Resistance Of Glide Path Instruments

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Aim and Objectives: Aim of the study is to evaluate and compare the mechanical properties namely the buckling and bending resistance of JIZAI Mani Glider, Trunatomy Glider, Proglider, and Gen Endo files.

Materials and methods : A total of 40 instruments, all of 25mm length were used. Bending and buckling test set up was made using custom made metallic clamps and block. Buckling and bending resistance was measured using Universal Testing Machine.

Results: The results revealed significant differences between all four groups. Maximum bending resistance was shown by Trunatomy files which was significant. In the buckling resistance test, proglider revealed maximum mean buckling resistance.

Discussion: The findings of the study showing maximum buckling resistance for Proglider files can be attributed to it's large cross-sectional area and progressive taper. This feature allows easy exploration of canal orifices and negotiation of narrow canal walls. Trunatomy showed highest bending resistance owing to it's superior mechanical properties which can be attributed to the heat treatment and higher elastic modulus.

Conclusion: Proglider and Trunatomy have been proved to be superior in terms of buckling and bending resistance suggesting their use in narrow and curved canals for glide path preparation.

Comparative assessment of Root Canal Morphology of Mandibular Canine by using accustomed clearing technique and CBCT: An In-vitro study

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Background: Successful root canal treatment depends on a thorough knowledge of the root canal system morphology and three-dimensional cleaning, shaping, and obturation based on adequate knowledge about the anatomical variations of root canal system. Different techniques are used to evaluate the anatomy of root canal system. Root canal system staining followed by tooth clearing has been considered the gold standard for evaluation of root canal system morphology. The clearing technique is a highly accurate technique to study the morphological variations of the extracted teeth. CBCT is reported to be as modified canal staining and clearing technique in identifying the root canal anatomy. The aim of this study is to examine the applicability of CBCT as a substitute for canal staining and tooth clearing technique for assessment of the root canal and apical morphology of mandibular canine.

Materials and Methods: 33 extracted mandibular canines were used for this in-vitro study. The teeth were immersed in 1% sodium hypochlorite solution for 48 h and then in 0.9% saline until experiment. After removing the calculus, debris and tissue residues from the tooth surfaces, they were placed upside down on a red wax sheet measuring 5 x 5 cm. The buccolingual and mesiodistal deviation of the apical foramen from the anatomical apex was assessed by CBCT scans. For the tooth clearing procedures, an endodontic access cavity were prepared in all samples using ½ round bur with high-speed handpiece. The samples were then immersed in 1% sodium hypochlorite solution for 24 h to facilitate the dissolution of the pulp tissue. For demineralization, the teeth were then immersed in 5% nitric acid for 48-72 h. After completion of the decalcifying process, ink was injected into the root canal system through the access cavity. The number and type of canals were identified according to the Vertucci's classification. The presence or absence of deviation, the distance from the anatomical apex, and the direction of deviation in the buccolingual or mesiodistal dimension were determined under a stereomicroscope.

Tooth Self Rescue-A Case Series On Successful Autotransplantation.

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Tooth autotransplantation is the technique of transplanting embedded, impacted or erupted teeth from one site into another in the same individual. Autotransplantation can provide a long-term, cost-effective and biological solution for adolescent patients with significantly compromised teeth when a suitable donor tooth is available. Successful autotransplantation of immature teeth can offer many advantages for a growing patient, including a normally functioning periodontium, proprioception and preservation of alveolar bone volume. Although carefully considered individual case selection and surgical skill are the critical determinants for success, advances in three-dimensional computed tomography and rapid prototyping have the potential to simultaneously reduce the technique sensitivity and increase the predictability of the autotransplantation procedure.

This case series presents successful immediate mandibular/maxillary third molar autotransplantation to replace the nonrestorable mandibular/maxillary first/second molar. In the cases, after the extraction of the nonrestorable tooth, the donor molar with incomplete root formation was autotransplanted into the recipient site after the atraumatic extraction. Follow-up revealed that the tooth was functionally stable in its socket without residual inflammation, masticatory function was satisfactory and without discomfort; the tooth was not mobile, no pathologic condition was apparent radiographically, the lamina dura appeared normal and the tooth showed radiographic evidence of root growth, and pulpal regeneration and the depth of the pocket, gingival contour, and gingival color were all normal.

This case series will provide greater awareness and an appreciation of the tremendous value of autotransplantation for the management of patients with significantly compromised teeth.

Beyond Boundaries : Exploring The Endo Perio Lesion

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Beyond the boundaries of traditional dental diagnosis lies a challenge that bridges Endodontics And Periodontics : the Endo Perio Lesion

They stand as intriguing puzzles that demand both precision and interdisciplinary collaboration.

Endo-perio lesions primarily occur by way of the intimate anatomic and vascular connections between the pulp and the periodontium.

Pulpal and periodontal problems are responsible for more than half of the tooth mortality. These lesions are characterised by their dual nature involving both pulp and periodontium, demand a nuanced approach for accurate diagnosis and effective management

This case series delves into such challenging scenarios, offering insights into diagnosis, treatment, and the collaborative efforts essential for successful management.

Human Take On The Digital Conundrum

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INTRODUCTION: Computer-aided design and computer-aided manufacturing (CAD/CAM) technology now enables the creation of precise and aesthetically pleasing dental prosthesis allowing for the fabrication of dental veneers including a complete smile makeover with unprecedented precision. Alternate to conventional smile design, Digital Smile Design allows the dentist to create the desired smile within minutes of the scan to preview results of the treatment. This creates patients trust in the procedure as well as the clinician. This paper will explain step-by-step procedure of DSD using EXOCAD software, and results will be compared to conventional smile design.

CASE REPORT: This case report will be showcasing a single case of digital smile design.

DISCUSSION: Smile Design involves creating a smile where the somatognathic structures function without hindrance to each other. There is endless scope of digitisation and technology in esthetic dentistry. In gearing ahead with time and utilizing the advances that science has made, which allows us better to serve our patients. This case report will feature a single patient who's intraoral scan will be taken and transferred to the Exocad software, wherein a unique smile will be designed specifically suited to the patient in regard to the Golden Proportion.

CONCLUSION: A beautiful confident smile is desired by all, and when a patient goes to the dentist for a makeover, this is where DSD comes in the picture, as a patient can visualize his/her treatment outcomes using a DSD tool. It is now possible to attain the ideal smile for the patient.

Dr. Avinash Jain

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Introduction: Hemisection offers a well-established surgical approach for preserving multi-rooted teeth with irreversible pathosis isolated to a single root. This case report details the successful application of hemisection on a mandibular molar subsequent to endodontic therapy.

Case Presentation: A 55-year-old patient presented with a mandibular molar (47) exhibiting clinical symptoms and radiographic evidence of apical periodontitis in the distal root. Comprehensive endodontic therapy was performed on the entire tooth. However, persistent furcation involvement and compromised osseous support surrounding the distal root complex necessitated hemisection as the optimal treatment modality for tooth preservation. The meticulous surgical procedure, including controlled sectioning and removal of the diseased distal root and associated crown structure, is outlined. Followed by rehabilitation with a modified crown or prosthesis is done.

Conclusion: This case report exemplifies the successful utilization of hemisection following definitive endodontic therapy on a mandibular molar. Hemisection serves as a predictable and conservative strategy for preserving tooth structure and masticatory function in carefully selected clinical scenarios with localized periodontal and endodontic sequelae.

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Preserving a badly mutilated tooth has always been a challenge for the dentist. Post and core can be done in such a case for the restoration of the teeth. For success in such cases, proper post-selection is of utmost importance. This case report highlights the usage of post and core to save teeth with less crown structure using prefabricated fiber posts.

A case 62 years old female patient who had experienced a complicated crown fracture in their maxillary right lateral incisor 1 year back, after that she didn't reported to the clinic on biting into a walnut 6 months ago due breakdown the patient reported to the clinics.

Diagnosis: The patient underwent clinical and radiographic examination, which revealed an Ellis class III fracture. This type of fracture involves damage to the enamel, dentin, and pulp of the tooth.

Symptom Evaluation: Despite the fracture, the patient was asymptomatic and showed no tenderness upon percussion. This suggests that the fracture did not extend deep enough to cause significant pain or inflammation.

Treatment Decision: Given the extent of the fracture and the patient's clinical presentation, the decision was made to perform endodontic treatment. After completing the endodontic treatment, the next step was to restore the tooth's crown structure. This was achieved by placing a fiber post and core to provide internal support and stability for the crown.

Final Crown Restoration: The final restoration involved placing a zirconia crown over the prepared tooth structure. Zirconia crowns are known for their durability and aesthetic qualities, making them a popular choice for restoring damaged teeth.

Outcome: The tooth was restored and rendering both aesthetics desires and functions of the patient. The current case highlights the importance of prompt diagnosis and appropriate treatment plan in managing complicated crown fractures.

Periodontal Treatment In A Patient With Perio-Endo Lesion: A Case Report

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INTRODUCTION: Pulp tissue and periodontal tissue have a close relationship, both anatomically and functionally. A primary periodontal lesion with secondary endodontic involvement (Simon et al 1972) arises when a periodontal pocket reaches the apex of the tooth and leads to pulpal involvement via either a lateral canal foramen or the main apical foramen and the pulp becomes necrotic. Such cases require a combined treatment modality

CASE REPORT: A 28-year-old female patient reported to the Department of Periodontology, with a C/o swelling, bleeding gums, and mild pain in lower right back tooth region since 8-10 days. No history of systemic disease, drug allergies or trauma. Clinical and periodontal examination depicted clinically inflamed gingiva with localized periodontal pocket depth of 12mm wrt 44 and 10mm wrt 43 and grade I mobility and periodontal abscess wrt 43,44. No caries found. Patient was diagnosed as localized stage III grade C along with a periodontal abscess in a periodontitis patient. Debridement and Abscess drainage were performed on the initial visit. The vitality test resulted in non-vital wrt 44 with delayed response in 43. RCT was initiated. Scaling and Root planning were then performed. Reevaluation 3 months post RCT, persisting periodontal pocket wrt 43, 44 were treated with Periodontal Flap surgery. 1 year postoperatively there was a significant gain in radiographic and clinical attachment level achieved.

DISCUSSION AND CONCLUSION: An appropriate diagnosis and timely combined management of Perio-endo lesion is essential for its successful treatment.

Management Of Drug Induced Gingival Enlargement – A Case Report

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INTRODUCTION : Despite our greater understanding of pathogenesis of Drug induced Gingival Overgrowth (DIGO) its treatment still remains a challenge and treatment is still largely limited to maintenance of improved levels of oral hygiene and surgical removal of overgrown tissue. Blue® oral gel is a novel product which has been seen to provide early and better healing in surgical wounds. This case report highlights treatment of DIGO by gingivectomy along with role of Blue m gel

AIM: To present the clinical , histopathological features and treatment of drug induced gingival enlargement which disturbed the aesthetics and masticatory function of the patient.

METHODOLOGY : The present case report is on a 21yr old Male who reported to our department with the chief complaint of gingival overgrowth who had a history of an frequent epileptic episodes for the past 10 years and was on anti- convulsant medications for the same. Patient was referred for physician consent and possibility of alternative anticonvulsant medication.

Ultrasonic scaling and Root Planing was done and the patient was prescribed chlorhexidine mouthwash and recalled after 3 weeks. Gingivectomy procedure was performed using a scalpel followed by application of Blue M gel. The tissue was sent for biopsy and the patient was followed at 7,14 and 28 days after surgery.

DISCUSSION AND CONCLUSION: Will be elaborated at the day of presentation

Advancing Endodontic Success: Apical Bone Regeneration Post-Apicoectomy with Deproteinized Bovine Bone and Injectable Platelet Rich Fibrin- A case report

Dr. Neeraj Verma

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Apicoectomy, a surgical procedure aimed at treating persistent periapical infections, often necessitates the removal of the infected apex of a tooth's root. Despite its effectiveness in resolving endodontic pathology, apicoectomy can lead to a loss of apical bone, compromising the structural integrity and long-term success of the affected tooth. In recent years, novel techniques employing biologically derived materials have emerged as promising adjuncts to traditional endodontic procedures, aiming to facilitate bone regeneration and enhance treatment outcomes.

This case report presents a comprehensive review of the principles and clinical applications of apical bone regeneration following apicoectomy, with a focus on the utilization of deproteinized bovine bone (DBB) and injectable platelet-rich fibrin (i-PRF). DBB, renowned for its osteoconductive properties and biocompatibility, serves as a scaffold for new bone formation, providing structural support and promoting osseous healing. Injectable platelet-rich fibrin, derived from the patient's own blood, offers a rich source of growth factors and cytokines essential for tissue repair and regeneration.

Through a synthesis of current literature and clinical case studies, this case report elucidates the mechanisms underlying apical bone regeneration with DBB and i-PRF, highlighting their synergistic effects in promoting osteogenesis and accelerating wound healing. Furthermore, the case report discusses the surgical techniques and protocols for incorporating DBB and i-PRF into apicoectomy procedures, emphasizing their role in preserving periapical bone architecture and optimizing endodontic outcomes.

In conclusion, the integration of deproteinized bovine bone and injectable platelet-rich fibrin represents a significant advancement in the field of endodontics, offering clinicians a reliable strategy for promoting apical bone regeneration and enhancing the success of apicoectomy procedures.

Gingival enlargement of unidentified etiology (Idiopathic gingival enlargement)

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Introduction: Idiopathic gingival enlargement is a rare entity characterized by massive enlargement of the gingiva. These enlargements occur due to a variety of factors, like plaque accumulation, hormonal changes, or systemic drug influence. Improper oral hygiene and microbial dysbiosis predispose an individual to plaque-induced gingival enlargement. Diagnosing the condition and its underlying cause through a detailed history is the mainstay for management.

Case Report: This case report describes a rare case of long standing massive gingival enlargement in a systemically healthy, non-syndromic young 35 years female with a chief complaint of swollen and bleeding from gums while brushing since a year , and pain and loosening of teeth involving both the arches.

Discussion: Idiopathic gingival enlargement is a rare condition of unknown etiology characterized by slow, progressive enlargement of the gingiva. It creates a platform for accumulation of plaque and leads to progression of periodontal disease. Halitosis may occur due to the collecting bacteria breaking down food debris.

Conclusion : The definitive diagnosis of the causative factors, improvement of oral hygiene, aesthetics, and function by removal of local factors, and surgical removal of the overgrowth are all essential for the successful treatment of gingival enlargement. Plaque and calculus, which are local factors, are known to contribute to gingival hypertrophy. As a result, oral prophylaxis and routine check-ups are crucial components of supportive periodontal treatment that cannot be overlooked.

Sculpting Smiles: Precision Lip Repositioning Surgery for Lasting Gummy Smile Harmony

Dr. Shireya Bansal

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Introduction: Gummy smile (GS), characterized by excessive gum exposure during smiling, poses an esthetic concern. Traditional lip repositioning surgery often results in high relapse rates. Achieving an ideal smile involves the harmonious interplay of facial hard and soft tissues. Lip repositioning, which limits the retraction of elevator muscles, provides a permanent solution for reducing gingival display.

Case Report: A 19-year-old female with gingival display (GD) underwent a modified lip repositioning procedure. Local anesthesia was administered in the upper labial vestibule. A partial thickness ribbon of keratinized gingiva was removed, and the mucosal flap was sutured at the mucogingival junction using 4-0 black silk sutures. Postoperative care included pain management with ibuprofen, ice pack application, and chlorhexidine rinses.

Clinical Results: The patient experienced minimal pain, edema, and bruising at the one-week postoperative visit. The GD on smiling decreased to 2 mm at the two-week postoperative visit. At the six-month follow-up, the reduction in GD was stable, achieving satisfactory esthetic outcomes without relapse.

Discussion: GS often results from hyperfunction of lip elevator muscles. While maxillary osteotomy is invasive, lip repositioning offers a less invasive alternative. This case addressed vertical maxillary excess with a hypermobile upper lip. Surgical lip repositioning combined with orthodontic treatment yielded favorable results, avoiding the morbidity associated with more invasive procedures.

Conclusion: Lip repositioning offers a predictable, less invasive treatment for GS, achieving controlled and harmonious esthetic outcomes. Proper treatment planning and patient communication are crucial for successful results.

Castle Wall Technique For The Immediate Implant Placement

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The castle wall technique is a minimally invasive immediate implant technique that offers patients predictable and excellent aesthetic outcomes. This technique was an evolution of process that began in Germany earlier in 2010.

360-degree ring of tooth root is prepared inside the jaw bone. The implant is then placed through this ring and anchored the jaw bone. Retaining this ring of root around the implant is like a protective shield that is essential to preserving a healthy jawbone that will not shrink overtime like traditional technique.

CASE REPORT: A 25 year old female reported to the department of periodontology with the chief complaint of missing 11. Preoperative x-ray and CBCT were performed. The direct implant through castle wall technique is then performed.

DISCUSSION: "Locking" the implant to the shield," as proposed by ZUHUR, a 360-degree socket-shield offers greater surface area that is available. This is a significant benefit. Using the CWST, it is significantly simpler to "lock" the implant to the coronal aspect of the shield in anterior teeth and premolars. Molars are more challenging because, unless the implant is positioned asymmetrically or a bigger diameter implant is used, the implant will typically not come into touch with the shield.

CONCLUSION: The usage of the castle wall approach showed improved soft tissue stability, reduced postoperative pain, and better aesthetics.

This method's ability to lock the implant on a larger surface area is one of its benefits.

Microscopic link between periodontal pathogens in Prosthodontics and Endodontics

Dr. Krishna Nanaware

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INTRODUCTION: Periodontal microbiology involves understanding the oral microbial ecology in patients requiring prosthodontic treatment or endodontic treatment. This review paper explores how the periodontal pathogens interact with prosthetic materials such as removable or fixed prostheses, restorative and endodontic therapy and lesions involving the endodontia and periodontium

METHODOLOGY: A search on various databases using keywords "Periodontal microbiology" OR "Periodontal pathogens" AND "Endodontic treatment" OR "Prosthodontic treatment" from the year 2010 to 2024 was done. After initial title screening and abstract screening, articles with the most relevance to the involvement of periodontal pathogens in patients undergoing endodontic and/or prosthetic treatment were taken into consideration

DISCUSSION: Keystone pathogen along with various other periodontal pathogens have been frequently detected in periapical lesions, endo-perio lesions and can contribute to persistent endodontic infections and treatment failures. Most red-complex periodontal pathogen have been found in the biofilms present around prosthesis which can lead to inflammation and tissue destruction around the prosthetic restorations, leading to prosthetic failures and compromising their longevity.

CONCLUSION: Proper oral hygiene practices, including regular brushing, flossing, and the use of antimicrobial mouth rinses, are essential for maintaining periodontal health around prosthesis and post restorative treatment. Understanding the microbial composition in patients undergoing endodontic or prosthodontic treatment can help guide treatment strategies to effectively manage any periodontal issues that may arise.

Hyaluronic Acid, Gingival Veneers And Composites-Shining Light On Black Triangles

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INTRODUCTION-Integrity of white and pink aesthetics is important to achieve harmony between teeth and periodontal tissues. Challenges in achieving this is maintenance of interdental papilla. Presence of the alveolar bone, proximal contacts and adjacent teeth determine position and shape of interdental papilla. Papilla anatomically represents small area, but is of aesthetic importance in anterior region. Interdental papillary deficiency creates open gingival embrasures, also called "black triangles" compromising aesthetics, retention of food and phonetic problems. The presence of a black triangle is ranked third perceived aesthetic problem behind caries and exposed crown margin.

Surgical approaches don't guarantee papilla regeneration, mainly in patients with thin gingival biotypes. Non-surgical approaches-hyaluronic acid, Gingival veneering, Flowable composites and porcelain veneers are employed. Gingival veneers are constructed using pink/flexible acrylics or silicone. This light-cured material mimics natural gingiva.

Hyaluronic acid, naturally occurring linear polysaccharide with glycosidic linkages, identified in gingiva have properties beneficial for regeneration.

SEARCH STRATEGY- It involved searching relevant online databases (Pubmed and google scholar) for literature search, which revealed key concepts and keywords (anterior aesthetics, black triangle, gingival veneers, papillae)

DISCUSSION-Hyaluronic acid gel has a predictable interdental papilla reconstruction effect of approximately 1 mm in the vertical direction. The hygroscopic nature of Hyaluronic acid allows space-filling and shock absorption in the black triangle area of the deficient papilla. Further, it aids wound healing and maintenance of structural integrity of tissues.

CONCLUSION-Injectable hyaluronic acid gel, gingival veneers and composite buildup for black triangle management could be considered a safe and promising treatment.

Guided Bone Regeneration: Pioneering Techniques and Breakthroughs in Periodontal and Implant Dentistry

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Introduction: Guided Bone Regeneration (GBR) has emerged as a cornerstone technique in periodontal therapy and dental implantology, enabling the regeneration of bone in areas with deficiencies due to disease or trauma. This review examines recent advancements in GBR, highlighting novel materials, biological enhancers, and minimally invasive approaches that are transforming clinical practices and outcomes.

Search strategy: A comprehensive literature review was conducted using databases such as PubMed, Scopus, and Google Scholar. Keywords included "guided bone regeneration," "bone graft materials," "barrier membranes," "biologic agents," and "minimally invasive techniques." Articles published from 2013 to 2023 were considered, with a focus on randomized controlled trials, systematic reviews, and meta-analyses.

Discussion: Recent innovations in GBR have significantly enhanced its efficacy and predictability. The development of advanced resorbable membranes and synthetic graft materials has led to improved clinical integration and outcomes. The incorporation of biologic agents, such as BMPs and PRP, has shown promising results in accelerating and enhancing bone regeneration. Additionally, minimally invasive surgical techniques have improved patient comfort and reduced recovery times, broadening the application of GBR. These advancements elevate success rates and widen the scope of GBR procedures.

Conclusion: The evolution of GBR materials and techniques has substantially improved the success and predictability of bone regeneration in periodontics and implant dentistry. Innovations in biologic agents and minimally invasive methods have further enhanced these outcomes. Ongoing research and technological advancements are expected to continue driving progress in GBR, offering even greater benefits in the future.

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Techniques Of Soft Tissue Ridge Augmentation- An Overview

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Primary wound closure is thought to aid in containing graft materials, providing blood supply to the surgical site, and preventing bacterial contamination and mechanical irritation of the surgical site. Four key features are important in achieving primary wound closure: (1) width of KM, (2) flap thickness, (3) flap flexibility (tension), and (4) vestibular depth. the underlying hard tissue. Soft tissue augmentation techniques may satisfactorily and predictably re-create aesthetic enhancement in mild to moderate horizontal defects, equivalent to mild to moderate type B defects⁶ or H-s/-m defects of HVC classification. Various soft tissue augmentation techniques have been described for pontic site development over a partially edentulous site. These techniques include a subgingival connective tissue graft, the roll technique or a connective tissue pedicle graft, full-thickness gingival onlay graft, and combination onlay interpositional grafts. Others have either adapted or modified these techniques to accomplish localized ridge augmentation around dental implants during the first or second stage of surgery using a modified roll technique, a rolled split palatal flap or a bevelled palatal approach. Free gingival graft, Acellular dermal matrix (ADM) with coronally advanced flap (CAF) and Injection of hyaluronic acid are also included in soft tissue ridge augmentation techniques.

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Violation of Supra crestal tissue attachment- A wake up call

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Maintenance of gingival health constitutes one of the keys for tooth and dental restoration longevity. An adequate understanding of relationship between periodontal tissues and restorative dentistry is paramount to ensure adequate form, function, esthetics, and comfort of dentition. The dimension of biologic width is essential for preservation of periodontium and removal of irritating factors results in damaging of periodontium. It is the total sum of combined supracrestal fibers, junctional epithelium and sulcus. Encroachment of biologic width becomes of particular concern when considering restoration of tooth that has been fractured or carious near the alveolar crest. Esthetically, it requires hiding of restorative margins below the gingival margin which may push down into the gingival sulcus resulting in violation of biologic width. Biologic width violations can be corrected by either surgical crown lengthening, apically repositioned flap or orthodontic extrusion of the tooth, thus moving the margin away from the bone. Therefore, the purpose of this presentation is to describe the biologic width anatomy, evaluation of its dimension and correction of its violation by different methods.

Biologic interactions of Endodontic Regenerative Biomaterials with PDLSCs

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Introduction: Endodontic procedures like RCT, RET and RS require placement of various endodontic regenerative materials in direct contact with periodontal ligament and its cellular population. Hence, investigating the biological interactions including cytocompatibility, cell differentiation and mineralization potential of periodontal ligament stem cells with endodontic regenerative biomaterials like calcium silicate-based, bioceramic based and resin-based cements and sealers, becomes imperative. The aim of this review is to present a qualitative synthesis of available in vitro studies assessing the biological interaction of PDLSCs and endodontic regenerative biomaterials.

Search Strategy: An advanced database search was performed in Google scholar, Scopus, EBSCO, Web of Science using keywords “endodontic regenerative biomaterials”, biologic interactions or biologic properties”, “PDLSCs” and “In vitro studies” between 2020-2024 . In vitro studies assessing the biological interactions of PDLSCs with various endodontic regenerative biomaterials were considered for inclusion.

Discussion: The above mentioned endodontic regenerative biomaterials exhibited adequate cytocompatibility in terms of cell proliferation, cellular viability and cellular migration. They also demonstrated the potential for mineralization, osteo/cemento-genic differentiation. Although the compositional differences, sample preparation methods, varying conditions and different material manipulations affects the biological properties PDLSCs and remain a subject for future research.

Conclusion: Within the limitations of the in vitro nature of the included studies, these biomaterials have shown promising performance and favourable outcomes in stem cell therapy and biologically based regenerative endodontic procedures. Further in vitro and in vivo investigations are necessary to confirm the suitability for clinical application.

Determinants of Tooth Abutment: Periodontal and Endodontic Analysis

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Introduction: The long-term prognosis of teeth functioning as abutments for dental prostheses hinges on their periodontal and endodontic status. A thorough assessment of these factors is crucial for ensuring restorative success. Periodontal disease, manifested by attachment loss, deep probing depths, and bone resorption, can severely undermine abutment teeth's structural integrity. Concurrently, endodontic involvement, marked by compromised pulp vitality and periapical pathology, significantly impacts abutment suitability.

Search strategy: Defining key concept, identifying keywords (abutment, periodontal prognosis, endodontic prognosis, periapical pathology) selecting databases (Pubmed and google scholar), Review and refine.

Discussion: Evidence-based strategies for managing compromised abutments, encompassing periodontal therapy, endodontic treatment, and surgical interventions, are outlined to optimize prognosis. By employing a meticulous, multidisciplinary evaluation protocol integrating periodontal and endodontic parameters, dental professionals can make informed decisions, enhancing restorative outcomes involving abutment teeth while ensuring their long-term viability.

Conclusion: This review elucidates the multifaceted criteria for evaluating prospective abutment teeth's prognostic viability, emphasizing an integrated periodontal-endodontic assessment. Key diagnostic indicators, including probing depths, attachment levels, mobility, furcation defects, and periapical radiographic findings, are examined. The interplay between periodontal and endodontic conditions and their combined impact on abutment longevity are explored, underscoring a comprehensive diagnostic approach's necessity.

Systematic Review Of Periodontal Diseases In Patients Undergoing Head And Neck Cancer Therapy

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INTRODUCTION: Cancer is projected to become the leading cause of death globally by 2040. Treatment options for oropharyngeal cancer include bone-modifying medications, immune checkpoint inhibitors, surgery, chemotherapy, radiation, stem cell transplantation, and CAR-T therapy. These treatments can lead to various oral side effects such as xerostomia, mucositis, infections, dysgeusia, osteonecrosis, trismus, and caries, impacting overall survival and quality of life.

SEARCH STRATEGY: Cochrane database, systemic and literature review.

DISCUSSION: Oral complications of cancer therapy can be classified as early (acute) or late (chronic). Acute complications arise during treatment and usually resolve within a month after completion, including oral mucositis, dysgeusia, hyposalivation, candidiasis, radiodermatitis. Chronic complications, occurring after treatment completion, includes long-term side effects trismus, radiation caries, osteonecrosis, and dysphagia, and may require dental care.

CONCLUSION: The potential side effects of head and neck cancer treatment are common and can have a profound impact on quality of life, health, and daily functioning. Preventive measures and timely management are crucial aspects of care. Periodontists play a vital role in this process by advising patients on controlling plaque effectively. The collaborative efforts of a multidisciplinary team comprising dental and medical professionals are essential for managing the adverse effects of cancer therapy.

Titanium Alloys – A boon for Implant Dentistry

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The usage of dental implants to replace missing teeth has significantly increased since the advent of titanium alloys for this purpose about 1981. Periodontal disease is the most prevalent cause of tooth loss in adults, yet there are other factors as well, like trauma and developing flaws, could potentially cause it. Contemporary dental implants made of titanium have excellent success rates and are hardly ever linked to problems or failure. The two primary alloys, Ti-6Al-4V and so-called commercially pure titanium (cpTi), both have clinical success rates of up to 99% after ten years. Both alloys have the ability to undergo osseointegration and are biocompatible when in contact with bone and gingival tissues. Studies on innovative titanium alloys created for orthopaedics reveal that they are not as beneficial as dental implants. It has been noted that there is limited room for development in dentistry and that the alloys cpTi and Ti-6Al-4V are very good materials. The experimental data indicates that both alloys exhibit strong bioactivity and osseointegration capabilities. It can be concluded that these materials will be utilised for dental implants for a considerable amount of time to come.

Crafting tomorrow's bodies: The promise of Tissue Engineering

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Introduction: Tissue engineering is a multidisciplinary area merging engineering, materials science, and biology to create therapeutic methods and substitutes for restoring, enhancing, or replacing biological functions. Through the integration of biomaterials, stem cells, and growth factors, novel treatment approaches have been developed, as evidenced by recent scientific research.

Search study: A systematic search was conducted across three databases, Embase, PubMed, and Scopus, to retrieve pertinent English-language articles. The search string employed combined terms related to tissue engineering, regenerative medicine, or bioprinting, ensuring a comprehensive review of relevant biomedical, bioengineering, and ethics literature.

Discussion: Tissue engineering provides a new era for therapeutic medicine; it is progressing very rapidly and extends to involve all tissues in our body. Three decades ago, tissue engineering was an idea and today it has become a potential therapy for several conditions. Dental pulp stem cells, belonging to pluripotent mesenchymal stem cells, and bone marrow-derived mesenchymal stem cells are commonly used in regenerative dentistry, especially for reconstructing craniofacial bone structures. Stem cell therapy is a groundbreaking approach in dental regeneration, offering innovative solutions and potential to advance treatments and improve patient outcomes.

Conclusion: Tissue engineering in Dentistry shows great potential for regenerating tissues affected by dental issues. Despite advancements in materials and techniques, achieving complete tissue regeneration remains challenging. Dentists must stay updated, contribute to research, and incorporate new technologies into clinical practice.

Tiny Particles, Big Impact : The Nanoparticle Revolution in Dental Care

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Healthcare biotechnology is a field that is always exploring more technological interventions for better healthcare management worldwide. In recent years, due to evolution in nanotechnology, nanomaterials have attracted more and more attention due to their superior properties compared to their macro scale counterparts, facilitating unique applications. The growth of nanotechnology and scope of its application has revolutionized the dental field progressing to emergence of "Nano dentistry".

Search Strategy: Publications related to implementation of Nanotechnology and Nano materials in prosthodontics were reviewed particularly. A computerised search on online electronic database PubMed using keywords "Nanotechnology", "nanomaterials", "nanometals" and "nanocomposites" was done. Articles with non-English languages, English translation not available were excluded. The relevant article were analysed from reference list as well.

Discussion: Nanomaterials revolutionize prosthodontics by enhancing the strength, durability, and aesthetics of dental prosthetics. They improve mechanical properties, ensure better color matching, and offer antibacterial and bioactive benefits. These advancements lead to longer-lasting, more natural-looking, and healthier dental restorations, significantly boosting patient satisfaction and treatment outcomes.

Conclusion: Undoubtedly nanodentistry confers numerous advantages over conventional systems, such as higher bio-regeneration, a notable antimicrobial effect due to anti-biofilm properties, increased hardness, and better strength. But, its overpricing, precise placement, associated toxicity, costly development, and international regulations limit the clinical exploration. Though despite all the stated hurdles, scientists are now working hard to find the least expensive methods to synthesize NP scaffolds that fits in the regulatory framework, as well as assist in placing the NPs into the right place.

Regenerating Smiles: The Promise of Stem Cell Therapy in Prosthodontics

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Introduction - Regenerative therapy in prosthodontics has been crucial for hard and soft tissue regeneration, encompassing processes like angiogenesis, osteogenesis, neurogenesis, and chondrogenesis. The practical applications of this technology in prosthodontics are advantageous for conditions such as maxillary sinus elevation, mandibular atrophy, bone pathologies, trauma, physiological bone loss, craniofacial defects, peri-implantitis, temporomandibular defects, and neural degeneration.

Search Strategy – Databases: PubMed, Google Scholar, Web of Science, Scopus.

Keywords: "stem cell therapy," "prosthodontics," "tissue regeneration," "dental implants," "osseointegration," "dental pulp stem cells," "PDL stem cells," "bone tissue engineering."

Inclusion Criteria: Full-text, peer-reviewed articles published in English between 2013-2023.

Exclusion Criteria: Abstracts, reviews, book chapters, and studies lacking experimental data.

Discussion - Preferred stem cells for osteogenesis include Dental Pulp Stem Cells, Stem Cells from Human Exfoliated Deciduous teeth, and PDL Stem Cells. Titanium scaffolds are widely used in dental implants due to their superior mechanical properties and durability. This review provides a concise overview of the latest treatment strategies in clinical practice, potential future technologies, and the role of dental tissue-derived stem cells in regenerative dentistry.

Conclusion- The regenerative dimension of prosthodontics has advanced significantly over the years, with numerous studies aimed at incorporating it into chair-side practice. While clinical application faces challenges like extraction of stem cells, physical, chemical, and biological properties of scaffolds, and storage and selection of growth factors, regenerative dentistry remains a rapidly growing field. Progress has been notably accelerated through the use of MSCs, including DSCs, BMMSCs, and AMSCs.

Role Of Tissue Engineering And Stem Cells In Prosthetic Dentistry

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Introduction: Tissue engineering and stem cell technologies have revolutionized prosthodontic rehabilitation by offering novel approaches to tissue regeneration and restoration. This abstract explores their role in enhancing outcomes for patients requiring prosthetic treatments.

Search Strategy: A systematic review was conducted using PubMed and relevant databases. Keywords included "tissue engineering," "stem cells," "prosthodontics," and variations thereof. Articles published from 2010 to 2023 were included, focusing on clinical trials, reviews, and experimental studies.

Discussion: Tissue engineering enables the fabrication of biomimetic scaffolds and bioactive materials tailored to promote tissue integration and regeneration in prosthodontics. Stem cells, particularly mesenchymal stem cells (MSCs), play a crucial role in enhancing biocompatibility and accelerating healing processes. Applications include dental implants with improved osseointegration, periodontal tissue regeneration, and bioengineered temporomandibular joint components, along with recreation of autologous organs for maxillofacial purposes .

Conclusion: The integration of tissue engineering and stem cells represents a promising frontier in prosthodontics, addressing challenges such as implant failure and inadequate tissue support. Continued research is essential to optimize these technologies, ensuring their adoption and efficacy in outcomes in dental rehabilitation.

The paper highlights the transformative potential of tissue engineering and stem cells in advancing prosthodontic treatments, offering a glimpse into future possibilities for enhanced patient care and treatment longevity.

Next-Gen Implantology: Customized Healing Abutments Unveiled

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Introduction: The unavoidable extraction of teeth in the esthetic area can be addressed through various treatment modalities. Immediate implants have emerged as a minimally invasive solution; however, immediate implant loading is not always feasible or recommended. Customized healing abutments offer an innovative approach to preserving soft tissue contour, eliminating the need for reopening surgery and provisional restorations to condition the mucosal contour.

Search Strategy: A comprehensive literature review was conducted to identify studies discussing the use of customized healing abutments for immediate implants. Databases searched included PubMed, Scopus, and Cochrane Library, focusing on clinical trials, case reports, and systematic reviews. Keywords used were "customized healing abutments," "immediate implants," "soft tissue contour," and "esthetic zone."

Discussion: The present cases describe a simplified chairside approach using customized healing abutments for immediate implants placed post-extraction in both anterior and posterior areas. This method maintains soft tissue contours while reducing clinical steps until the final restorations are delivered. Customized healing abutments provide an optimal environment for soft tissue healing, promoting a natural emergence profile with implant-supported restorations. The review highlighted consistent positive outcomes in soft tissue preservation and esthetic results across various studies. Additionally, the technique's ability to reduce the number of clinical steps and eliminate the need for reopening surgery was emphasized.

Conclusion: Customized healing abutments are effective in guiding soft tissue healing around dental implants, allowing for a natural emergence profile with implant-supported restorations. This technique reduces the number of treatment steps, preserves soft tissue contours, and eliminates the need for reopening surgery, making it a valuable approach in implant dentistry. Further research with larger sample sizes and long-term follow-ups is recommended to validate these findings.

Strategic Approaches To Treatment Planning And Complication Management in Patients with Implant Supported Full Mouth Rehabilitations and With Reduced Vertical Dimension : A Comprehensive Review

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This paper presentation offers a comprehensive review of strategic approaches to treatment planning and complication management in patients undergoing implant-supported full-mouth rehabilitations, particularly those with a reduced vertical dimension. As the demand for dental implant procedures continues to rise, it becomes imperative for dental professionals to understand the nuances and challenges associated with complex cases, such as those requiring full-mouth restorations and dealing with reduced vertical dimension.

The presentation begins by exploring the critical aspects of treatment planning. This includes meticulous assessment of the patient's oral health status, bone structure, periodontal condition, and occlusal relationship. Special attention is paid to patients with reduced vertical dimension, where careful evaluation and planning are crucial to achieving successful outcomes. Factors such as medical history, aesthetic expectations, and functional requirements are also taken into consideration during the planning phase.

Implant placement is another focal point of the presentation. Strategic positioning of dental implants is essential to ensure optimal support for full-mouth restorations. Techniques for assessing bone density, determining implant angulation, and achieving proper implant stability are discussed in detail. Emphasis is placed on maintaining adequate bone volume, especially in cases where vertical dimension is compromised, through techniques such as bone augmentation or sinus lift procedures.

Prosthetic design and fabrication play a pivotal role in the success of implant-supported full-mouth rehabilitations. The presentation delves into the selection of appropriate materials, customization of prosthetic components, and achieving harmonious occlusion. Special considerations are given to patients with reduced vertical dimension, where prosthetic adjustments may be necessary to restore proper facial proportions and phonetics.

Complication management is addressed comprehensively throughout the presentation. Anticipating and effectively managing complications such as implant failure, peri-implantitis, and prosthetic misalignment are essential for ensuring long-term success. Strategies for prevention, early detection, and prompt intervention are discussed, along with guidelines for managing complications specific to patients with reduced vertical dimension.

The presentation also emphasizes the importance of patient care and follow-up. Providing thorough pre-operative education, post-operative instructions, and regular follow-up appointments are essential for patient satisfaction and treatment success. Strategies for maintaining optimal oral hygiene and addressing patient concerns are also highlighted.

In conclusion, this paper presentation provides valuable insights and practical guidelines for dental professionals involved in the treatment of patients undergoing implant-supported full-mouth rehabilitations, particularly those with a reduced vertical dimension. By adopting strategic approaches to treatment planning and complication management, clinicians can enhance the predictability and long-term success of these complex procedures, ultimately improving patient outcomes and satisfaction.

Revamping of Maxillofacial Defects: New Horizons -A Review

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INTRODUCTION: Maxillofacial defects, resulting from trauma, congenital anomalies, surgical interventions, present intricate challenges. These defects can significantly impact an individual's quality of life & functions such as mastication, speech, facial expression. In recent years, advancements in surgical techniques, biomaterials, technology have revolutionized the management of maxillofacial defects, offering patients improved outcomes, enhanced reconstructive options.

SEARCH STRATEGY: Databases such as PubMed, MEDLINE, Google Scholar, Scopus, Web of science were searched upto March 2024 using keywords such as maxillofacial defects, rehabilitation, restoration, regeneration, for case studies and clinical trials. Almost 7 articles will be using to present the topic. Search objectives will be different techniques, materials that are using to revamp the defects

DISCUSSION: Surgical reconstruction is often first step in managing maxillofacial defects. Techniques such as bone grafting, microvascular free flaps are commonly employed. Following surgical intervention, customised prosthetic rehabilitation plays a critical role restoring function, aesthetics. Innovation such as CAD-CAM technology, 3D printing tissue engineering have enhanced precision and outcome. Regenerative approaches aim to restore the tissues to their original form and function through biological processes. Stem cell therapy, growth factors and biomaterials are at forefront of this research.

CONCLUSION: The management of maxillofacial defects demands a multidisciplinary approach encompassing surgical expertise, technological innovation, and patient-centered care. By fostering interdisciplinary dialogue and embracing emerging technologies, we can further refine our skill to reconstruction, ultimately enhancing the quality of life for individuals affected by these conditions

Digital Cast Partial Denture

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INTRODUCTION: In recent times, digital technologies have transformed the manufacturing of partial removable dental prostheses (PRDPs). This chapter examines present methods used in clinical settings for producing PRDPs, discussing their benefits, drawbacks, and the latest research on their clinical efficacy.

SEARCH STRATEGY: Partial removable dental prosthesis · Laser sintering · 3D printing · Non metal, PRDP · CAD–CAM · Stereolithography · Casting

DISCUSSION: Presently, there are multiple digital methods accessible for manufacturing PRDPs, encompassing subtractive and additive techniques. Subtractive milling is particularly suited for non-metal PRDPs, while additive techniques are predominantly employed for metal PRDPs. These digital approaches broaden the spectrum of materials available for PRDP fabrication, incorporating advanced polymers like PEEK. Additionally, they simplify intricate processes such as titanium PRDP casting, making them more feasible through digital means.

CONCLUSION: The analysis indicates that current evidence supports the promising clinical outcomes of these techniques. Laser sintering, in particular, has demonstrated increased patient satisfaction compared to traditional PRDP methods. However, it is advisable to conduct extended clinical trials to investigate the long-term effects of these techniques thoroughly. Furthermore, this review underscores the insufficient data available regarding the clinical performance of non-metal partial removable dental prostheses.

Mastering Aesthetics: Digital Smile Designing in Modern Dentistry

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INTRODUCTION: Digital Smile Design (DSD) represents a breakthrough in aesthetic dentistry, addressing the common challenge of visualizing treatment outcomes before they begin. By harnessing digital technology, DSD enables clinicians to create and present a customized smile design tailored to each patient's preferences and facial features. This not only enhances patient education and motivation but also improves treatment acceptance by providing a clear, simulated preview of the result. Developed as a comprehensive diagnostic and communication tool, DSD facilitates precise analysis of both dental and facial characteristics, ensuring a holistic approach to smile enhancement that boosts patient confidence and satisfaction.

SEARCH STRATEGY: The literature on digital smile designing in dentistry published through 2018 were identified with an online search of MEDLINE (via PubMed), Science Direct, Embase and Google Scholar databases. Qualitative and quantitative syntheses were carried out for original research studies.

DISCUSSION: Digital Smile Design (DSD) offers plethora of advantages by allowing patients to visualize and approve the expected results digitally before treatment, enhancing treatment predictability and patient acceptance. Facilitates precise digital analysis of facial and dental parameters, DSD supports customized smile designs that align with patient preferences, fostering emotional satisfaction and confidence. Improving communication among clinicians, interdisciplinary teams, and lab technicians, ensuring accurate treatment planning and outcomes. However, challenges include dependency on high-quality photographic documentation and the economic investment in 3D technology and training. Despite limitations, prospects include broader adoption of complete 3D workflows and advancements in software for enhanced facial aesthetics and virtual reality applications.

CONCLUSION: Digital Smile Designing not only helps patients to envision their treatment outcomes but also improves clinician's diagnosis and treatment planning.

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Abstract: Maxillofacial prosthodontics rehabilitates patients with craniofacial defects or disabilities due to disease, trauma, or congenital conditions. Advancements in 3D printing have significantly enhanced the precision, customization, and efficiency of prosthesis fabrication. This paper explores three fabrication methods: conventional, hybrid, and complete digital workflows, detailing their processes, advantages, and limitations.

The conventional method relies on manual techniques, involving steps like impression taking, wax modeling, and casting. While accessible and time-tested, it can be time-consuming and prone to human error.

The hybrid method combines traditional and digital techniques. It uses digital scanning and computer-aided design (CAD) for the prosthesis, followed by conventional manufacturing. This approach enhances fit and patient comfort by blending digital precision with manual craftsmanship.

The complete digital workflow uses 3D scanning, CAD, and additive manufacturing, enabling fully digital design and fabrication. This method produces highly accurate, personalized prostheses quickly, minimizing manual intervention and reducing errors.

Each method has unique benefits and challenges. The conventional method is valuable in settings with limited technology, the hybrid approach balances traditional and digital techniques, and the complete digital workflow offers superior precision and efficiency. This paper provides a comprehensive overview of these methods, guiding practitioners in choosing the best approach based on clinical needs and resources.

Border Molding Technique Using Conventional Or Digital Impression Technique

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INTRODUCTION: The quality of complete dentures depends significantly on the techniques and materials used for impressions. Initially, the green stick, a low-fusing tracing stick impression compound, was used for border moulding, introduced in 1907 by the Green brothers. This method required meticulous step-by-step moulding in small sections on a specialized tray to accurately capture vestibular shapes. While digital impressions have gained popularity among clinicians, they may overlook the importance of traditional border moulding, potentially compromising denture retention and stability. This article underscores the significance of conventional border moulding techniques during impression taking and discusses the recent advantages of digital impressions in denture fabrication.

SEARCH STRATEGY: Border moulding, Digital impression, Working impression, Complete denture retention, Acrylic denture, Denture impression

DISCUSSION: The findings reveal a contentious landscape regarding the superiority of digital impressions over traditional techniques. Both approaches demonstrate strengths in enhancing the precision and overall quality of complete denture impressions.

CONCLUSION: The superiority of digital impressions over conventional methods remains a subject of debate. Research suggests that digital impressions can offer increased comfort, improved clinical results, and reduced need for post-insertion adjustments compared to traditional methods.

Soft Tissue Barrier around Implants and Teeth

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INTRODUCTION: Dental implants have revolutionized tooth replacement, providing a reliable method for restoring function and enhancing oral health-related quality of life. In addition to their practical advantages, focusing on the aesthetic and biological aspects of the peri-implant soft tissue seal is essential. This soft tissue barrier is essential for maintaining the stability and health of dental implants and natural teeth over long term.

SEARCH STRATEGY: This paper examines the complex connection between soft tissues and implants or teeth, emphasizing their anatomical, physiological, and immunological dimensions. Important areas of discussion include the gingival seal, peri-implant mucosa and periodontal tissues, highlighting their roles in preventing microbial entry, promoting peri-implant health and aiding in osseointegration.

DISCUSSION: The soft tissue barrier at implants and teeth comprises the gingiva and periodontal tissues including the gingival epithelium, connective tissue, and underlying bone. Unlike natural teeth, implants lack a periodontal ligament, leading to differences in the attachment and response of soft tissues. The gingival epithelium forms a crucial interface between the oral environment and underlying tissues, providing a protective barrier against microbial invasion and mechanical stresses. The connective tissue layer supports the gingival epithelium and plays a vital role in vascular supply and collagen formation essential for tissue integrity. Maintaining a healthy soft tissue barrier is essential for preventing peri-implant diseases such as peri-implant mucositis and peri-implantitis, which can compromise implant stability and longevity.

CONCLUSION: In conclusion, the soft tissue barrier around dental implants plays a crucial role in both function and esthetics, emphasizing the need for comprehensive management during implant placement and follow-up care.

Occlusal Splints -Types And Effectiveness In Temporomandibular Disorders Management.

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INTRODUCTION: Temporomandibular disorders constitute a multifaceted and prevalent group of conditions affecting the TMJ and associated structures. It can significantly impact an individual's quality of life, leading to discomfort, disability and psychosocial distress. Among the diverse therapeutic modalities for TMD, occlusal splint therapy has garnered attention as a non-invasive intervention. Occlusal splints are custom -fitted oral appliances designed to optimized occlusal relationships, distribute forces evenly and reduce parafunctional habits. They are beneficial for reducing tension, decreasing muscle activity, and preventing harmful effects caused by TMD's. This noninvasive device, determine both the muscle relaxation and reversibly reposition the TMJ structures.

SEARCH STRATEGY: The search was conducted on databases like PubMed, Medline using keywords such as "TMJ Dysfunction".

DISCUSSION: Occlusal splints prevent patients from achieving maximum intercuspation. The conventional course of the intercuspation position is disrupted by separating the teeth and reducing the direct influence of cuspal inclination. Therefore, the patient's habits will be disrupted, and it will protect the TMJ, teeth, and associated structures.

CONCLUSION: Based on the findings from the present review, it can be concluded that, occlusal splints can treat various TMDs. However, there is no clear evidence that occlusal splints are superior to other treatment modalities in treating TMDs

Advancements in Hybrid Ceramics: Bridging Strength and Esthetics in Modern Dentistry

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Introduction: In recent years, the field of dentistry has witnessed significant advancements in restorative materials, particularly with the introduction of hybrid ceramics. These materials represent a unique blend of traditional ceramics and modern polymers, designed to combine the esthetic appeal of ceramics with the strength and versatility of composite materials.

Search strategy: Three databases were searched: PUBMED, EBSCO, and CHOCRANE. The keywords used were resin infiltrated ceramic, resin ceramic, CAD-CAM - resin nanoceramic, fluorapatite nanoceramic, ceramic infiltrated with resin, polymer-infiltrated ceramic, CAD-CAM composite, polymer-infiltrated ceramic-network, and nanoceramics.

Discussion: Hybrid ceramics represent a significant advancement in dental materials, blending the desirable properties of traditional ceramics with the flexibility and durability of resin-based materials. Hybrid ceramics offer distinct advantages over traditional ceramics such as improved fracture resistance, toughness and excellent aesthetic outcomes. Patient acceptance of hybrid ceramics is largely positive due to their natural appearance and minimal invasive preparation required.

Conclusion: This innovation has revolutionized dental restorations by offering improved properties that meet both functional and aesthetic demands. In this paper, we aim to explore the evolution of hybrid ceramics in dentistry, their composition, properties, and clinical applications.

Harnessing Light: Laser Applications in Future Prosthodontics

Dr. Nilisha Rao

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Introduction: Laser technology, represented by Light Amplification by Stimulated Emission of Radiation, has emerged as a powerful tool in modern dentistry. This review explores its application in prosthodontics, focusing on the rehabilitation of fixed partial dentures. The unique properties of various dental lasers, including diode, argon, Er,Cr,Er,Nd, and CO₂, enable their effective use on both soft and hard tissues. Compared to traditional methods, lasers offer advantages such as improved hemostasis, quicker wound healing, and enhanced patient satisfaction. This paper provides an in-depth analysis of intraoral laser procedures, their clinical efficiency, and patient outcomes in prosthetic rehabilitation.

Prosthodontics, a crucial branch of dentistry, has integrated laser technology to enhance the standard of care in both fixed and removable dental prostheses. Lasers are used for precise excision, quick healing, and improved tissue response. This review aims to elucidate the diverse applications and advancements of lasers in prosthodontics, focusing on their role in improving patient satisfaction and clinical outcomes.

Search Strategy: A comprehensive literature review was conducted using databases like PubMed, Google Scholar, and ScienceDirect. Keywords included "laser in prosthodontics," "dental lasers," and "laser-assisted prosthodontics." The search was limited to English-language articles published between 2000 and 2023. Studies discussing clinical applications, benefits, limitations, and advancements of laser technology in prosthodontics were included.

Discussion: Lasers have significantly improved prosthodontic procedures by offering precise tissue management, reduced postoperative complications, and enhanced patient comfort. They are used for both surgical and non-surgical procedures, including periodontitis treatment, peri-implant lesion management, and aesthetic dentistry. Commonly used lasers for oral tissues include carbon dioxide and Nd YAG lasers, while diode lasers are preferred for soft tissue management. Despite the benefits, challenges such as high initial costs and the need for specialized training persist.

Conclusion: Laser technology has revolutionized prosthodontics, offering numerous benefits in terms of precision, patient comfort, and clinical outcomes. The current applications are promising, but future advancements are necessary to overcome existing challenges and fully harness the potential of lasers. Continued research and innovation are essential to further integrate lasers into prosthodontic treatments and improve patient care. This review serves as a guide for innovative laser applications in prosthodontics, aiming to advance clinical practice.

Magnetic Mallet- Feel The Future- A Case Series

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For success of any dental implant, the quality and quantity of bone is the most important aspect. Implants placed in dense bone (D1 and D2) usually show better primary and secondary stability than those in poor quality bone (D3 and D4). A lot of native bone is lost during the conventional drilling technique. To overcome this shortcoming, an electromagnetic device was introduced known as Magnetic Mallet. This tool harnesses the principles of magnetism to provide a controlled, gentle impacting force. Instead of drilling out the bone, it preserves and improves density of the existing bone by condensing it apically as well as laterally.

Different tools are available in this device to perform procedures such as extraction, crown removal, osteotomy preparation, sinus lift surgery, and ridge expansion. In this case series, three patients of different age groups reported to the department of prosthodontics with the chief complaint of missing teeth in maxillary arch (poor bone quality and close proximity to maxillary sinus). Dental implants were placed using magnetic mallet device in these patients which resulted in a good clinical outcome and reduced post-operative complications.

3D CBCT evaluation of sealer placement using different techniques: An In-vitro study

Dr. Shivani Rawat

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Introduction: Success of root canal therapy depends upon thorough cleaning, shaping and three dimensional obturation. In order to obtain a fluid impervious seal, the core filling materials and the sealers used to seal the root canal must create different interfaces forming a monoblock. Greater penetration of sealer in root dentine, lesser will be the voids at the dentine–sealer interface. Hence, analysis of the dentin/sealer interface allows the determination of a filling technique which could obturate the root canals with least gaps and voids.

Aim and objective: The aim of the study is to compare the void volumes of sealer using three different root canal sealer placement techniques under CBCT.

Materials and methods: Twenty four single-rooted premolar teeth were selected and prepared. Specimens were assigned randomly into three groups. Bioceramic sealer was applied using gutta percha as Group 1, ultrasonic endodontic tip as Group 2, and lentulo spirals Group 3. Canals were then obturated with gutta-percha. Each specimen was then scanned using CBCT.

Result: Sealer placement techniques had a statistically significant effect on void formation. Maximum voids were observed in Group 1 and minimum in Group 3.

Discussion: The volume of voids present between the obturating material and dentin walls is analysed for desirable outcome. Therefore, in the present study, three sealer placement techniques were chosen and the sealer distribution was analyzed for voids.

Conclusion: The volume of voids of sealer were influenced by the type of placement techniques. Lentulo spiral has shown better adaptation of sealer on canal walls than gutta percha and ultrasonics, thus creating lesser volume of voids.

Endo-perio lesion: A synergistic approach

Dr. Tushar Tyagi

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Sahibabad*

AIM – This paper presentation aims to describe and discuss the management of an endo-perio lesion. Diagnosis and treatment is often challenging because these diseases have been primarily studied as separate entities and such primary diseases may mimic clinical characteristics of other diseases.

INTRODUCTION – •The periodontal-endodontic lesions have been characterized by the involvement of the pulp and periodontal disease in the same tooth.

- This suggests that one disease may be the result or cause of the other or even originated from two different and independent processes which are associated with their advancement.*
- Since then, the term “endo-perio lesion” has been used to describe this type of lesions due to the same inflammatory products found in both periodontal and pulpal tissues.*

CASE REPORT- •A 40-years-old male patient reported to the Department of Conservative Dentistry and Endodontics with the chief complaint pain on biting and sensitivity from hot and cold beverages in the lower right back tooth region which subside only after taking medication for last 10 days.

- Diagnosis -primary periodontal and secondary endodontic involvement was made.*

CONCLUSION - The case report highlights that with the proper diagnosis and case selection criteria, regenerative procedures could successfully treat an endodontic-periodontal combined lesion in a multi-rooted mandibular molar.

Comparison Of Post Operative Pain After Using Different Intracanal Medicament In Patients With Apical Periodontitis

Dr. Ankita Sharma

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INTRODUCTION: Following endodontic treatment, pain is frequently experienced. Pain following endodontic surgery might affect up to 40% of individuals. It is particularly upsetting when the pain starts or if it becomes worse quickly after receiving endodontic therapy. One term used to describe such an abrupt increase in pain in the literature is "flare-up." There is a range of 1.5% to 12.3% for the rate of flare-up. Postoperative pain has a complicated and multiple origin. It has to do with microbiological and iatrogenic causes. Peri-radicular tissues are irritated or injured by these causes. The main cause of significant post-instrumentation discomfort is the ejection of microorganisms and their metabolites from the apical foramen during root canal preparation. Therefore, the operator should use an efficient anti-microbial approach based on chemo-mechanical preparation in conjunction with the insertion of inter-appointment intracanal medications, particularly in instances that are infected, to avoid such an unfavorable scenario. Antimicrobial intracanal medications are thought to be a means of root canal system disinfection. The optimal intracanal medication should not only be antimicrobially effective but also have the capacity to prevent pain following root canal treatment.

AIM: This research aimed to evaluate the effectiveness of various intracanal medicaments, particularly corticosteroids alone or in combination, in easing post-treatment pain for patients with apical periodontitis.

OBJECTIVE: Objective is to evaluate and compare corticosteroid and its combination with other drugs as intracanal medicament for pain reduction in patients with apical periodontitis at baseline, 6, 24, 48, 72hrs and 1 week.

RESULTS: Group 1 (Placebo) had the highest pain scores consistently, indicating inadequate pain control without intracanal medicament.

Following Group 4 (Diclofenac and dexamethasone), the efficacy in pain reduction decreased progressively in Groups 3 (Diclofenac), 2 (Dexamethasone), and finally Group 1 (Placebo).

The combination of Diclofenac and Dexamethasone (2.29 ± 2.41) emerged as the most effective intracanal medicament for managing post-endodontic pain in patients with symptomatic apical periodontitis.

CONCLUSION: The clinical impact of Dexamethasone and Diclofenac potassium combination stood out as the most effective across multiple time intervals, showcasing its potential as a preferred intracanal medicament for post-endodontic pain relief.

Comparative Evaluation Of Antioxidants And Laser On The Reversal Of Bond Strength Of Bleached Enamel: An In Vitro Study

Dr. Shivani Mishra

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AIM: Aim of this study is to compare the effect of antioxidant & laser on the reversal of bond strength of bleached enamel.

MATERIALS AND METHODS: Labial enamel surfaces of 40 extracted human maxillary and mandibular anteriors were used in this study. 20 teeth served as group I (35% hydrogen peroxide) and remaining 20 teeth as group II (22% Carbamide Peroxide). 2 groups were then randomly subdivided into 4 subgroups of 5 samples each. Shear bond strength of specimens was tested under universal testing machine. The data was tabulated and statistically analyzed.

RESULTS: On overall intragroup comparison statistically significant difference was found both in 35% hydrogen peroxide and 22% carbamide peroxide group. On intergroup comparison statistically significant difference was found between both groups.

SBS of composite resin to bleached enamel using 35% hydrogen peroxide with adjuncts along with their mean and standard deviation in decreasing order was –

Group 1B > Group 1C > Group 1A > Group 1D

SBS of composite resin to bleached enamel using 22% carbamide peroxide with adjuncts along with their mean and standard deviation in decreasing order was –

Group 1B > Group 1C > Group 1A > Group 1D

CONCLUSION: Within the limitations of this study, it can be concluded that anti-oxidants used in this study increased the bond strength of bleached enamel and least bond strength was shown in laser treated samples.

Comparative Clinical Evaluation of Three Different Types of Class II Cavity Preparation; Conventional Class II, Conservative Class II & Clark Class II Using Modified USPHS Ryge Criteria -An In Vivo Study

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Dental caries is the most prevalent condition that dentists see in their clinical practice. On the basis of classification by Dr. G.V. Black, Class II caries is defined as caries on the proximal surfaces of premolars and molars.

The reconstruction of lost tooth structure to a satisfactorily anatomical contoured proximal surface in Class II direct composite restorations remain an issue for most dental practitioners even after so many advances in almost all aspects of direct resin placement. Clark's class II preparation is designed to minimize stress concentration, to facilitate the flow of composite resin and to increase the surface area of enamel bonding.

In the literature, there is a lot of data available on the composite material and matrix systems used for restoration, but no clinical study is conducted till date which compares the effect of cavity preparation design on the outcome of restoration hence, this study was designed to compare the clinical outcome of three different type of cavity preparation.

The aim of this study is to clinically evaluate and compare three different types of Class II cavity preparation - Conventional Class II, Conservative Class II & Clark Class II using Modified USPHS Ryge Criteria.

*Healing after endodontic surgeries using human amniotic membrane and laser bio stimulation-
A case report*

Dr. Rajat Shukla

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Introduction-Periapical surgery represents the final option for an endodontist when addressing periapical lesions resulting from pulp necrosis. Various regenerative materials such as bone grafts, growth factors, and membranes play pivotal roles in influencing the healing process following such surgeries.

In this presentation two cases will be presented using both amniotic membrane and laser biostimulation.

Case Report- The main purpose of the two cases presented here was to assess the potential benefits of a combination of human amniotic membrane along with laser biostimulation in terms of reduced post-operative discomfort, radiographic evidence of accelerated periapical bone healing and present a novel therapeutic option in the management of large periapical lesions. Two cases were treated through a combined amnion membrane and laser biostimulation. The patients were assessed for discomfort immediate post-operatively and after a week. The patients were recalled after 3 months for radiographic assessment of the periapical healing.

Discussion-In the present case we had used amnion membrane and laser biostimulation to leverage their respective benefits to enhance both clinical and radiographic healing outcomes. The human amniotic membrane (HAM) is known for its anti-inflammatory, anti-fibrotic, anti-microbial, and wound healing properties. These characteristics make it potentially beneficial in promoting tissue regeneration and reducing inflammation in endodontic surgeries. In endodontic surgeries, HAM is applied over the surgical site either as a sheet or as an extract (liquid form). For both the cases HAM sheet was used. It adheres to the tissue and releases growth factors that aid in tissue repair.

In both the cases, after the retrograde filling with MTA, Laser biostimulation of the surgical site was done. Laser biostimulation has been used to reduce post-operative pain and discomfort following root canal treatments and surgical endodontic procedures. It accelerates wound healing and can reduce the incidence of post-operative complications such as swelling and inflammation.

Conclusion - The findings from this series of cases affirm the effectiveness of integrating amnion membrane with laser biostimulation to improve radiographic healing outcomes while reducing postoperative discomfort. This approach represents a promising regenerative treatment option in periapical surgery.

Navigating the Challenges of Endo-Perio Lesions: A case report

Dr. Aditya Gupta

Department of Conservative Dentistry and Endodontics, Inderprastha Dental College and Hospital

AIM: This case describes and discuss the management of an endo-perio lesion. Treatment planning for these cases are often challenging because these diseases have been primarily studied as separate entities and such primary diseases may mimic clinical characteristics of other diseases.

INTRODUCTION : •The periodontal-endodontic lesions have been characterized by the involvement of the pulp and periodontal disease in the same tooth.

•This suggests that one disease may be the result or cause of the other or even originated from two different and independent processes which are associated with their advancement.

•Since then, the term “endo-perio lesion” has been used to describe this type of lesions due to the same inflammatory products found in both periodontal and pulpal tissues.

CASE REPORT: •A 70-years-old female patient reported to the Department of Conservative Dentistry and Endodontics with the chief complaint pain on biting and sensitivity from hot and cold beverages in the lower right back tooth region which subside only after taking medication for last 10 days.

•Diagnosis -primary periodontal and secondary endodontic involvement was made.

CONCLUSION: •The case report highlights that with the proper diagnosis and case selection criteria, regenerative procedures could successfully treat an endodontic-periodontal combined lesion in a multi-rooted mandibular molar.

Comparison Of Effectiveness Of Laser Irradiation And Five Different Irrigants In Mineral Depletion And Smear Layer Removal Of Root Canal Dentin: An In Vitro Study

Dr. Neha Shankar

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INTRODUCTION: The key to successful endodontic treatment is shaping, cleaning and disinfecting the root canal. Clinically, endodontic procedures use both mechanical instrumentation and chemical irrigants in the attempt to three dimensionally debride, clean and decontaminate the endodontic system. This in vitro study deals with the efficacy of various irrigants and laser in removing smear layer and causing mineral depletion of root canal dentin.

AIM: To evaluate and compare the effectiveness of laser irradiation and five different irrigants in causing mineral depletion and smear layer removal of root canal dentin using inductively coupled plasma-atomic emission spectrometry and scanning electron microscopy respectively.

*OBJECTIVES: · To evaluate and compare the smear layer removal of root canal dentin.
· To evaluate and compare the mineral content of root canal dentin.*

RESULT:

SEM ANALYSIS: Maximum smear layer removal was seen in Group 2(3% Sodium Hypochlorite) and Minimum in Group 1(Normal Saline).

ICP-AES ANALYSIS: For mineral depletion test, the maximum loss of calcium and phosphorus levels by mass percentage was showed by Group 6(BIOLASE -Diode Laser), whereas the maximum depletion of magnesium and potassium levels was showed by Group 3 (3% Sodium hypochlorite & 17% EDTA) and Group 5(Triphala).

CONCLUSION: Therefore, within the limitations of the study, it can be concluded that:

*· For smear layer removal 3% Sodium hypochlorite & 17% EDTA was found to be most effective.
· For mineral depletion test, the maximum loss of calcium and phosphorus levels by mass percentage was showed by BIOLASE-Diode Laser.*

“Influence Of Different Intracanal Medicaments On The Bond Strength Of Bioactive Glass Sealer” – An Invitro Study

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Introduction: The prime purpose of the cleaning shaping procedures is to manage intracanal infection by achieving a significant reduction in the intracanal bacterial load and infected dentin. Disinfection of the root canal is tedious goal therefore association of the mechanical preparation with irrigation solutions and intracanal medicaments was proposed to reduce the infection of root canal.

Aim and Objectives: To investigate the influence of the remaining volume of different intracanal medicaments on the bond strength of bioactive glass sealer.

Materials and Methods: 60 single rooted premolars were standardized and prepared using rotary files. The specimen were divided into three groups receiving Bio-C Temp, calcium hydroxide and Metapex intracanal medicament for 1 week. Following this medicaments were rinsed away and the samples were obturated with gutta percha/bioactive glass sealer. Each roots were sectioned and 3 slices of dentin 1 mm thick were obtained from each root third. And the push-out bond strength were evaluated.

Results: Bioactive glass sealer showed higher bond strength with the prior placement of bio-c temp medicament when compared to the other groups.

Discussion: dislodgement resistance of root canal filling from dentin could be an indicator of the durability and prognosis of endodontic treated teeth. Push-out test is considered a reliable method to measure the root canal filling materials bond strength.

Conclusion: Bio-c temp proved to be better intracanal medicament than other tested groups in terms of the push out bond strength of the sealer.

Comparative Evaluation Of Efficacy Of Various Volumes Of 2°C Normal Saline In Reducing Post Operative Pain In Patients With Irreversible Pulpitis And Symptomatic Apical Periodontitis

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INTRODUCTION: This study addresses the crucial aspect of efficient pain management during and after root canal procedures, emphasizing the impact of postoperative pain on treatment outcomes. The study delves into the inflammatory reaction and phases of pain perception and the repair process. Cryotherapy does not involve the application of cold, but rather removal of heat.

AIM: To comparatively evaluate the efficacy of 10ml, 15ml and 20ml 2°C normal saline on post endodontic pain reduction in a tooth with irreversible pulpitis with symptomatic apical periodontitis.

*OBJECTIVES: 1. To evaluate and compare the efficacy of varying volumes of 2°C normal saline in reducing post-operative pain in teeth with Irreversible pulpitis with apical periodontitis.
2. To quantify the minimum volume of 2°C normal saline required to reduce postoperative pain in teeth with Irreversible pulpitis with apical periodontitis.*

METHODS: A total of 60 single-rooted teeth were utilized to prevent the spread of cold saline into surrounding canals. Endodontic treatment included BMP with various irrigants, and the canal was further irrigated with either 2°C cold saline or normal saline.

Pain assessment was conducted at baseline, 6, 24, 48, and 72 hours after temporization by using NRS Scale.

RESULTS: The study found that the volume of cold saline significantly influenced post- endodontic pain. Cryotherapy demonstrated promising results in pain reduction, with notable differences between groups at various time intervals.

Baseline- Group 3 > Group 2 > Group 4 > Group 1

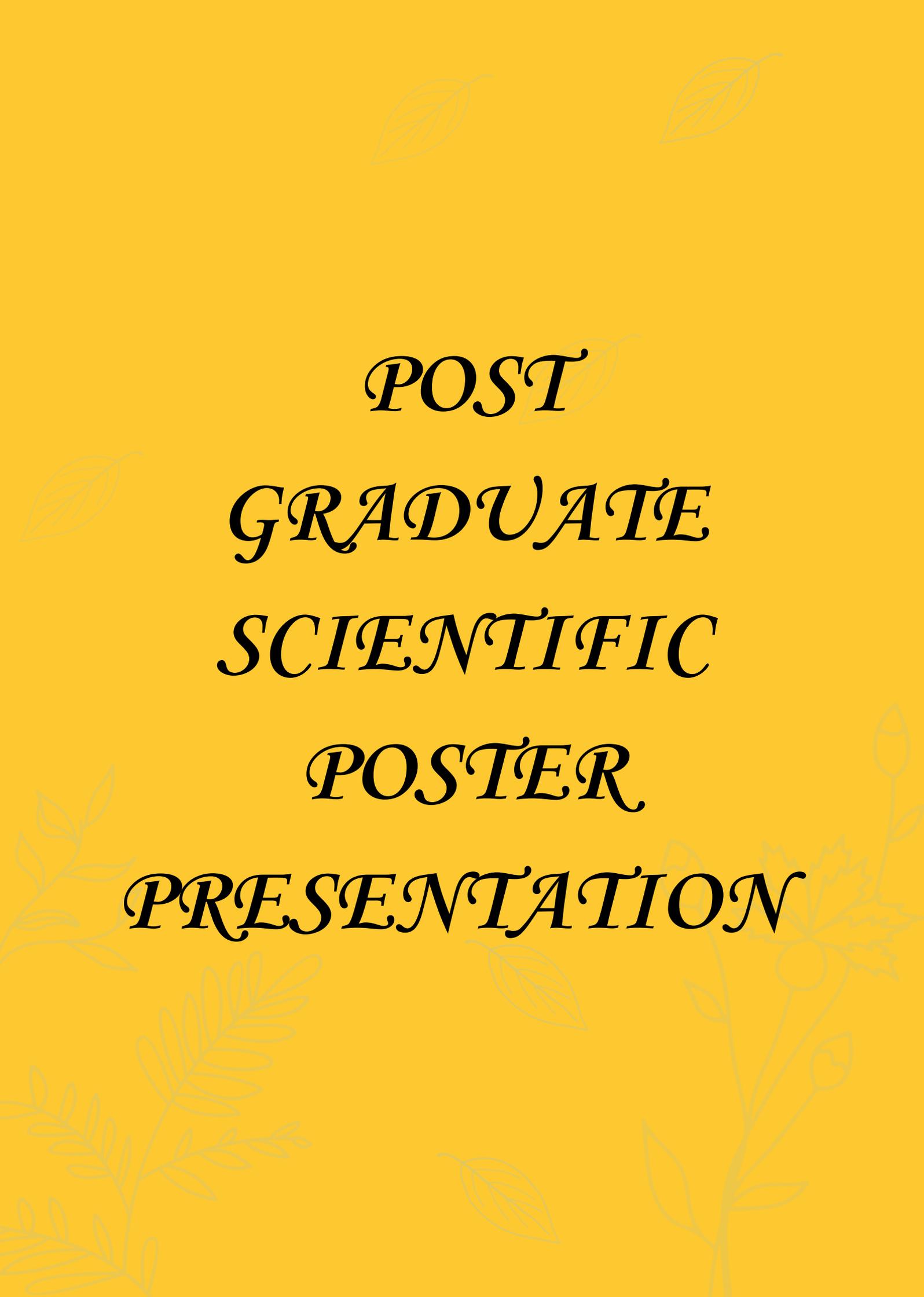
At 6 hrs- Group 2 > Group 4 > Group 1 > Group 3

At 24 hrs- Group 3 > Group 4 > Group 1 > Group 2

At 48 hrs- Group 3 > Group 1 > Group 2 = Group 4

At 72 hrs- Group 2 = Group 3 > Group 4 > Group 1

CONCLUSION: In conclusion, this study highlights the importance of effective pain management during inter appointment root canal procedures and less use of analgesics during inter appointment. Thus, introducing cryotherapy as a promising method to reduce inter appointment pain.



*POST
GRADUATE
SCIENTIFIC
POSTER
PRESENTATION*

Regeneration In Endodontic Surgery Using Human Derived Bio Resorbable Membrane

Dr. Jyothi Mamidala

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Endodontic surgery refers to the surgical management of a tooth a periapical or peri-radicular lesion that cannot be resolved with an orthograde endodontic approach. It is often considered as a last resort to preserve a tooth when conventional endodontic retreatment is not feasible or is associated with therapeutic risks.

The outcome of wound healing is either repair or regeneration, depending on the nature of the periapical wound, the number of available stem cells and growth factors, and the micro-environmental cues of the surgical site. Regenerative techniques improve peri-apical lesion healing after endodontic surgery. Regeneration can fully restore the architecture and biological functions of the original tissue. In surgical endodontics, the tissues of interest include the bone, cementum, and periodontal ligament.

Regenerative techniques, especially barrier membranes, bone grafting, platelet-rich fibrin (PRF), platelet-rich plasma (PRP) is widely applied to promote tissue and bone regeneration. PRF consists of an autologous leukocyte-platelet-rich fibrin matrix, composed of a tetra molecular structure, with cytokines, platelets, cytokines and stem cells within it, which acts as a biodegradable scaffold that favours the development of micro vascularization and is able to guide epithelial cell migration to its surface. The success of the PRF protocol depends directly on the handling, mainly, related to blood collection time and its transference for the centrifuge.

Amnion-derived cells have been reported to have multipotent differentiation ability, and these cells have attracted attention as a cell source for cell-transplantation therapy. The amnion possesses considerable advantageous characteristics: the isolated cells can differentiate into all three germ layers; they have low immunogenicity and anti-inflammatory functions.

Human biological membranes act as a barrier and includes inherent biological components, such as epidermal growth factor, basic fibroblast growth factor (bFGF), keratinocyte growth factor, and vascular endothelial growth factor, making it an excellent bio-conductive and bio-inductive material to accelerate wound healing.

Recently, there has been a trend in using these biological membranes in various medical fields such as orthopaedics' in cases of knee osteoarthritis, plastic surgery, ophthalmology and also for reconstructive surgeries of internal organs.

To the best of our knowledge, there are limited studies including the use of these membranes in endodontics. Therefore, the present study is conducted to evaluate the potential of these membranes on bone regeneration of periapical defects of endodontic origin and compare with the other bone regenerative modalities.

SP-02

Vitamin D, Immunity and Dental Caries

Dr. Shweta Raj

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Among all the vitamins, Vitamin D plays a major role in calcium absorption, innate immunity, cell differentiation and cell maturation. Vitamin D shows effects through Vitamin D receptors (VDR) which is present in the nucleus of every cell of our body. Defective enamel sites may provide sites for cariogenic bacteria and affect the immune system. Immunity also plays a major role in maintaining the health of the tooth surface and its structure. Vitamin D is activated by sunlight. During sunlight exposure 7-dehydrocholesterol in the skin absorbs UVB and is converted to previtamin D₃, which in turn isomerizes to vitamin D₃. Vitamin D₃ further absorbs UVB to convert into various photoproducts. Vitamin D is metabolized sequentially in the liver and kidney into 25-hydroxyvitamin D. 25-hydroxyvitamin D is the major circulating form and 1,25-dihydroxyvitamin D is the biologically active form. 25-hydroxyvitamin D is converted to 1,25-dihydroxyvitamin D by 25-hydroxylase. 1,25-dihydroxyvitamin D binds with protein to form a complex to activate LL-37 peptide. LL-37 prevents and neutralizes biofilm and bacteria which form caries. We can say that Vitamin D does not directly but indirectly prevent dental caries by promoting immunity and biomarkers such as LL-37, IL-6 and IL-17A which prevent caries and repair the tooth surface.

SP-03

Bioceramics

Dr. Shreya Garg, Dr. Nikhil Bhardwaj

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Advances in endodontic material sciences contribute significantly to the exponential growth in endodontics. Bio-ceramics are amongst the recently introduced materials in endodontics which have changed the face of endodontics. The main functions of root canal sealers are (i) sealing off of voids, patent accessory canals, and multiple foramina, (ii) forming a bond between the core of the filling material and the root canal wall, and (iii) acting as a lubricant while facilitating the placement of the filling core and entombing any remaining bacteria. Bio-ceramics are biocompatible ceramic materials or metal oxides with enhanced sealing ability, antibacterial and antifungal activity applied for use in medicine and dentistry. Endodontic bioceramics are not sensitive to moisture and blood contamination and therefore are not technique sensitive. Bioceramics include alumina and zirconia, bioactive glass, coating and composites, hydroxyapatite, and resorbable calcium phosphates. They can function as cements, root repair materials, root canal sealers and filling materials, which have the advantages of enhanced biocompatibility, potential increased root strength following obturation, antibacterial properties and sealing ability.

The aim of my poster is to highlight bioceramic materials and their importance in dentistry.

Guided Endodontics: Static And Dynamic Navigation.

Dr. Arpita Bhatia, Dr. Aviral Singhal

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Guided endodontics is also known as Targeted Endodontic Treatment (TET). It represents a paradigm shift in root canal treatment offering unparalleled precision and predictability in clinical practice. This new approach is developed to localize calcified root canals in a minimally invasive way, also beneficial in removal/insertion of fiber posts and treatment of teeth with special morphological abnormalities.

It is implemented either with the help of template analogues to guided implantology i.e. static navigation or by means of dynamic navigation based on camera marker system.

Static Navigation employs pre-operative CBCT imaging which is merged with a surface scan and a template or a surgical guide is fabricated, either by subtractive and additive manufacturing. It enables accurate access cavity preparation and instrumentation ensuring precise canal location and preservation of tooth structure.

Dynamic Navigation ensures real-time feedback and continuous guidance during root canal instrumentation. By tracking handpiece movements within the root canal system, dynamic navigation facilitates enhanced canal negotiation, irrigation, and obturation.

In Conclusion, guided endodontics provides superior precision in various procedures in a minimally invasive manner and ensures optimal treatment outcome.

Static Vs. Dynamic Navigation For Endodontic Microsurgery

Dr. Pratik Bansal, Dr. Mampi Biswas

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Introduction: The field of dentistry has made significant progress with the help of three-dimensional (3D) navigation system, which help us to digitalize surgical processes. This provides us precision as well as accuracy while treating patients. In the field of endodontics, these computer-aided 3D systems are being used for accessing and localizing canals in calcified teeth, removal of fiberglass posts, and in peri-apical surgeries etc.

Preservation of important anatomical structures becomes necessary while performing root-end resection or peri-apical surgeries. But it is clinically difficult to achieve accurate root-end resection due to the limited field of view, inconvenient perspective, and interferential bleeding among other factors. 3D guided endodontics play vital role here. 3D guided endodontics can be achieved in two ways- Static and Dynamic navigation.

Search strategy: Digital systems are becoming ubiquitous in our lives and interconnectivity has drastically increased since the start of this millennium. Digital systems have taken important place in dentistry also. These digital systems include cone-beam computed tomography (CBCT), 3D printed objects, dynamic navigation, haptic simulators, intra oral cameras, cancer detection system etc.

Discussion: 3D printed objects are models and templates produced using a computerized process using CBCT data. They are based on virtually rendered dentition and associated skeletal tissue. The automated process involves devices such as 3D printers, which use different 3D printing techniques to produce objects. Dynamic navigations are computer systems that generate interactive 3D virtual simulations of teeth and skeletal tissues by replicating the likely challenges of various treatment procedures and provide multisensory peri-operative feedback in real time.

Conclusion: This poster describes the comparative evaluation of the effectiveness of static as well as dynamic navigation in the field of endodontic microsurgery.

SP-06

Endodontic Periodontic Interrelationship

Dr. Kiran Babu

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Abstract - The relationship between periodontal and endodontic disease has been a matter of speculation for many years. The endodontium and periodontium influence each other during health, function and disease.

It has been found that microbiological similarities exist between infected root canals and advanced periodontitis. Similarities in the composition of cellular infiltrates also suggest the existence of communication between the pulp and periodontal tissues. Their exist three main pathways of communication between the pulp and periodontium. They are the apical foramen, the accessory canals and the dentinal tubules. Apical foramen is the major pathway of communication. The pulp and periodontal tissues are derived from highly vascular mesenchymal tissues of the tooth germ. The periodontal tissues and pulp-dentine complex form an intimate continuum through which pathological changes of either one may lead to infection of the other. The management of such lesions can be fraught with diagnostic and therapeutic difficulty requiring a methodical multidisciplinary approach. Treatment and prognosis of endodontic-periodontal lesions depend on the cause and the correct diagnosis.

SP-07

Artificial Intelligence: Revolutionizing Restorative Dentistry

Dr. Supriya Ojha

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Restorative Dentistry is primarily concerned with restoring and maintaining tooth structure, which is considered vital for its aesthetic and function. Over a period of time, the field has been redefined through a combination of cutting-edge technology and conventional practices.

Artificial Intelligence (AI) has remarkably increased its presence and significance in dentistry over the years. It is the ability of machines to perform tasks that normally require human intelligence. AI can mimic the intelligence of humans to undertake complex predictions and decision-making.

The models of AI, convolutional neural networks, and artificial neural networks, have applications in diagnosis, treatment planning, prediction of treatment outcomes, image analysis, material selection, biomaterial research, patient management, maintenance of records, quality assurance monitoring, and enhancing aesthetic outcomes. Integrating Artificial Intelligence with restorative dental procedures is no longer an alternative but a requirement to achieve maximum success.

Moreover, as AI technologies continue to advance, hence, dental practitioners must navigate the challenges related to data privacy, embrace comprehensive training, and uphold ethical standards. Collaborative synergy between dental professionals and AI technology is crucial for unlocking the full potential of Artificial Intelligence in advancing restorative dentistry.

This poster presents the applications of Artificial Intelligence and its potential in restorative dentistry through an analysis of the present state of affairs.

SP-08

Nanobiomaterials In Restorative Dentistry: A Paradigm Shift

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Nanodentistry is defined as the science and technology of treating and preventing oral and dental diseases, preserving and improving dental health using nanostructured material. Nanotechnology is extensively used, especially in medicine. This technology, applied to dentistry is expected to allow nearly perfect oral health by the use of nanomaterials and biotechnologies, including disinfection, tissue engineering and different technologies such as nanorobots. It is simple to examine and modify the atoms, chemical bonds, and molecules that are present between different compounds using nanotechnology.

In past decade, it has been concentrated on dental nanocomposite, with a hope that contemporary nanocomposites with ceramic nanofillers should offer increased strength, esthetics and durability. Dentistry's major concerns include preventing tooth decay and treating lesions and cavities and this technique encourages the concept of minimally invasive dentistry, creating a more dentist friendly atmosphere. In many products which helps to maintain oral health, the addition of nano biomaterials has recently been developed using biomimetic methods. Incorporation of nanotechnology will eventually make it possible to rebuild and repair dental hard tissues by their antibacterial, remineralizing, regeneration and anti-inflammatory actions, they guard against tooth cavities.

SP-09

Platelet-Rich Fibrin: Dawn Of A New Era In Dentistry

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Platelet-rich fibrin (PRF) is an improved version of Platelet Rich Plasma (PRP), a fibrin matrix which consists of growth factors and cytokine, can serve as a resorbable membrane facilitating wound healing. It is a second-generation platelet concentrate which is prepared from the patient's own blood free of any anticoagulant. Platelet-rich fibrin (PRF) is a cutting-edge technique used in dentistry to promote healing and tissue regeneration. PRF involves isolating platelets from the patient's blood to create a concentrate rich in growth factors and proteins that aid in the natural healing process. Platelet Rich Fibrin (PRF) has gained significant attention in the field of conservative dentistry due to its regenerative properties. In conservative dentistry, PRF can be utilized for various applications as vital pulp therapy, endodontic treatment with periapical pathology. Rapid advances in biotechnology over the last two decades have allowed for the development of various platelet concentrates and a new approach for pulp therapy: regenerative endodontic therapy with direct pulp capping. PRF scaffolds and growth factors can revascularize young permanent teeth with necrotic pulps and support tissue development. To conclude Platelet-Rich Fibrin (PRF) plays a valuable role in conservative dentistry by promoting tissue regeneration, reducing inflammation, and improving the outcomes of various dental procedures.

SP-10
Self-Healing Smart Composites

Dr. Jyotsna Joshi

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College And Research Centre*

INTRODUCTION: Self-healing smart composites are materials that can recover or restore when mechanical damage occurs. They are promising materials capable of preventing secondary caries and closing marginal gaps. This can be achieved through the incorporation of microcapsules which when rupture release polymerizable healing agents that are able to seal a crack and stop its propagation. This review focuses on various self-healing mechanisms of these materials, methods used to evaluate their self-healing properties, and their applications in restorative dentistry along with the recent advancements.

SEARCH STRATEGY: An electronic search was carried out in May 2024 using keywords: self-healing, composites, microcapsules, self-repair and relevant articles were included for the review.

DISCUSSION: The most widely used approach to create self-healing dental composites involves encapsulating a healing agent within polymer shells and dispersing these microcapsules within the acrylate matrix of the dental composite. To assess the self-healing abilities of these composites, researchers can examine changes in their fracture toughness before and after the healing process using a test called the Single Edge V-notch beam test.

CONCLUSION: Autonomic self-healing composites significantly improve the service life of polymeric materials as composites repair using microcapsules might be effective to a greater extent than those restored using macroscopic repair techniques.

Dr. Sajal Jain

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Introduction: Digitising restorative dentistry refers to the integration of advanced digital tools and technologies to enhance the diagnosis, planning, and execution of restorative dental procedures. Although the digitalization process was initially confined to CAD/CAM (computer-aided design/computer-aided manufacturing) dental procedures, nowadays a much wider range of dental procedures have been revolutionized by their ongoing digitalization.

Digital Tools and Technologies: The number of digitalized procedures and devices that have been incorporated into restorative dentistry is substantially growing. Digital photograph cameras, spectrophotometers for tooth shade matching, intraoral and extraoral scanners and 2D/3D radiological devices, spectrophotogrammetry, facial scanners, and jaw track motion systems are the main devices used to obtain digital information in restorative dentistry.

Benefits of Digitisation

- *Enhanced Precision*
- *Improved Efficiency*
- *Patient Comfort*
- *Predictability and Consistency*

Challenges and Considerations

- *Cost: Initial investment in digital technologies can be substantial, posing a barrier for some dental practices.*
- *Learning Curve: Adoption of new technologies requires training and adaptation, which may be time-consuming and challenging for practitioners.*
- *Integration: Ensuring seamless integration with existing practice management systems and maintaining data security are crucial considerations.*

Conclusion: Digitising restorative dentistry offers significant advantages in terms of precision, efficiency, and patient comfort, despite the challenges associated with cost and integration. As technology continues to evolve, the digital transformation of restorative dentistry is poised to deliver even greater innovations, ultimately improving patient outcomes and advancing the practice of dentistry.

The Adhesion Conundrum: Understanding Effects on Indirect Restorations

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INTRODUCTION: Modern dentistry relies on indirect restorations for durable, aesthetically pleasing tooth repairs. Advanced materials and techniques ensure both structural integrity and cosmetic appeal, boosting oral health and confidence. The choice between luting and bonding techniques is crucial, with luting using cements and bonding employing adhesives for mechanical and chemical bonding, respectively. This overview contrasts these methods, emphasizing their dental importance.

SEARCH STRATEGY: An electronic search without time restrictions was undertaken in May 2024, in the databases the terms used were indirect restorations and/or luting and/or adhesion and/or resin cement and/or GIC etc.

DISCUSSION: The choice between luting and bonding techniques crucially affects indirect restoration outcomes. While luting offers simplicity, bonding provides superior retention, aesthetics, and durability. Bonding often leads to better marginal adaptation and reduced microleakage, but requires meticulous attention and proper isolation. Selecting the technique should consider material, restoration type, clinical situation, and clinician expertise for optimal patient outcomes.

CONCLUSION: The studies indicate that ceramic crowns cemented with luting composite or self-adhesive resin cement generally exhibit higher retention and failure loads compared to conventional glass ionomer cement. Among resin cements, self-adhesive resin cement shows the highest retentive strength, followed by total-etch and self-etch resin cements. Total-etch cement appears to be more reliable than self-adhesive cement for luting endocrowns in terms of retention.

SP-13

Fluorinated Urchin like Hydroxyapatite (FUHA) as Versatile Filler for Dental Resin Composite

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Dental caries is a common chronic infections, resulting from tooth-adherent cariogenic bacteria, which metabolize sugars to produce acid, demineralizing the tooth structure and leads to pulpitis. Restoration with dental resin composite became one of the most popular management of caries. Still existing DRCs suffer from low fracture strength and anti-caries bioactivity. Fluorinated urchin like hydroxyapatite(FUHA) with a three dimensional whisker structure and bioactive components of calcium, phosphorus and fluorine was designed and synthesized. DRCs constructed with the structure/function-integrated FUHA were developed for the restorative treatment of cavitated dentin caries. FUHA can be firmly embedded in the resin matrix and form micromechanical interlocking at the fillers/resin matrix interface, thereby endowing DRCs with superior physiochemical properties. FUHA with 50 wt% loading in resin matrix endowed DRCs facilitate remineralization property, cell viability, promotion of dental pulp stem cell mineralization and antibacterial properties. Therefore , FUHA filled DRCs have potential as a promising strategy for tooth restoration and anti-caries activity.

SP-14

Nanorobots -Improved Precision and Accuracy in Endodontic Treatment

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Nanotechnology has revolutionized all aspects of health including the dentistry. Nanorobotics involves creating microscopic machines or robots at the nanometer scale. These nanorobots have the potential to enhance biomedical procedures with minimal invasiveness, benefiting patients requiring continuous monitoring of bodily functions. In dentistry, dental nanorobots could utilize specific motility mechanisms to navigate human tissue precisely, acquire energy, and sense their surrounding to manipulate in real-time. Treatment possibilities may encompass repairing carious teeth, eliminating tooth imperfections, and conducting non-vital tooth bleaching for pulpal regeneration inducing anesthesia. Additionally, they could address hypersensitivity by remineralizing dentinal tubules and serve aesthetic purposes. By swimming in the pulp chamber and canal, these nanorobots could prevent inflammation and manage infections effectively. Although nanorobotics research is still in its early stages, the potential for revolutionizing dentistry with enhanced accuracy, predictability, safety, quality of care, and speed of diagnosis and treatment is significant. The future applications of this technology in dentistry hold immense promise.

Guided Endodontics- A Dynamic Approach To Root Canal Treatment

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There are few complications that make root canal treatment more challenging and root canal calcifications are one such complication, characterized by deposition of tertiary dentin into the canal space. This deposition gets accelerated in teeth affected by traumatic injuries, chronic standing dental caries, auto-transplantation, orthodontic therapy, jaw fractures, orthognathic surgery, etc., leading to rapid obliteration of the pulpal cavity. As the canal becomes calcified it gets more difficult to locate, visualise, and treat the pulp leading to a compromised endodontic treatment. An effort to locate the residual canal may remove large amounts of dentin and there is a risk of root fracture, perforation and instrument separation. Thus a targeted approach that is Guided Endodontics was introduced as it can deliver more predictable treatment outcomes. Conventional guided approach is the static approach, which uses CBCT images merged with an optical impression creating the platform for the design of a virtual drill path subsequent to the clinical procedure of drilling using a guide. The dynamic navigation system (DNS) is a computer-aided guided technology that provides real-time feedback to the clinician regarding the drill path being prepared during treatment. The system uses multiple cameras and motion tracking devices attached to the dental handpiece and patient, and continuously compares the created path with the planned drill path using particular software on the CBCT images of teeth. Currently, DNS has been used in endodontics for accessing obliterated root canals and for more precise periapical surgery.

Multiple clinical applications using computer-aided navigation are being introduced in endodontics. Therefore, this poster will discuss and review this newer emergingsystem.

Dr. Ayushi Bhushan

Department of Conservative Dentistry and Endodontics, School of Dental Sciences, Sharda University

Dental materials have emerged in the last few decades with enhanced biological properties. The prime characteristics required for dental materials are that they should be compatible with oral cavity fluids such as saliva and gingival crevicular fluids. Their functionality should be enhanced in the presence of such biological factors. Smart materials offer innovative solutions for various dental procedures. They can adapt to oral environment such as temperature fluctuations, or pH changes to provide improved performance and longevity compared to traditional methods.

Materials like self-healing materials, antibacterial materials, bioactive materials, thermo-responsive materials and pH sensitive materials are some of the examples of smart materials. Restorative materials such as smart composites, smart ceramics, compomers, resin-modified glass ionomer, amorphous calcium phosphate (ACP)-releasing pit and fissure sealants, and other smart burs and orthodontic shape memory alloys have all benefited from the usage of smart materials in dentistry.

Conventional materials such as amalgam, composite and cements were widely used earlier. These materials gave good results but were not actively playing a role in oral environment and were passive in nature. With the advent of the smart materials, restorative dentistry offers improved performance, durability and biocompatibility compared to traditional materials.

Thus, by implementing this most advanced class of multifunctional material, treatment quality will improve for the patient. This poster presentation would highlight on the "smart materials" which holds great promise for the future.

SP-17

Inflamed pulp is capable of Healing

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Vital pulp therapy (VPT) consists of different treatment strategies to maintain the integrity and health of the teeth and preserve pulpal vitality in case of deep caries lesions approximating/involving the pulp or in case of pulp tissue exposure due to trauma or mechanical causes. VPT basically includes direct and indirect pulp capping and pulpotomy procedures such as partial and complete pulpotomy. Recent findings proposed VPT for broader focus and as an alternative approach even in symptomatic mature permanent teeth with deep caries lesions, aiming to maintain the pulp vitality over time and/or to avoid non-surgical root canal therapy.

VPT is basically focused on the concept that there is no best root canal filling material than vital pulp. Dental pulp tissue has a reparative potential that is crucial during the healing process of an amputated pulp, even in the case of irreversible pulpitis. Once the inflamed/infected pulp is removed, the repair potential of the healthy radicular pulp is preserved; thus, the tooth vitality is, at least to a certain extent, maintained. If the amputated pulp tissue is sealed by a biocompatible material that prevents (bacterial) micro-leakage, the clinical success of the treatment over time should be comparable with the one obtained with a conventional endodontic treatment.

Dr. Sadaf Naheed

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Restorative dentistry plays a pivotal role in preserving and enhancing oral health by repairing damaged teeth and restoring functionality and aesthetics. This field encompasses a wide range of treatments including dental fillings, crowns, bridges, implants and denture.

The traditional approach to restorative dentistry often involves the removal of substantial tooth structures to accommodate restorations such as dental crowns or bridges. However, this approach has several drawbacks such as loss of healthy tooth material, making it more susceptible to fractures or further decay, increased susceptibility to future complications, prolonged treatment time.

In recent years, there has been a paradigm shift in dental practice towards minimally invasive techniques that aim to conserve healthy tooth structures while achieving optimal treatment outcomes. In response to limitations which are there in traditional approach, minimally invasive techniques have emerged as progressive alternatives, promoting conservative approaches that prioritize the preservation of the natural tooth structure.

By utilizing state of the art materials and innovative bonding protocols, these techniques aim to mimic the natural structure and function of teeth while minimizing invasiveness. The principles of these techniques include early detection, intervention, precise diagnosis, conservative treatment planning and the use of advanced materials and techniques.

Minimally invasive restorative dentistry techniques offer numerous advantages over traditional approaches. These include preserving a healthy tooth structure, prioritizing the conservation of natural tooth material, maintain the structural integrity of the tooth, Minimize patient discomfort during treatment and faster recovery.

Finally, by preserving more tooth structure and utilizing adhesive bonding techniques, minimally invasive approaches contribute to improved long-term stability and durability of restorations. This poster will aim to enhance the knowledge and decision-making skills for dental practitioners, and foster a patient-centered approach which prioritizes conservative and sustainable dental care.

Hemisection & Radisectomy - Resection to Salvation

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INTRODUCTION-If left untreated, progressive inflammatory periodontal disease leads to attachment loss, which can impact the bifurcation or trifurcation areas of multirooted teeth. Managing and retaining mandibular molars with furcation involvement, especially when it has advanced to class II furcation, poses a significant challenge. Hemisection, the procedure of removing the compromised root and its associated crown portion along with the affected periodontal attachment, aims to preserve the remaining tooth structure. This approach facilitates the placement of a fixed prosthesis and helps maintain oral functionality.

CASE- A 65-year-old female presented with a year-long complaint of pain and discoloration in the lower left back tooth. Examination revealed severe decay in the mandibular molar, leading to a treatment plan of endodontic therapy followed by hemisection and mesial root resection. Post-treatment evaluations showed successful restoration with a crown and bridge.

DISCUSSION- Hemisection, involving the removal of the diseased part of a tooth with a lesion extending into the root, combined with prosthetic treatment, is a conservative procedure that improves pain and oral health while preserving chewing function. In this case, the patient's severe decay and pain were effectively managed through hemisection and mesial root resection, avoiding the need for extraction. Post-treatment evaluations showed successful restoration with a crown and bridge. The success of hemisection depends on careful case selection and adherence to treatment protocols, making it a valuable alternative to tooth extraction for preserving natural dentition.

CONCLUSION- Hemisection effectively treated a decayed molar, preserving tooth structure, relieving pain, and restoring function, proving a viable alternative to extraction.

Endocrowns: Revolutionizing Dental Rehabilitation

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INTRODUCTION: The clinical success of endodontic treatments depends on effective restorations that preserve tooth structure and functionality. Minimally invasive options like endocrown, fabricated using CAD/CAM technology, offer significant advantages in terms of ease of preparation, reduced clinical visits, and optimal tissue preservation.

CASE STUDY: A 24-year-old female, presented to department of conservative dentistry and endodontics with pain in her right lower back tooth. Diagnosed with symptomatic irreversible pulpitis and apical periodontitis in tooth #46, she underwent root canal treatment followed by an endocrown restoration. This approach leveraged her tooth's structure, providing a durable and aesthetic solution. Post-operative care included radiographic confirmation and follow-up visits to ensure long-term success and monitor healing and functionality.

DISCUSSION: The use of an endocrown provides an effective restorative option for teeth with short clinical crowns, especially in situations where traditional crown lengthening procedures might not be viable. This technique leverages the existing tooth structure and offers a durable and aesthetically pleasing solution. The endocrown approach minimizes the need for extensive tooth preparation and preserves more of the natural tooth.

CONCLUSION: The management of symptomatic irreversible pulpitis and apical periodontitis with an endocrown proved to be a reliable and minimally invasive option for restoring the function and aesthetics of teeth with short clinical crowns. Ongoing follow-up care is essential to ensure the long-term success of the endocrown and to monitor the patient's oral health.

From Enigma to Expertise: Endodontic Mastery of Premolars

Dr. Shivi Agarwal, Dr. Vini Chohan

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INTRODUCTION: The successful treatment of mandibular premolars in endodontics depends on accurate diagnosis and meticulous negotiation of the root canal system. These teeth often exhibit split canal anatomy, where a single root canal divides into multiple branches, with a prevalence of 1-3%, requiring specialized treatment approaches.

CASE REPORT: A 52 year old female patient reported to the department of conservative dentistry and endodontics complaining of pain in left lower back tooth region since 1 week. Diagnosis of pulpal necrosis with periapical abscess in tooth #34 was made. She underwent root canal treatment followed by rehabilitation with crown.

A 42 year old male patient reported to the department of conservative dentistry and endodontics complaining of food lodgement in right lower back tooth region. Diagnosis of asymptomatic irreversible pulpitis in tooth #45 was made and no periapical changes were seen. He underwent root canal treatment followed by rehabilitation with crown

A 22 year old male patient reported to the department of conservative dentistry and endodontics complaining of decay in lower right back tooth region since 2 weeks. Diagnosis of asymptomatic irreversible pulpitis with apical periodontitis was made in tooth #45. He underwent root canal treatment followed by rehabilitation with crown.

DISCUSSION: Premolars pose a unique challenge due to their complex root canal anatomy and variability. Multiple canals, accessory canals, bifurcations, and curvatures increase the risk of procedural errors like missed canals and perforations. Thin dentinal walls make premolars prone to fractures during and after treatment. Successful therapy relies on a thorough understanding of anatomy, advanced imaging techniques, and careful treatment execution. The choice of obturation and sealing materials is critical for long-term success.

CONCLUSION: This poster emphasizes the importance of advanced diagnostics, meticulous technique, and practitioner expertise in managing premolars. A detailed case report will illustrate contemporary endodontic strategies and materials for optimal outcomes.

Fiber Reinforced Composite Restoration: Innovation Of New Era

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The development of fiber-reinforced composite (FRC) technology has created a new era in metal-free, adhesive, esthetic dentistry. The advent of fiber reinforcement has expanded the potential applications of composite restorations in restorative dentistry, as they internally strengthen the restorations and reduce the occurrence of fractures.

This abstract provides an overview of the properties and clinical applications of fiber-reinforced composite restoration, highlighting its potential to revolutionize the field of dentistry.

Fiber reinforced composite is a reinforced ribbon that is made of a leno-woven, ultrahigh molecular weight polyethylene fiber. It is treated with cold gas plasma to enhance their chemical bond to the applied restorative materials.

They are placed either under the composite restoration or over it in a prepared groove, or circumferentially inside the axial walls. Polyethylene fibers act as a layer to absorb stresses, and to internally splint the tooth and reinforce the composite in more than one direction.

Application of a fiber layer in a restorative material increases the load-bearing capacity of the restoration and prevents crack propagation from the restoration to the tooth.

Fiber reinforced composite is biocompatible, esthetic, translucent, practically colorless and disappears within the composite or acrylic without show-through.

Fiber reinforced composite can be used in stabilizing traumatized teeth, restoring fractured teeth and creating a fixed partial denture and for direct-bonded endodontic posts and cores, orthodontic fixed lingual retainers and space maintainers.

In conclusion, Fiber reinforced composite restoration represents a significant innovation in dental restorative materials, offering a balance of aesthetics, functionality, and conservation.

SP-23

Biomimetics: A New Horizon In Restorative Dentistry

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Restorative dentistry is the study, diagnosis and integrated management of diseases of the teeth and their supporting structures and the rehabilitation of the dentition to functional and aesthetic requirements of the individual. As restorative dentistry continues to evolve, it integrates cutting-edge technology and research to offer more effective and patient centered care solutions.

The word 'Biomimetic' is derived from Latin word "bio" meaning life, and "mimetic" is related to the imitation or mimicking and it refers to the study of multi-disciplinary mechanisms and biologically produced materials to design novel products to mimic nature.

Biomimetics in restorative dentistry refers to the repair of affected dentition mimicking the characteristics of a natural tooth in terms of appearance, biomechanical and functional competences. This allows the tooth to function as one unit against functional forces and provides near normal biology and aesthetics. The biomimetic restorative protocols aim to achieve these results by stress-reducing protocols and bond-maximizing protocols. Dental materials which is used in biomimetic approach in restorative dentistry are glass ionomer cements, dental composite resin, dental ceramics.

The main objective of this poster is to discuss various biomimetic restorative treatment approaches and dental materials along with their future aspect.

SP-24

Nature's Remedy: The Role Of Herbs In Restorative Dentistry

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This poster delves into the utilization of herbal remedies within the realm of restorative dentistry. It examines the potential of herbal therapies to complement or enhance conventional dental procedures.

The poster explores the bioactive components present in various herbs, elucidating their mechanisms of action and their specific applications in restorative dental treatments. A concise overview highlights the advantages and challenges of integrating herbal remedies into restorative dentistry practice. Emphasizing the need for further research and clinical evidence, the poster aims to foster a deeper understanding among dental professionals about the role of herbal interventions in promoting oral health and optimizing treatment outcomes.

By showcasing the current state of knowledge and ongoing developments in this field, the poster serves as a catalyst for discussion and exploration of novel approaches to dental care incorporating herbal elements.

Navigating the Endodontic Maze: Choosing among root canal treatment, pulp regeneration and pulp revascularization

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Introduction: The primary reason for the majority of patient's visit to the dental clinic is pain and discomfort related to pulp and periapical pathology. The various endodontic treatment approaches include root canal therapy, pulp revascularization and pulp regeneration. It is challenging for dental professionals to determine which course of action is best for a given set of conditions.

Search Strategy: Articles from PUBMED, Ebsco Host, Scopus will be referred focusing on different endodontic treatment modalities- Root canal treatment, pulp regeneration and pulp revascularization.

Discussion: The dilemma between root canal treatment, pulp revascularization and pulp regeneration often arise when deciding the best treatment approach for the tooth. Root canal treatment is an effective treatment involving cleaning, shaping and disinfecting the root canals, followed by obturating them. However, the teeth following the root canal treatment are vulnerable to changes in pulp defence, changes in sensory function and even fracture. Pulp revascularization involves chemical disinfection of canals and induction of bleeding into the canals through the apical foramen. It depends on the potential of periodontal stem cells to differentiate and populate the pulp space. A more intriguing concept for pulpo-dentinal complex revival is pulp regeneration. The three main key elements required to facilitate the regeneration of pulp tissue are growth factors, scaffolds, and stem cells.

Conclusion: This poster will illustrate and compare the three treatment modalities, focusing on their indications, outcomes, and limitations.

Scaffolds For Dental Pulp And Periodontal Regeneration

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Regenerative endodontics have been defined as biologically based procedures designed to replace damaged structures, Including dentin and root structures as well as cells of dentin pulp complex with live viable tissues, preferably of same origin that restore the normal physiologic functions of pulp dentin complex.

The three components of regenerative endodontics are-

- Stem Cells*
- Growth Factors*
- Scaffolds*

A scaffold is defined as "the support, delivery, vehicle or matrix for facilitating the migration, binding or transport of cells or bioactive molecules used to replace repair or regenerate tissues. Scaffolds are 3D porous solid biomaterials designed to provide spatially correct position of cell location , promote cell biomaterial interaction ,cell adhesion and ECM deposition and permit transport of gases, nutrients and other factors

SEARCH STRATEGY: A thorough search was done on electronic databases like PUBMED, Scopus, and EBSCO host and all the relevant articles on scaffolds for dental pulp and periodontal regeneration were included .

DISCUSSION: The key aspects for comparison between various scaffolds include origin, biodegradability, form, presence and absence of cells.. Combinations of various scaffolds can be used to compensate for their individual shortcomings. With the use of CAD and 3D printing technologies, scaffolds can be fabricated into precise geometrics with a wide range of bioactive surfaces

CONCLUSION: The comparison between natural and artificial scaffolds for endodontics reveals distinct advantages and limitations for each type. The future of scaffold development in endodontics lies in hybrid approaches that combine the best attributes of both natural and artificial materials. Such scaffolds could provide the optimal environment for dental pulp regeneration, balanced bioactivity, mechanical strength, and degradation rates.

Comparative Evaluation Of The Marginal Fit Of Inlays Fabricated By Conventional And Digital Impression Techniques: A Stereomicroscopic Study

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INTRODUCTION: Success of indirect restorations depends on many factors and marginal adaptation is one such criterion. Accurate impression is a primary factor in clinical scenario. Hence this study aims to evaluate and Compare the marginal fit of inlays fabricated by conventional and digital impression techniques through stereomicroscopy.

MATERIALS: 20 extracted teeth, carbide burs (271 and 169L) and a high speed handpiece, William's periodontal probe, light and heavy bodied elastomeric impression material, digital intra oral scanner and stereomicroscope.

METHODOLOGY: Mesio-occlusal distal preparation are done on extracted teeth and divided into following groups. Group A: 10 inlays are fabricated through conventional impression technique. Group B: 10 preparations are scanned using intra-oral scanner. Composite inlays are fabricated. Occlusal and cervical marginal fit were assessed using stereomicroscope. One way Anova followed by Tukey honestly significant difference post hoc test for determining differences at 95% confidence level.

RESULTS: Results are statistically analyzed.

CONCLUSION: Composite inlays fabricated using intra oral digital scanner impression technique yielded better results.

Dr. Sakshi Tyagi Garg

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Bioactive materials have been used in every field of dentistry and medicine. These materials are broadly used in the field of conservative dentistry for regeneration, repair, and reconstruction. These materials are available in different form and composition that acts directly on vital tissue inducing its healing and repair. These materials directly function because of induction of various growth factors and different cells. Bioactive materials can be considered as boon to dentistry in the coming era because of its regeneration potential.

USES OF BIOACTIVE MATERIALS-

- 1. Pulp capping material.*
- 2. Permanent restorations.*
- 3. Dentinal tubule occlusion.*
- 4. Regeneration of bone tissue.*
- 5. Promotes tooth remineralization*

Keywords: Bioactive materials, conservative dentistry, repair/regeneration,

Aesthetic Zone Avengers: The Multidisciplinary Rescue of Root Resorption

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INTRODUCTION: Root resorption marked by the loss of dentin, cementum, and/or bone not caused by caries or trauma, can severely damage the teeth, if left untreated. It's management should require a multidisciplinary approach, integrating endodontics, periodontics, and prosthodontics. This poster highlights collaborative strategies and treatment protocols for effectively addressing root resorption in the aesthetic zone.

SEARCH STRATEGY: A literature review was conducted using databases like PubMed, Google Scholar and Scopus. Keywords such as "root resorption" "aesthetic zone" "multidisciplinary approach" were reviewed to gather current techniques and outcomes comprehensively.

DISCUSSION: Effective management of root resorption requires understanding it's causes, types, and progression. Endodontic intervention focuses on preserving the tooth vitality and performing root canal therapy or regenerative procedures accordingly while periodontal therapy aims to maintain and regenerate the supporting structures. Prosthodontic solutions are critical for restoring function and aesthetics with crowns, veneers or implants. Case studies highlight the importance of coordinated care, where this approach resulted in better preservation of natural tooth structure, improved periodontal health and enhanced aesthetic results.

CONCLUSION: A multidisciplinary approach for managing root resorption in the aesthetic zone gives better clinical outcomes with enhanced patient satisfaction. Future research should refine these techniques to advance dental practice further.

Tech-Boosted Tooth Fixes: CAD/CAM Post and Core Marvel!

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Introduction: Customized cast post and core is commonly indicated to restore extensively damaged teeth. The custom made design provides a good fit for the prepared post space, especially in elliptical or flared canals where the prefabricated posts may not adapt well. With the increasing popularity of CAD/CAM technology has led to the emergence of new digital techniques for fabricating post and core.

Search strategy: A comprehensive electronic search was conducted in the PubMed database. All peer-reviewed and full-length studies in the English language were included. The search was performed using the following keywords: "CAD-CAM" or "CAD/CAM," and "post and core," "post-and-core," or "post-core." Articles included were indexed in Google Scholar, PubMed Central, Scopus and/or Web of Science database.

Discussion: The endodontic fiber posts have become increasingly popular due to their elastic modulus similar to dentin, contributing to higher survival rates compared to metal posts. Monolithic 3D-printed post and core offer a promising alternative to refabricated systems, eliminating the need for a separate core build-up and potentially extending restoration lifespan. CAD/CAM technology facilitates the use of materials like zirconia and lithium disilicate, known for superior strength and aesthetics over traditional materials.

Conclusion: CAD/CAM fabricated post and cores represent a significant advancement in restorative dentistry, offering clinicians and patients alike numerous benefits in terms of precision, durability, and aesthetics. As technology continues to evolve, the integration of CAD/CAM holds promising result for further enhancing treatment outcomes and patient satisfaction in restorative dentistry.

Guarding the Gateway: The Critical Role of Biological Width in Dentistry

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Background: Biological width is a critical concept in periodontal and restorative dentistry, referring to the combined height of the connective tissue and epithelial attachment formed around a tooth above the alveolar bone. First described by Gargiulo et al. in 1961, biological width typically measures around 2.04 mm, comprising approximately 1.07 mm of connective tissue and 0.97 mm of junctional epithelium. Preserving the integrity of this space is essential for maintaining periodontal health, as its violation can lead to inflammation, bone loss, and other periodontal issues.

Summary: This presentation explores the significance of biological width in clinical dentistry, emphasizing its role in ensuring periodontal health and successful restorative outcomes. The biological width acts as a natural barrier against microbial invasion, and its preservation is crucial during restorative procedures such as crown placement, which often necessitates subgingival margin placement. Understanding the biological width's dimensions and behavior aids clinicians in designing restorations that respect this anatomical feature, thereby preventing iatrogenic damage.

Violation of biological width can occur due to improper restorative techniques, leading to a chronic inflammatory response and subsequent periodontal destruction. Methods to assess and maintain biological width include careful clinical measurement, surgical crown lengthening, and orthodontic tooth movement. Recent advancements also highlight the use of digital tools and imaging for more precise evaluation and planning.

Clinical case studies illustrate the outcomes of respecting versus violating biological width, demonstrating significant differences in periodontal health and restoration longevity. The presentation also reviews recent research on biological width variations among individuals and its implications for personalized treatment planning.

Conclusion: Understanding and respecting biological width is paramount in periodontal and restorative dentistry to prevent periodontal disease and ensure long-term success of dental restorations. Clinicians must be vigilant in assessing the biological width during treatment planning and execution to avoid violations that can compromise periodontal health. Advances in digital technology and imaging enhance the accuracy of biological width assessment, fostering better clinical outcomes. Continued research is necessary to further refine techniques for preserving biological width and to explore its variations across different patient populations, ensuring tailored and effective dental care.

Biomimetic Material- The Self Healing Composite

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Biomimetics in dentistry, specifically in the realm of restorative materials like composites, draws inspiration from natural processes to enhance durability and functionality. The approach involves mimicking the natural mechanisms found in the oral environment and in natural teeth themselves.

Composite materials are extensively used in dentistry due to their ability to bond to tooth structure, their aesthetic appeal, satisfactory mechanical properties, and ease of use as a direct-filling material. However, these restorations often face challenges such as microcrack accumulation from chewing forces and thermal stresses, leading to potential failure over time.

To address these challenges, biomimetic principles are employed. One notable advancement is the development of self-healing composites. These materials contain microcapsules filled with resin. When a crack forms in the composite, these microcapsules rupture near the crack and release the resin. The resin then fills the crack and undergoes polymerization when it reacts with a catalyst dispersed within the composite, effectively repairing the crack.

This self-healing mechanism is inspired by natural healing and repair strategies observed in living organisms. By incorporating such biomimetic features into dental composites, material designers aim to significantly improve their longevity and durability, potentially reducing the need for frequent replacements and enhancing patient outcomes in restorative dentistry.

3D Printing- Guided Endodontics**Dr. Himanshu Sharma****Department of Conservative dentistry and Endodontics, KD Dental College And Hospital,
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Calcific metamorphosis is defined as a pulp response to trauma characterized by the rapid deposition of hard tissue in the pulp space. Before, during or after Endodontic treatment of teeth exhibiting pulp obliteration, a number of complication such as iatrogenic perforations fractures, the excessive removal of tooth tissue, or the inability to negotiate heavily calcified canals. Guided endodontics (GE), which is based on the use of endodontic treatment planning with the help of computer technology, emerged to solve these problems. GE is performed by obtaining a CBCT image of the patient's arch. A registration of the patient's arch of interest is performed, which can be performed with an intraoral scanner or by scanning of an impression. The obtained images are superimposed through the aid of software, whereby a guide can be designed that will cover the tooth of interest (and some adjacent teeth). In this guide, a drill hole can be designed with a specific appropriate diameter and angulation to allow direct access to the calcified canal. Once the designs have been completed, the file is exported from the planning software in an STL (stereolithography) format for the 3D printing of the guides. The guide is tried on to ensure that it fits the patient's teeth in a stable manner. The internal metal cylinder is what will guide the drill to access and remove the calcified tissue, and once it is completely removed, the root canal treatment is continued in the conventional manner.

*Rejuvenating Teeth: Delving into the World of Regenerative Endodontics**Dr. Himanshi Goyal, Dr. Ravneet Kaur, Dr. Bhoop Singh**Department of Conservative dentistry and Endodontics, Punjab Government Dental College
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Regenerative endodontics has become a revolutionizing tissue engineering concept in the treatment of immature permanent teeth for over two decades. Regenerative endodontics is the formation and delivery of tissues to replace diseased, missing, and traumatized pulp. It provides direction of converting the nonvital tooth into vital once again. It focuses on replacing traumatized and pathological pulp with functional pulp tissue. An immature necrotic permanent tooth is usually a result of trauma or infection due to which the tooth becomes non-vital before completing root development. In such cases, the root walls are left thin and weak with an open apex. Traditional apexification procedures may resolve pathology but have not been able to prove tooth survival due to absence of continued root development and risk of root fracture. A successful regenerative endodontic procedure results in resolution of signs and symptoms of pathology, radiographic signs of healing, proof of continued root development as well as presence of pulp vitality due to the regeneration of pulp tissue in the root canal. Various stem cells, growth factors, scaffolds and suitable environment form the tetrad of elements necessary to induce regeneration of dental pulp. There are three main therapeutic goals of RET. The first goal is the resolution of associated clinical signs and symptoms. The second goal is to establish further root maturation. The final goal is the restoration of neurogenesis. From a histological aspect, healing is achieved with repair from tissues that are originated mainly from the periodontal and osseous tissues, including bone-like tissues and cementum, rather than odontoblasts and pulp tissues.

Nobel method to heal non-surgical periapical pathology : using PRF with Hydroxyapatite

Dr. Ranjana

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Aim: Nobel method to heal non-surgical periapical pathology : using PRF with Hydroxyapatite.

Materials and Method: Maxillary central incisor with periapical pathology included in this study. Rubber dam isolation was done. Access cavity was prepared. working length was determined. Cleaning and shaping was done with hand file under irrigation with EDTA, NaOCl, saline. Apical preparation corresponding to K-file size 80. The root canal dried with paper points. Triple antibiotics paste placed in root canal, and patient was recalled after 1 week. Patient's own blood was drawn into 10 ml glass coated plastic tube using PRF collection kit without anticoagulant and immediately centrifuged in centrifuge machine at 3000 rpm for 10 minutes. Three layers got formed in the tube. Acellular plasma on surface, PRF clot on the middle, a base of RBC at bottom. The PRF clot was separated. The PRF membrane mixed with hydroxyapatite. With the help of mta carrier and finger plunger, mixture pushed beyond root apex into the bony space formed due to periapical lesion and apex sealed with MTA –moist cotton-conventional GIC. If the tooth is asymptomatic after 1 week, remaining canal obturated with gutta percha coated with bioceramic sealer.

Result: The combination of PRF and Hydroxyapatite showing a successful nonsurgical endodontic management of periapical pathology by using apical barrier MTA.

Conclusion: The combination of PRF and Hydroxyapatite can proven to be an effective alternative nonsurgical healing of periapical pathology by accelerate and enhance the body's natural wound healing mechanism.

Diabetes Mellitus: "A Catalyst for Periodontal and Periapical Disease"

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Introduction: Diabetes mellitus, a chronic metabolic disorder characterized by hyperglycaemia, is strongly associated with an increased risk and severity of periodontitis. The bidirectional relationship between diabetes and periodontitis is well established. Literature review has also highlighted the role of diabetes in contributing to endodontic lesion. This poster explores how diabetes mellitus exacerbates both periodontitis and endodontic pathologies, bridging the gap between the two lesions.

Search strategy: PubMed and ScienceDirect database search using keywords "Diabetes and Periodontal disease"; "Diabetes and endodontic lesion"; "Diabetes in endo-perio lesion"; "Systemic influence of Diabetes on oral health"; (2000-2024) returned 2313 articles, out of which 5 were shortlisted, relevant to topic.

Discussion: The overlap in anatomical pathways, pathogenic bacteria, and inflammatory markers within the periodontal and periapical zone suggests a shared pathway which could be influenced by Diabetes. Hyperglycemia-induced immune dysfunction and chronic inflammation are central to the progression of both conditions. The persistent inflammatory state promotes tissue destruction and impairs healing, making diabetic patients more susceptible to severe and recurrent oral infections.

Conclusion: Understanding the common pathophysiological mechanisms, inflammatory responses, and microbial profiles in diabetic patients with periodontal and endodontic lesions underscores the importance of integrated management strategies. Addressing the systemic effects of diabetes can potentially improve outcomes for both periodontal and endodontic health, highlighting the need for coordinated care.

Root Analogue Implants - Pioneering a New Pathway

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Introduction: Dental implantology has undergone remarkable evolution, introducing Root Analogue Implants (RAIs) as a sophisticated solution that closely mirrors natural tooth root anatomy. RAIs are engineered to optimize osseointegration, mitigate peri-implant bone loss, and achieve superior aesthetic outcomes, surpassing conventional cylindrical implants.

Objective: This study meticulously assesses the efficacy, clinical outcomes, and patient satisfaction related to RAIs, with a primary focus on implant survival rates, osseointegration efficacy, peri-implant bone preservation, and patient-reported outcomes.

Methodology: The study employed a meticulous approach, starting with a systematic review and meta-analysis of clinical trials, cohort studies, and case reports published in the last decade. Comprehensive searches were conducted on PubMed, Cochrane Library, and Google Scholar to identify studies with a minimum follow-up period of one year. Additionally, a pilot clinical study was conducted with 30 patients who received custom 3D-printed RAIs. Key assessments included evaluating initial stability, monitoring osseointegration progress at 6 and 12 months, analysing peri-implant bone preservation through radiographic methods, and assessing patient satisfaction using standardized questionnaires.

Results: The meta-analysis highlighted RAIs' robust survival rate of over 95% over 1-5 years, comparable to traditional implants. RAIs exhibited superior preservation of peri-implant bone and a lower incidence of peri-implantitis. Results from the pilot study underscored an impressive 98% success rate at the two-year follow-up, with high patient satisfaction and minimal average peri-implant bone loss of less than 0.5mm. Notably, all implants achieved primary stability without any reported failures.

Conclusion: In conclusion, RAIs emerge as a compelling alternative to conventional implants, distinguished by enhanced osseointegration, superior aesthetic outcomes, and increased patient satisfaction. Their ability to promote superior bone preservation and reduce the incidence of peri-implantitis underscores their potential as a preferred choice in modern dental implantology.

Nanoparticles incorporated hydrogels: The Unsung Hero of periodontal tissue regeneration

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Introduction: Hydrogels in reconstructing damaged periodontal tissues is advantageous over other forms as it can offer biomimetic microenvironment and facilitate spatiotemporal tissue regeneration. Incorporating various nanoparticles such as noble metals, bioactive glass and magnesium oxide into hydrogels can enhance bioactivity and antibacterial properties. Its nanoscale size and large surface area-to-volume ratio facilitate drug delivery and periodontal tissue regeneration.

This poster gives insights about applications and formation of various nanoparticles incorporated hydrogels documented for periodontal tissue regeneration.

Search strategy: Google scholar database search using the keywords “hydrogels”, “periodontal regeneration”, “nanoparticles” and “titanium” (2019-2024) returned 17,800 articles. Thirteen articles shortlisted hinted the potential role of adding nanoparticles in hydrogels to form nanostructured scaffolds and implant surface coatings that can overcome the shortcomings of conventional hydrogels in tissue repair.

Discussion: Nanostructured scaffolds based on chitosan/collagen hydrogels reinforced by bioactive glass nanoparticles exhibited increased cell viability and proliferation of PDL cells. Silver loaded nanoparticles in composite hydrogels as implant coating enhance mineralization and osseointegration. Additionally, gold or silver loaded nanoparticles in thermosensitive, photocurable, methacrylate hydrogel and resveratrol lipid nanoparticles in GelMA hydrogel promote osteogenic differentiation. This altogether indicate plausible role of nano-hydrogels in periodontal tissue regeneration.

Conclusion: Ongoing development of nanoparticles incorporated hydrogel systems can serve as a cornerstone and promising area in periodontal tissue repair and can offer improved treatment outcome in the future.

Gender Paradox with Respect to Periodontitis, Bodyweight and Oral Hygiene status- An Epidemiological Study

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OBJECTIVE: To evaluate the periodontal status, body weight and oral hygiene status in individuals with different gender

INTRODUCTION: Periodontitis is bidirectionally linked to several systemic diseases characterized by established female bias. Periodontitis and increased body weight both are characterized by dysregulated inflammatory state. Oral hygiene status has strong association with this complex mechanism. The aim was to evaluate the periodontal status, body weight and Oral hygiene status in individuals with different gender.

METHODOLOGY: 500 subjects were enrolled from OPD of the department of Periodontics of our college. Their periodontal and oral hygiene status were recorded. Further these parameters were correlated with gender and body weight of an individual.

RESULT: Association of gender, in relation to bodyweight, periodontitis and oral hygiene status were confirmed.

CONCLUSION: There are various gender gaps in health and disease including sex bias in infectious and inflammatory condition. In this epidemiological study, we confirmed that men are prone to more gingival inflammation as compared to females. It seems to be important with respect to unresolved dental conditions on systemic disease. In any case obesity imposes an increased risk on both.

Canvas Of Smile: Artistic Approaches To Pink & White Esthetics

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Introduction: Achieving a harmonious integration of artificial restorations with the natural dentition and surrounding soft tissues is crucial. The concept of pink and white esthetics focuses on the dual objectives of ensuring the prosthetic teeth (white esthetics) and the gingival tissues (pink esthetics) appear natural and well-integrated. This poster presentation explores the principles, techniques, and materials used to achieve optimal pink and white esthetic outcomes.

Objective: The primary objective of this study is to evaluate various methodologies for enhancing pink and white esthetics, emphasizing the latest advancements in materials and techniques.

Discussion: The discussion of pink and white esthetics underscores the importance of a cohesive approach that integrates various disciplines within dentistry. Achieving an optimal esthetic outcome requires meticulous attention to both the dental restorations and the surrounding gingival tissues.

1. Material Selection: The choice of restorative materials is critical for replicating the natural appearance of teeth. Modern ceramics, such as lithium disilicate and zirconia, offer superior esthetic qualities.

2. Soft Tissue Management: The esthetic success of treatments heavily relies on the health and appearance of the gingival tissues. Techniques such as gingival contouring, connective tissue grafts, and the use of soft tissue lasers are pivotal in achieving an ideal gingival architecture.

3. Digital Technology: The advent of CAD/CAM technology has revolutionized dentistry, offering precise and predictable results. Digital impressions and computer-aided design allow for the creation of restorations that are not only functionally sound but also esthetically pleasing.

4. Interdisciplinary Approach: Collaboration between prosthodontists, periodontists, and dental technicians is essential.

Conclusion: Achieving a harmonious integration of pink and white esthetics is essential for creating natural-looking and pleasing dental restorations. This involves a multifaceted approach that combines advanced materials, precise techniques, and interdisciplinary collaboration.

Ligaplasts Unveiled: The Next Generation of Dental Implants

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Introduction: The integration of periodontal ligament (PDL) into dental implants, termed ligaplasts, signifies a pivotal advancement in implant dentistry. Unlike traditional implants that rely on osseointegration, ligaplasts emulate natural tooth function by incorporating PDL cells, providing shock absorption, proprioception, and potentially preventing gingival recession and bone defects.

Search Strategy: A comprehensive literature review was conducted using databases such as PubMed, Scopus, and Google Scholar. Keywords included "ligaplasts," "periodontal ligament integration," "dental implants," and "tissue engineering." Articles from the past decade focusing on experimental studies, clinical trials, and tissue engineering techniques were prioritized.

Discussion: Emerging studies in animal models demonstrate promising outcomes, with evidence of PDL formation and cementum-like tissue development around ligaplasts. The regeneration of functional PDL hinges on precise cellular interactions and signaling within a biocompatible scaffold. However, challenges persist, including high costs, unpredictable host acceptance, and complexities in culturing PDL cells. Ethical considerations surrounding the use of human-derived cells also need addressing.

Conclusion: Ligaplasts have the potential to revolutionize dental implants by providing a natural feel and functionality similar to natural teeth. Further research is essential to validate long-term efficacy and safety in human subjects. Continued investigation into the biological and biomechanical aspects of PDL integration will be crucial in establishing ligaplasts as a viable alternative in implant dentistry, enhancing patient outcomes and satisfaction.

Ligaplants: A cutting edge Concept in Implant Dentistry

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INTRODUCTION: Tissue-engineering has emerged as a new and ambitious approach that combines knowledge from material chemistry with cell biology and medicine. Currently, osseointegrated implants are generally agreed to be the most acceptable implants because of their high long-term clinical survival rate. Because osseointegrated implants are “ankylosed” and do not have the same mobility as natural teeth with a PDL, efforts have been made for years to compensate for this obvious difference by “shock-absorbing systems” built into the implant or its suprastructure. Ligaplants contain essential cells like immature mesenchymal stem cells, cementoblasts, cementoclasts, osteoclasts, fibroblasts, and cementoblasts. These problems could be resolved, if implant with PDL could be developed, which could be achieved by LIGAPLANTS, a combination of the PDL cells with implant biomaterial.

DISCUSSION- LIGAPLANTS can act like a shock absorber, giving the tooth some movement in the socket as well as provide proprioception.

When placed in regions with significant periodontal bone defects, ligaplants can promote the development of new bone.

CONCLUSION: It addresses problems like bone defects and gingival recession brought on by lost teeth simulating natural tooth root insertion in the alveolar process.

Techniques For Fabrication Of Customized Healing Collar: A Comparative Evaluation Of Conventional Versus Digital Outcomes

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Introduction : Customized Healing Collar serve as a road map to evaluate the position and contours of the planned definitive restoration. It enhances the gingival contour around the implant leading to well fitting restorations with satisfactory esthetic outcomes. It also helps form a desirable emergence profile for successful rehabilitation.

Case Reports : Patients are provided with different forms of customized healing collar to analyze the gingival tissue development following healing collar placement on the dental implants. Standardized, Composite and 3D-printed customized healing collar were fabricated and placed on the implant and observed for a period of 1 week. The gingival collar was analyzed for emergence profile and bleeding on probing.

Discussion : Today, patients no longer accept the mere replacement of missing teeth but expect a natural appearing, fixed restoration that can be delivered immediately. With the optimization of digital work-flow, it is imperative to explore the newer options of customized healing collar to provide the best patient outcome. The use of 3D-printed healing collars, thus, provides a window into this growing new world. The use of standardized and composite customized collars alongside 3D printed restorations serves as an acceptable tool for comparison between conventional and digital dentistry.

Conclusion : Clinicians should be aware of the different types of restorative options and the indications for their use when planning implant-retained restorations.

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Maxillary Obturator Rehabilitation in the Digital Era

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Maxillary defects can result from various causes, such as surgical treatments for benign and malignant tumours, congenital abnormalities, and traumatic injuries. Addressing these defects in prosthodontic care is challenging, especially when it comes to ensuring sufficient support, retention, and stability. An obturator, a specialized prosthesis, is used to close palatal defects in patients, whether they have natural teeth or not. The rehabilitation process for patients with maxillofacial defects is complex and time-consuming, requiring careful consideration of diverse soft and hard tissues, mobility, undercuts, and the potential distortion of impression materials due to weight and consistency.

CAD-CAM technology has emerged as a valuable tool in dentistry for designing and manufacturing prosthetics. This digital approach allows for the precise and comfortable capture of both hard and soft tissue details, facilitating the creation of a definitive obturator. The use of digital dentistry in prosthetic rehabilitation helps patients overcome postoperative challenges and regain natural function. This poster focuses on the rehabilitation and restoration of maxillary defects using advanced digital dentistry techniques.

Prosthodontic management of a young patient with Papillon-Lefèvre syndrome: A clinical report

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Introduction: Papillon-Lefèvre syndrome (PLS), also known as palmoplantar keratoderma with periodontitis, is an autosomal recessive genetic disorder caused by a deficiency in cathepsin C. The severe destruction of periodontium leads to tooth loss, affecting primary teeth by age 4 and permanent teeth by age 14.

Case Report: 21-year-old Indian male patient reported with the chief complaint of mobile teeth and pain in the upper and lower teeth region for the past five years. Clinical characteristics and a thorough case history of the patient were documented. A genetic test was conducted in addition to standard lab and radiographic studies. The provisional diagnosis of Papillon-Lefèvre syndrome was confirmed by the results of the genetic tests. Due to aesthetic reasons, prosthetic rehabilitation using immediate complete denture was suggested. After the extraction of all the grade 3 mobile teeth, the procedure for immediate denture was initiated. In the next appointment, after extraction of the remaining teeth, final denture insertion was done & patient was re-called for follow-up.

Discussion: Rehabilitation of an edentulous PLS patient can be done with conventional complete dentures, modified complete dentures, implant-supported complete dentures, over dentures, or a combination of these; however, the final treatment will be based on chief complaint, patient's expectations, availability of supporting bone, and affordability of the treatment for the patient.

Conclusion: PLS presents unique challenges in dental care. A multidisciplinary approach, including prosthodontics, oral surgery and periodontics, is essential to improve patients' quality of life and restore function.

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Bioguide Dentacote

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ABSTRACT: Introduction: Dental implants play a crucial role in restoring oral function and aesthetics but face challenges related to osseointegration and soft tissue integration. Biomimetic coatings offer promising solutions by mimicking natural tissues to enhance biocompatibility and regenerative outcomes. This study explores the application of biomimetic coatings in dental implants for guided tissue regeneration (GTR).

Search Strategy: Recent advancements and applications of biomimetic coatings in dental implantology, with a focus on promoting tissue regeneration. Key components of biomimetic coatings include biopolymers, bioactive molecules (such as growth factors and peptides), and nanostructured surfaces designed to mimic the topography of natural tissues. These coatings not only facilitate cell adhesion and proliferation but also modulate cellular behaviours critical for tissue integration, such as differentiation of osteoblasts and angiogenesis.

Discussion: Biomimetic coatings on dental implants mimic natural extracellular matrices, promoting cell adhesion, proliferation, and differentiation. They can modulate the local microenvironment to enhance tissue healing and regeneration. Studies reviewed indicate improved osseointegration with reduced healing times and enhanced soft tissue integration, reducing complications such as peri-implantitis.

Conclusion: Biomimetic coatings represent a promising approach for enhancing the performance of dental implants through improved biocompatibility and regenerative capabilities. Further research is needed to optimize coating materials, application techniques, and long-term clinical outcomes. Implementation of biomimetic coatings in dental practice could potentially improve patient outcomes and satisfaction.

This abstract summarizes the current state of research on biomimetic coatings for dental implants, highlighting their potential benefits in guided tissue regeneration.

Bone Regeneration using Sticky Bone in Dentistry

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Background: Bone regeneration is pivotal in dental procedures such as implantology, sinus augmentation, and alveolar ridge preservation. Traditional bone graft materials often lack sufficient stability and regenerative capacity, leading to suboptimal outcomes. Sticky Bone, a biomaterial combining autologous platelet-rich fibrin (PRF) and bone graft particles, offers enhanced stability and osteogenic potential. This study evaluates the effectiveness of Sticky Bone in dental applications.

Objective: To investigate the clinical efficacy of Sticky Bone in improving bone regeneration and graft stability in dental procedures compared to conventional bone grafting techniques.

Methods: A systematic review of clinical cases and literature was undertaken to evaluate the use of Sticky Bone in dental surgery. The methodology included:

- Preparation of Sticky Bone by incorporating autologous PRF with bone graft particles.*
- Application in dental procedures such as sinus lifts, ridge augmentation, and treatment of periodontal defects.*
- Radiographic and histological evaluation of bone regeneration.*
- Assessment of clinical outcomes, including graft stability, implant success rates, and patient satisfaction.*

Results: The clinical application of Sticky Bone resulted in:

- Enhanced graft stability and cohesion, facilitating easier handling and placement during surgery.*
- Improved bone regeneration, confirmed through radiographic and histological examinations.*
- Higher success rates of dental implants due to superior osseointegration.*
- Shorter healing times and reduced postoperative complications compared to traditional graft materials.*

Conclusion: Sticky Bone is a promising advancement in dental surgery, providing superior graft stability and enhancing bone regeneration. Its use can lead to better clinical outcomes in various dental procedures, making it a valuable addition to the dental surgeon's toolkit. Further

Compare and Choose: L-PRF or I-PRF

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BACKGROUND: Numerous methods have been created to speed up the healing process of bones and shorten the healing time. According to current studies, platelet- rich fibrin (PRF), which is produced autogenously from a person's own blood, speeds up wound healing and promotes regeneration since it contains a variety of growth factors. P-PRF (pure platelet- rich fibrin) and L-PRF (leukocyte and platelet- rich fibrin) are two types of PRF that can be distinguished. The injectable PRF (I-PRF) is a development of L-PRF.

SUMMARY: For dental implant treatment to be successful, the implant must typically be positioned in the best possible anatomical way to make it easier to put a functional and aesthetically pleasing restoration. This isn't always feasible and augmentation surgeries are frequently needed to make up for missing tissue components. These procedures frequently call for more intricate surgery in addition to the usage of animal- derived graft materials. Recently created platelet concentrate called leukocyte and platelet- rich fibrin (L-PRF) has been effectively employed to optimize wound healing in a number of surgical procedures. Numerous studies suggest that it might also be able to promote the growth of new bone. I-PRF is a recently developed leukocyte enriched platelet concentrate, which could better assist tissue regeneration and wound healing.

CONCLUSION: L-PRF has emerged as a promising adjunct, exhibiting efficacy in enhancing wound healing and promoting bone formation, whereas, the favorable effects of I-PRF are reducing the bacterial count, increasing the amount of growth factors, helping with wound healing, as well as periodontal, bone, cartilage and pulp regeneration.

*Minimal interventive treatment of white Spot Lesions : Restore and Rehabilitate**Dr. Mohit Chopra, Dr. Aanchal Gupta, Dr. Kirti**Department of Conservative Dentistry and Endodontics, Punjab Government Dental College,
Amritsar*

PURPOSE – Aesthetic dentistry is on the rise and new treatments are evolving for treating white spot lesions. Resin infiltration is a microinvasive procedure used to treat demineralised white spot lesions on the enamel surface. This technique involves placing a low viscosity resin with the active ingredient - TEGDMA [Triethylene glycol dimethacrylate] on the lesion. It aids in protecting the enamel from further demineralisation while preserving its natural appearance. Resin infiltration with TEGDMA penetrates the hypomineralised enamel, masks the white spot lesion and decreases the visible differences between the white spot lesion and sound enamel. This treatment was previously used to treat interproximal incipient carious lesions. However, it is now being marketed for esthetic purposes. Studies have found that resin infiltration using TEGDMA is effective in treating mild to moderate fluorosis and white spot lesions that may be seen in orthodontic treatment. Different studies showed that 78% of the fluorosed lesions treated with resin infiltration using TEGDMA demonstrated a significant improvement indicating successful masking of demineralised areas. Resin infiltration provides a microinvasive treatment for masking white spot lesions , which has the ability to bridge the gap between preventive and restorative therapy.

*Autologous platelet concentrates in periapical surgery: A Scientometric analysis**Dr. Ashish J Johnson, Dr. Tarun Kumar Singh**Department of Conservative Dentistry and Endodontics, All India Institute of Medical Sciences (AIIMS), Bathinda*

Introduction: Regenerative techniques are increasingly applied in endodontic surgery to address periapical pathologies. The autologous platelet concentrates (APC) are rich in growth factors that have been involved in cell proliferation, chemotaxis, and extracellular matrix production/angiogenesis important for wound healing. In addition, cytokines and chemokines that promote healing, such as interleukin (IL)-1 β , C-C motif ligand 5 (CCL5), IL-8, and macrophage inflammatory protein (MIP)-1 α , are released when platelets degranulate. Additionally, it has been noted that using APCs as an adjuvant in oral surgery has positive effects on pain management and postoperative quality of life. Constant research have been taking place in the field of APC's in the field of periapical surgery. Bibliometric analyses have been utilized in various scientific fields to map the literature, reveal the historical development of research fields and evaluate the scientific research productivity of researchers, organizations, countries and journals. Till date, no scientometric analysis on the use of APC's in periapical surgery has been conducted.

Aim & Objective: To make an analysis of the different parameters from each papers on 'APC's used in periapical surgery' which has been published including the title of the article, number of citations in Web of Science (WoS-CC), Pubmed, Scopus, and Google Scholar, authorship, year of publication, the title of the journal, study design, APC'S used in the study, methodology and the healing of the lesion.

Material and Methods: A scientometric study was carried out on the autologous platelet concentrates (APC) used in periapical surgery. A comprehensive search was conducted in the Web of Science (WoS-CC), Pubmed and Scopus. Manual reviewing of the selected articles was performed by accessing the abstract and full-length if required. The following bibliometric parameters were extracted from each paper: title of the article, number of citations in WoS-CC, Scopus, and Google Scholar, authorship, year of publication, the title of the journal, study design, APC'S selected in the study, methodology and the healing achieved were evaluated.

Results and Discussion: The results and discussion of the study are under the stage of statistical analysis and the results will be submitted during the presentation.

Conclusion: The present studies will provided a detailed list of research in the field of the autologous platelet concentrates used in the field of periapical surgery. This will help researchers, students, and clinicians with an impressive source of information. The citation analysis provides the quantitative analysis of the scientific articles.

*Secure and repair : MTA Applications: A Case Report**Dr. Aabhaansh Tomar**Department of Conservative Dentistry and Endodontics, Kalka Dental College*

Introduction: MTA (mineral trioxide aggregate) was developed in LOMA LINDA UNIVERSITY in 1990's by Torabinejad as a root end filling material. Kettering and Torabinejad studied the MTA in detail and found that it is non mutagenic and bio-compatible. MTA is used for creating apical plugs during apexification, repairing root perforations, treating internal root resorption and pulp capping.

Case report : A patient reported to the department with the chief complaint of pain in left mandibular posterior region after treatment .The radiographic image reveal the internal resorption involving the furcation area. A single-visit root canal treatment was performed and MTA was placed , into the desired location using hand instruments .By virtue of providing a good seal and preventing micro leakage, it can be proclaimed as an antibacterial agent. The follow up was done and tooth restored to its normal functional aesthetics.

Discussion: MTA expands during setting, which may be the reason for its excellent sealing ability. MTA, just like calcium hydroxide, induces dentin bridge formation. Many investigators believe that the hard tissue bridge deposited next to MTA is because of the sealing property, bio-compatibility , alkalinity and other properties associated with this material. MTA has a pH of 10.2 immediately after mixing and increases to 12.5 after 3 hours of setting which is almost similar to calcium hydroxide. Andreasen et al states that the tooth with calcium hydroxide placed for more than 100 days showed a significant reduction in fracture resistance. This problem is solved with the use of MTA. An MTA plug of 4mm thickness placed at the apical region is adequate to form a barrier, sealing the canal from the periapical area.

Conclusion: The follow up concludes that the MTA is capable of remineralization , the repair of the perforation area .

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Biomimetics in Action- An Evolution to Restorative Dentistry

Dr. Arpita Singh Bhambu, Dr. Yashika Mehta

Department of Conservative Dentistry and Endodontics, JCD Dental College, Sirsa

Natural teeth are always considered to be a reference while employing restorative approach in dentistry. Bio-mimetic Dentistry is the art and science of restoring damaged teeth with restorations that mimic natural teeth in appearance, function, and strength. Advancements in the modern adhesive restorative materials and understanding of biomaterial-tissue interaction at the nano and microscale enhanced the restorative procedures. In addition, the tissue-engineering approaches resulted in regeneration of lost or damaged dental tissues mimicking their natural counterpart. There are two major perspectives to which the term "biomimetic" is applied; a purist perspective that focuses on recreating biological tissues and a descriptive perspective that focuses on using materials that result in a mimicked biological effect

The aim of this presentation is to review various biomimetic approaches in restorative dentistry.

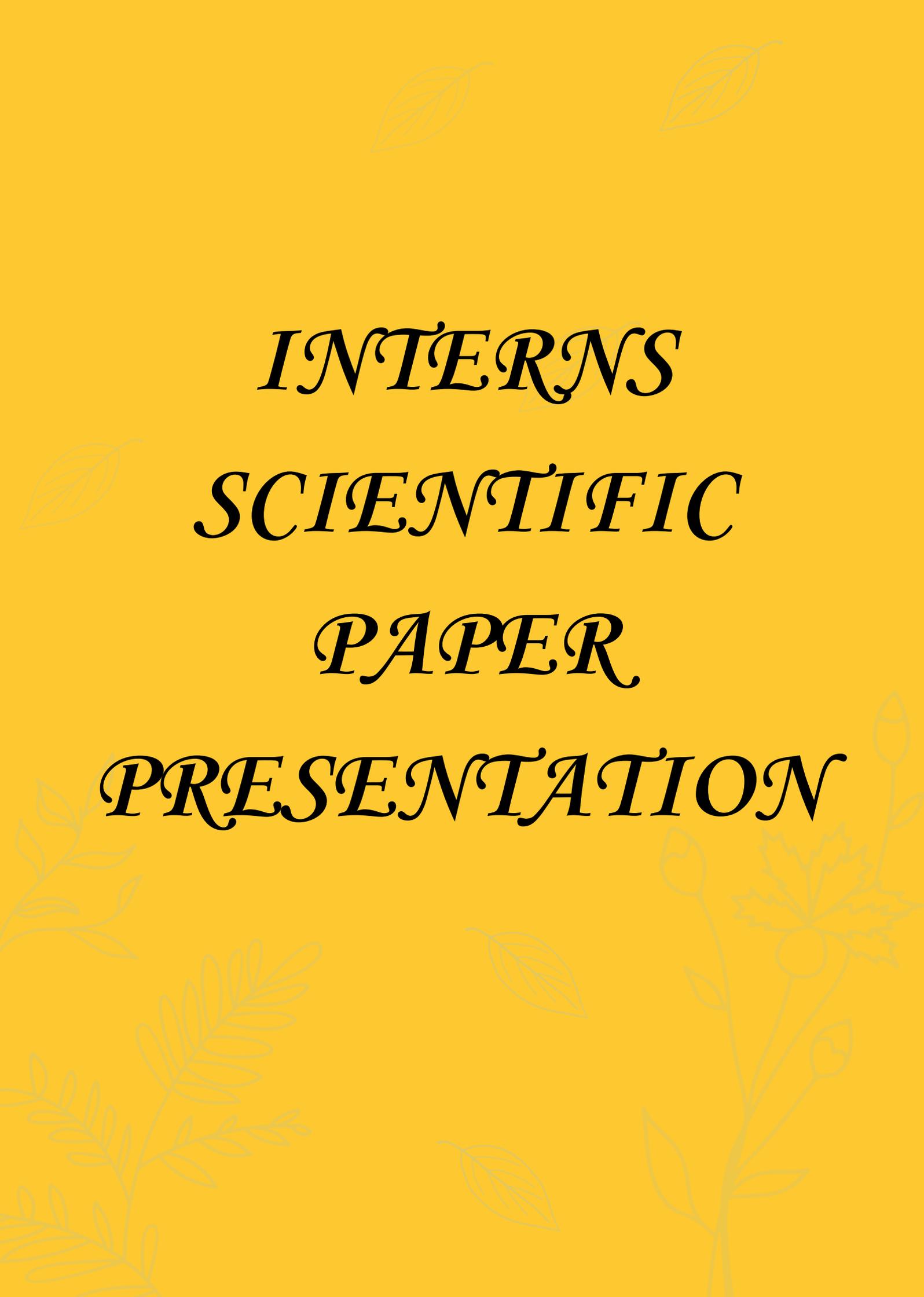
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Rotary and Reciprocating Instrumentation in Endodontics

Dr. Sheetal Nandal

Department of Conservative Dentistry and Endodontics, JCD Dental College, Sirsa

Abstract : Earlier, shaping of root canals was done using stainless steel hand files. The introduction of rotary instrumentation has revolutionized the art and science of endodontic practice. The rotary files have been subjected to constant evolution in the form of metallurgy, design features, and the manner in which these instruments are driven (rotary/reciprocation), etc., resulting in revolution, both within the canal and in the area of contemporary endodontics. The purpose of this poster is to present an update of the rotary and reciprocating concept and the difference between them.



*INTERNS
SCIENTIFIC
PAPER
PRESENTATION*

*Traditional vs minimally invasive access cavity designs**Dr. Devangana ,Dr. Kanika**I.T.S Dental College, Ghaziabad*

One of the most important step of first-rate and long term endodontic treatment is to prepare access to the pulp chamber and the root canal system without hindrance. Furthermore, an appropriate access cavity enables procedures such as localization, measurement, chemo-mechanical preparation, and adequate obturation. The traditional endodontic access cavity approach has long remained the same. More often than not, the pulp chamber anatomy of the tooth to be treated marks the shape of the access cavity. To track down all orifices of the root canals and ensure straight line access to the apical foramen, complete de-roofing of the pulp chamber and cervical dentin protrusions and widening of the canal orifice are imperative. The modern minimally invasive endodontic access cavity preparation is all about preservation of sound tooth structure by conserving as much intact dentine as possible including the pulp chamber's roof, to increase fracture resistance of teeth during and after endodontic treatment. While there is great interest in such access opening designs in numerous publications, still there is a lack of scientific evidence to support the application and use of such modern access cavity designs in clinical practice. This paper presentation aims to critically examine the literature on minimally invasive access cavity preparations, explain the effect of traditional access cavity designs versus minimally invasive access cavity designs on various aspects of root canal treatment, and identify areas where additional research is required.

Periapical Healing after Root canal treatment using different Endodontic Sealers

Dr. Sanya Sethi

ESIC Dental College and Hospital

Obturation, or the filling of root canals, is a crucial stage in the successful completion of root canal therapy (RCT). Obturation has two objectives: it seals the root canal apically and fills it with filling material without leaving any spaces inside.

A successful obturation stops germs, saliva, and periapical tissue fluid from leaking into the channel and retains any remaining microorganisms in the canal area.

The cleaning and shaping process that comes before obturating a root canal has a direct bearing on the outcome. The mechanical and chemical preparation of a root canal to eliminate organic and inorganic materials is referred to as cleaning and shaping. An inadequately cleaned and formed canal will likewise have an inadequately obturated.

Discussion

As the sealer covers the empty area between the prepared dentinal wall and the core filling material, it plays a crucial function in creating a fluid-tight seal of the root canal. It also has antibacterial properties and can enter lateral canals and tubules that gutta-percha cones cannot.

The literature has listed the qualities of the perfect sealer. It is crucial to remember that no material has been shown to totally stop leaks or meet all requirements.

Characteristics of the perfect sealer material:

- 1) the capacity to create a fluid-tight seal
- 2) radiopaque, or able to be seen on radiographs
- 3) not contracting after being set
- 4) Not stains
- 5) harmless to the periapical tissues
- 6) Insoluble in bodily fluid
- 7) Biocompatible

Zinc oxide eugenol sealer

Prominent characteristics of ZOE sealants encompass their ability to absorb into adjacent tissues during extrusion, as well as their antibacterial and anti-inflammatory capabilities. ZOE sealers, however, lose strength and become porous after setting, leaving them vulnerable to breakdown in the event that tissue fluids seep out. Alternatively, there are alternative sealers that minimize any potential negative effects of eugenol by not including it. The term "non-eugenol sealers" is a fitting one for these sealers.

Calcium hydroxide sealer

Because of its therapeutic qualities for tooth pulp, calcium hydroxide is a substance that is frequently utilized in clinical dentistry operations including pulp capping and apexification. Its antibacterial activity and capacity to aid in the repair of periapical tissues are the main medicinal qualities that account for its extensive usage. Although several theories have been put forth, it is still unclear how precisely calcium hydroxide works. Because calcium hydroxide has a pH of 12, which is extremely alkaline, it is thought to initiate reparative and remineralization processes. Additionally, it might stop external root resorption and denature particular intracanal proteins, which would aid in healing. However, research is still being done to determine calcium hydroxide's precise mode of action.

Glass ionomer sealer

Due to their dentin-bonding qualities, clinicians who support the use of glass ionomer (GI) sealers as an obturation material do so. Excellent adherence between the obturation material and the prepared canal wall is made possible by dentin bonding, which is the consequence of a reaction between the hydroxyapatite on the dentinal wall and the polyacrylic acid in the GI. The enhanced adhesion has several significant benefits, such as better apical sealing, stronger resistance to root fracture, and resistance to solubility in tissue fluids.

Resin sealers

Non-eugenol sealers with great adherence to the canal walls are called resin sealers. These sealers can be classified as epoxy resin-based or methacrylate resin-based sealers according on the components that make them up. Sealers that are based on methacrylate resin are further divided into four groups, each having a different recipe. Properties like primer type and self-etching vs. non-etching capabilities differ throughout the generations.

Conclusion

A well-sealed root canal system offers the patient the best possible treatment outcome. Ensuring an adequately filled root canal requires collaboration between dentists, endodontists, dental radiologists and dental assistants. Dental Assistants/Assistants play a key role as they are responsible for mixing and handling sealants and core filling materials and handing them to the dentist. Root canal treatment is full of complexities that require excellent communication between professionals. This ensures that doctors make the correct diagnosis, create a clear picture and determine the best technique to perform the procedure, including the material used to fill the root canal.

Evaluation of root and root canal morphology of mandibular premolars amongst North Indian population using new system of classification : A CBCT study

Payal Jain

I.T.S Dental College, Ghaziabad

Aim: A new coding system for classifying the roots main and accessory canals as well as developmental anomalies has been introduced recently. This study discusses the Evaluation of root and root canal morphology of mandibular premolars amongst North Indian population using new system of classification given by Ahmed et. al 2013

Methods: The present retrospective study includes 200 mandibular right and left premolars from 200 cbct images. A comprehensive analysis was taken on the most common, existing classification for canal morphology. The new method of classification and vertucci classification was used to record and classify the root canal morphology, followed by recording the difference regarding the age and gender of patients.

Results: Study is in progress and result are awaited

Investigating the Science Behind Implant Materials: Ceramic and Titanium

Neeraj Chauhan , Param Kukreja

I.T.S Dental College, Ghaziabad

Introduction

This article focuses on preclinical studies and reviews which are available evidence from the literature. It discusses the various aspects of Ceramic and Titanium implants their features which make them suitable for implant material.

Search Strategy

The literature is divided into three categories: randomized controlled trials (RCTs), Controlled Clinical Trials (CCTs) and prospective case series (CS). A meta-analysis is performed to compare materials (titanium vs. zirconia) and to evaluate the outcome for implant materials.

Discussion

The meta-analysis offered a comparison in between titanium implants and ceramic implants. Titanium due to its inert behaviour in the living tissue. The bioactivity, osseointegration, and biocompatibility features of titanium play an essential role in promoting bone formation in direct contact with the metal surface after dental implant placement. Zirconia-based dental bioceramics are chemically inert materials with no adverse effects on oral tissues. Zirconia has been increasingly used in dental implantology because of its ideal physical, aesthetic, and biological properties zirconia implants is that its white color has advantages over metallic implants in narrow ridges. zirconia is bioceramic, which offers superior biological and anti-corrosive properties but also makes it more brittle.

Conclusion

Zirconia implants are found to have higher survival and marginal bone loss than titanium dental implants after ten years or more from implantation. Moreover, zirconia implant material has shown considerably higher cell spreading and cell viability and improved biocompatibility over titanium.

*Artificial intelligence in periodontology**Dr. Nikita**I.T.S Dental College, Ghaziabad*

Artificial intelligence (AI) is the development of computer systems whereby machines can mimic human actions. This is increasingly used as an assistive tool to help clinicians diagnose and treat diseases. Periodontitis is one of the most common diseases worldwide, causing the destruction and loss of the supporting tissues of the teeth. This study aims to assess current literature describing the effect AI has on the diagnosis and epidemiology of this disease. Extensive searches were performed in April 2024, including studies where AI was employed as the independent variable in the assessment, diagnosis, or treatment of patients with periodontitis.

*Assessment of Tongue Coating Patterns and their Correlation with age, gender, plaque, gingivitis and tongue cleaning behavior in systemically healthy patients : A Cross- sectional Study**Pratiksha Deep , Sarah Singh**ITS Dental College, Ghaziabad*

INTRODUCTION: The tongue occupies about a third of the surface area of the oral cavity. Additionally, the papillary structure of its dorsum makes it the largest oral surface and favors the accumulation of small particles. Consequently, the tongue dorsum harvests mostly oral microbes that aggregate with detached epithelial cells, food, and saliva and serum components, forming a layer of so-called tongue coating. As oral microbes dictate health and disease, it is not surprising that the densely-populated tongue dorsum influences the oral ecosystem. Furthermore, tongue coating is increased in periodontal disease. For the present study healthy young adults, were questioned about their oral hygiene habits, including tongue cleaning. In addition, the relationship with the level of dental plaque, gingivitis and gender was assessed

AIM & OBJECTIVE: The purpose of this observational study is to investigate the relationship between tongue coating (thickness [Tc] and surface discoloration [Td]) and age, gender, plaque, gingivitis (bleeding on marginal probing [BOMP] and bleeding on pocket probing [BOPP]) and tongue cleaning behavior.

MATERIAL & METHODS: A total of 351 participants would be screened for this cross-sectional study. Aspects of tongue coating were visually assessed. Additionally, BOMP, BOPP and the plaque index (PI) would be scored. To ascertain the tongue cleaning behavior, the Oral Hygiene Behavior questionnaire was used.

RESULT, DISCUSSION & CONCLUSION: would be elaborated at the time of presentation.

Comparative Study Over Crown Lengthening Procedure By Laser, Bur, and Scalpel

*Tannu Gupta ,Rashmi
I.T.S Dental College, Ghaziabad*

Introduction:

Soft tissue crown lengthening is a common procedure in restorative dentistry aimed at achieving optimal esthetic and functional outcomes. The study design involves a prospective, randomized controlled trial conducted at ITS Dental College, Ghaziabad over a period of one month. The primary outcome measures include clinical efficiency, postoperative pain, healing time, gingival recession, and patient satisfaction. Secondary outcomes such as intraoperative bleeding and operative time will be evaluated. This study aims to provide valuable insights into the comparative performance of diode laser, diamond bur, and scalpel techniques for soft tissue crown lengthening, ultimately forming evidence-based clinical practice.

Aim and objective:

A comparative study to evaluate the efficacy of three techniques which are diode laser, diamond bur and scalpel for crown lengthening.

Materials & Method:

Fifteen patients including males and females, aged 20-40 years were screened ITS Dental College, Ghaziabad. Crown lengthening procedure were properly explained to the patients and a signed consent was taken from them. Patients were divided into three groups. Prior to the crown lengthening procedure patient's crown root ratio, level of attached gingival and gingival health were examined. Group A-comprising of five patients who underwent diode laser procedure. Group B-comprising of five patients who underwent conventional scalpel surgical procedure. Group C-comprising of five patients who underwent diamond bur surgical procedure.

Result, Discussion & Conclusion:

Results, Discussion and Conclusion would be elaborated at the time of presentation.

Comparative evaluation of efficacy of 75% Aloe vera gel for healing following Gingival depigmentation- A Randomized, split mouth study

*Tripti Sehgal , Vanshika Gupta
I.T.S Dental College, Ghaziabad*

INTRODUCTION

Gingival hyperpigmentation, though not a medical problem, is often considered unesthetic by many individuals. Gingival depigmentation is a periodontal plastic surgical procedure designed to remove or reduce this hyperpigmentation using techniques such as scalpel surgery, lasers, or electrosurgery. The healing time for this procedure can vary depending on the technique used.

Aloe vera is known for its soothing, antioxidant, and antibacterial properties, which can aid in wound healing. It can increase the amount of collagen in wounds, alter collagen composition, enhance collagen cross-linking, and thereby promote wound healing. Applying aloe vera gel to the treated areas may potentially improve healing outcomes following gingival depigmentation procedures.

AIMS AND OBJECTIVE

To compare and evaluate efficacy of 3.5% aloe vera gel for healing following gingival depigmentation

MATERIAL AND METHODS

A randomised split mouth study was performed. 10 patients with gingival hyperpigmentation were selected and randomly subjected to group A (depigmentation with scalpel) and group B (depigmentation with scalpel followed by application of 3.5% aloe vera gel). Assessment of healing was done at 7th and 21st day using Landry healing index.

RESULT DISCUSSION AND CONCLUSION

Result , discussion and conclusion would be shown at the time of presentation

Evaluation Of The Differences In Levels Of Clinical Attachment Loss And Periodontal Probing Depth After Flap Surgery Using Scalpel Vs Diode Laser: A Split Mouth Randomized Control Trial.

*Shubhang Khatana , Pragati Yadav
I.T.S Dental College, Ghaziabad*

INTRODUCTION:

Laser systems and their application in dentistry are rapidly improving nowadays. The specific advantages of lasers are incision of tissues, coagulation during operation and postoperative benefits. Diode laser with wavelengths ranging from 810 to 980 nm in a continuous or pulsed mode can be used as a possible modality for soft tissue surgery in the oral cavity whereas scalpel is a conventional tool used in dentistry since ages and has been considered gold standard cutting tool in terms of precise incision, faster healing at much lower cost.

AIM & OBJECTIVE:

To evaluate the differences in levels of clinical attachment loss and periodontal probing depth after flap surgery using scalpel vs diode laser

MATERIALS AND METHOD:

A case series was conducted in the Department of Periodontology and Oral Implantology, I.T.S. Centre for Dental Studies and Research, Muradnagar, Ghaziabad. The patients visiting the OPD who met the inclusion criteria and gave informed consent were included. A total of 10 cases were evaluated in this study. The mean clinical attachment loss and periodontal probing depth levels were assessed at baseline and 3 months.

RESULT, DISCUSSION & CONCLUSION:

Result, Discussion and Conclusion would be elaborated at the time of presentation.

*Comparative Evaluation Of 98% Aloe Vera Gel In The Treatment Of Chronic Periodontitis
Patient : A Clinico Microbiological Study*

*Neharika sinha , Priyanka Singh
I.T.S Dental College, Ghaziabad*

INTRODUCTION

Chronic periodontitis is one of the most common oral health disease which occurs as a result of the extension of inflammation from the gingiva into deeper periodontal pocket which eventually leads to progressive attachment loss and bone loss.

SEARCH STRATEGY

Chronic periodontitis has one of the massive negative impact on the oral health and on the quality of life in general. The aim of this study is to evaluate the effectiveness of aloe vera gel which has various components with antibiotic and anti-inflammatory characteristics which may have a potential advantages in the treatment of periodontal disease.

MATERIALS AND METHODS

A randomized control trial will be done on 20 chronic periodontitis patients within the age group of 20 to 60 years .

GROUP A: 10 patients treated with scaling and root planing

GROUP B: 10 patients treated with scaling and root planing followed by aloe vera gel application

Plaque index, gingival index, probing pocket depth, mean colony form unit of perio-pathogens will be calculated at the baseline and after one month.

RESULT

Is awaited and study is still ongoing

Assessment of TGF β 3 in GCF using ELISA and Correlation with Clinical and radiological parameters in True combined Endo perio lesion.

Noori Khan, Rahul Kumar Jha

I.T.S Dental College, Ghaziabad

Introduction:

The actual relationship between periodontal and pulpal disease was first described by Simring and Goldberg in 1964. Since then, the term "perio-endo" lesion has been used to describe lesions due to inflammatory products found in varying degrees in both the periodontium and the pulpal tissues. The pulp and periodontium have embryonic, anatomic and functional inter-relationships.

Aim-

To Assess levels of TGF β 3 using ELISA in GCF in True Combined lesions and correlating them with Clinical & Radiographic Parameters.

Objectives-

- To assess levels of TGF β 3 in GCF in True combined lesion before and after treatment.*
- To assess clinical & radiological changes in patient's with True combined Lesions.*
- To hypothesize the interdependent relationship between Levels of TGF β 3 & Clinical & Radiological parameters in GCF in true combined lesions*

Materials & Methodology –

15 teeth were assessed with true combined lesion pre & post treatment for the levels of TGF β 3, CAL, GI, PI, PPD and Radiographic changes. The levels of TGF β 3 were assessed using Sandwich ELISA technique.

Results & Conclusion – To be discussed at the time of presentation.

Comparison of Hyaluronic Acid Filler and Hyaluronic Acid Gel in the treatment of Chronic Periodontitis as an adjunct to Periodontal Pocket Therapy

*Shivanshi Vashisht, Shreya Arora
I.T.S Dental College, Ghaziabad*

Introduction— Hyaluronic acid, when introduced as a local chemotherapeutic agent, exhibited numerous clinical therapeutic properties i.e.HA demonstrates a protective role by limiting the damage that can occur during the inflammatory process. It is acknowledged for its antibacterial, antifungal, and antiinflammatory effects in addition to its angiogenesis and osteoinductive properties that enhance wound healing in a variety of tissues of the human body, including the periodontal tissues .

Aim- To study the comparative effect of sub gingival administration of hyaluronic acid filler and 0.1 percent gel as an adjunct to phase 1 therapy on various periodontal parameters .

Method and Material- This clinical comparative study was conducted on 22 patients suffering from chronic periodontitis .

The patients were divided randomly into 2 groups –

Group 1 (study group) – Included 11 patients who received subgingival administration of 0.1 percent of hyaluronic acid gel after the gingival curettage .

Group 2 (control group) – Included 11 patients who received subgingival administration of hyaluronic acid filler after the curettage.

Results and discussion – Results, Discussion and Conclusion will be elaborated at the time of presentation.

Evaluation of the changes in HbA1c levels and clinical parameters following Combined Endodontic and Regenerative Periodontal Therapy in type II Diabetic patients with combined Endo-perio lesions.

*Akanksha Kapoor, Abhishek Dubey
I.T.S Dental College, Ghaziabad*

Introduction: Diabetes Mellitus and Apical Periodontitis share common mechanisms of pathogenesis relating to some altered immune-inflammatory responses at local and systemic levels according to various studies. The hyperglycemic state caused by periodontal inflammation is known to further worsen the glycemic status and to promote the associated complications in diabetic patients. Periodontal therapy also has an effect on glycosylated hemoglobin (HbA1c) levels in the blood, thus improving the metabolic control of the patient.

Aim and Objective: The aim of this study was to assess the effects of combined endodontic and regenerative periodontal therapy on glycemic control and clinical parameters in patients with type 2 diabetes mellitus (T2DM) with combined Endo-perio lesions.

Materials and Methods: In this study, we evaluated the effectiveness of combined endodontic and regenerative periodontal therapy in 20 patients (age 30–70 years) with combined endo-periodontal lesions. Changes in HbA1c levels and the clinical parameters including probing pocket depths (PPDs) and Clinical attachment levels (CAL) alongwith radiographic bone levels were evaluated after 3 months postoperatively.

Results, Discussion and Conclusion will be elaborated during presentation.

A questionnaire based study to assess the outcomes of periodontal flap surgery performed by clinicians

Saloni Daga, Sarjana

ITS Dental College, Ghaziabad

INTRODUCTION-

Periodontitis is chronic inflammatory condition that destroys the tissue supporting the teeth. Periodontal diseases comprises the bacterial etiology, an immune response and tissue destruction.

The treatment modalities include Surgical and NonSurgical procedures among which the NonSurgical includes Scaling, Root Planing and Local Drug Delivery.

The main focus of this study is to emphasize on herbal modalities of Local Drug Delivery.

AIM & OBJECTIVE-

The purpose of this study is to compare the efficacy of 2% LEMONGRASS ESSENTIAL OIL GEL and 2% SALVIA OFFICINALIS GEL.

The Objective of our study is to compare GINGIVAL INDEX, PLAQUE INDEX, PROBING DEPTH, BLEEDING ON PROBING, CLINICAL ATTACHMENT LOSS & HEALING INDEX of both locally delivered extracts.

MATERIAL & METHOD-

Total of 30 participants were examined for this study to assess GINGIVAL INDEX, PLAQUE INDEX, PROBING DEPTH, BLEEDING ON PROBING, CLINICAL ATTACHMENT LOSS and HEALING INDEX in both the medications.

MATERIALS USED- 2% LEMONGRASS ESSENTIAL OIL GEL

-2% SALVIA OFFICINALIS GEL

RESULT, DISCUSSION & CONCLUSION-

Results, Discussion & Conclusion would be elaborated at the time of presentation.

Evaluation and comparison of chlorhexidine and neem mouthwash as a preprocedural rinse on bioaerosol production in patients undergoing implant therapy. A clinico- microbiological study.

Pranjal Gaba

Shree Guru Gobind Tricentenary Dental College Hospital & Research Institute

The oral cavity contains many microorganisms, and there is uncertainty about aerosol generation in dentistry and its potential risks. Microbe transmission can occur between patients and between patients and clinicians. Chlorhexidine (CHX) is considered effective in limiting oral biofilm growth. Neem is a traditional remedy used to treat various conditions, including dental problems.

A pilot study was conducted as a randomized controlled trial. The study has been approved by INDIAN COUNCIL OF MEDICAL RESEARCH . We have selected 21 patients who had undergone implant placement based on specific inclusion and exclusion criteria. The patients selected for implant placement was divided into three groups: Group I: Chlorhexidine rinsing Group II: Neem solution Group III: Red blood agar culture plates was positioned at fixed areas within the Implant Operation Theatre. The patient was given local anesthesia and made to rinse with 0.2% Chlorhexidine Gluconate (Dr. Reddy's®) at room temperature. The patients was assigned numbers 1 through 7, and a standardized distance was measured from fixed points during the study. Blood agar plates was opened during the osteotomy and closed after completion. The plates were incubated at 37 degrees Celsius for 24 hours. After incubation, the colony-forming units were counted with the naked eye.

The study found that both chlorhexidine and neem mouthwashes significantly reduced bacterial levels compared to a control group. This suggests that using mouthwash before dental procedures can reduce bacterial load in patients undergoing implant therapy. Neem mouth rinse can be considered as an effective herbal alternative to chlorhexidine mouth rinse.

Comparative evaluation of antimicrobial efficacy of a herbal mouthwash containing 0.2% Punica granatum and 0.07% Thymus vulgaris with 0.2% chlorhexidine mouthwash as an adjunct to scaling and root planing in patients with generalized chronic periodontitis - A clinical study

Vanshika Sethi

I.T.S Dental College, Ghaziabad

INTRODUCTION:

Periodontitis describes a group of related inflammatory diseases resulting in the destruction of the tissues that support the tooth. Periodontitis has a multifactorial etiology with the primary etiologic agents being pathogenic bacteria that reside in the subgingival area. Treatment of periodontal disease is routinely based on the mechanical debridement of the tooth surface and appropriate and meticulous maintenance of oral hygiene. However comprehensive mechanical debridement of sites with deep periodontal pockets is difficult to accomplish. It alone may fail to eliminate the pathogenic microflora because of their location within the gingival and dental tissues or in other areas inaccessible to periodontal instruments. Thus, chemical agents are advocated as adjuncts to augment the plaque control. Mouthwashes are most commonly used for chemical plaque control. They provide a means of depositing an active material for slow release in the mouth. Most of the mouthwashes available in the market contain alcohol and other chemicals such as chlorhexidine gluconate and triclosan. These chemicals cause various side effects ranging from taste disturbance to allergic contact stomatitis. To overcome such side effects, nontoxic herbal mouthwashes using various herbs and plant extracts have been introduced. Various studies have been conducted to show the effectiveness of herbal mouthwashes. Among these herbal products, Pomegranate Dadima (*Punica granatum*) and Thymol Yavanisatva (*Thymus vulgaris*) extract has gained much importance.

AIM & OBJECTIVE:

The present study, aims to compare and evaluate the clinical efficacy of a herbal mouthwash containing 0.2% *Punica granatum* and 0.07% *Thymus vulgaris* with 0.2% chlorhexidine mouthwash as an adjunct to scaling and root planing in patients with generalized chronic periodontitis.

MATERIAL & METHODS:

Thirty patients who participated in the study were divided into 10 each, randomly into three groups: only SRP therapy (Group A), SRP + herbal mouthwash (Group B) and SRP + Chlorhexidine (Group C). Group B and C were asked to gargle 8 ml of the given mouthwash for 30 s to 1 min twice daily for 5 days. Gingival Index, Plaque Index, Pocket Probing Depth of each participant were recorded at baseline and after 21 days. The patients were asked to report any discomfort, alteration in taste or any other side effects.

RESULT, DISCUSSION & CONCLUSION:

Results, Discussion and Conclusion would be elaborated at the time of presentation.

From Palate to Plate: Investigating the Role of Upper Complete Dentures on Gustatory Perception

Riya Choudhary, Dr Bhupender Yadav

Shree Guru Gobind Tricentenary Dental College Hospital & Research Institute

A pilot study was conducted to evaluate the influence of upper complete dentures on gustatory perception in denture wearers, particularly focusing on the elderly population with compromised oral health due to tooth loss. Along with the tongue, taste receptors are also found on the palate, pharynx, epiglottis, uvula, and the beginning of the oesophagus. It is widely recognized that complete tooth loss can lead to dissatisfaction with taste perception, impacting food choices and nutritional intake, potentially contributing to various health issues such as obesity, cardiovascular diseases, and diabetes.

A palatal covering with removable dentures may impair taste perception. Studies suggest that wearing complete dentures may affect the appreciation of texture of food, which may be interpreted as an alteration of taste ("can't taste food"). The evaluation of taste perception was based on four basic tastes: sweetness, sourness, saltiness, and bitterness. To undertake an assessment of taste perception the Supertaster test kit was used.

Thus, the aim of the present study is to ascertain the impact of edentulism and prosthetic rehabilitation on taste detection threshold and taste identification ability with the help of taste strips.

Prosthetic Rehabilitation of an Enucleated Socket using Bespoke Ocular Prosthesis – A Case Report

Bikky Kumar Sharma

ESIC Dental College & Hospital, Rohini, Delhi

INTRODUCTION – Facial disfigurement associated with loss of an eye due to traumatic injury can create significant physical and psychological distress for an individual. An artificial eye, specially a custom ocular prosthesis, always comes up as the most preferred method of rehabilitation for such individuals though it comes with its own set of challenges. CASE REPORT – A 22 year old male patient reported to the Department of Prosthodontics at ESIC Dental College, Rohini, Delhi with the chief complaint of missing right eye. History taking revealed childhood fire cracker injury as the cause of the right eye enucleation. Following thorough examination, it was decided to fabricate a custom ocular prosthesis with stock iris for the patient. DISCUSSION – Custom ocular prosthesis offers advantage over stock eyes in terms of contouring, colour matching and coordinated motions with contralateral eye. CONCLUSION – In the present case report, prosthetic rehabilitation of the patient with custom ocular prosthesis considerably improved his quality of life and boosted his self-confidence. Keywords – enucleation, ocular prosthesis, reh

In Pursuit of Precision: A Review of Conventional Impression Techniques and Digital Scanners for Indirect Restorations

*Anshu Nagar, Anushika Kakkar
I.T.S Dental College, Ghaziabad*

INTRODUCTION: Conventional impression techniques, long-established in dentistry, have undergone significant advancements, yet they present challenges such as material shrinkage, potential distortion during handling, and discomfort for patients. Conversely, digital scanners offer non-invasive, time-efficient, and potentially more precise alternatives, but initial costs and learning curves may hinder widespread adoption.

AIM : This review paper aims to provide a comprehensive analysis of the effectiveness and efficiency of conventional impression techniques and digital scanners in the realm of indirect restorations. Through a comprehensive review of existing literature, this paper assesses the comparative advantages and limitations of both approaches. It explores various indirect restoration procedures including crowns, bridges, inlays, and onlays. Additionally, factors influencing the choice between conventional and digital methods, such as operator skill, clinical scenario, and patient preferences, are scrutinized.

Ultimately, this review aims to guide clinicians in making decisions regarding impression techniques for indirect restorations. It also identifies gaps in current research and highlights areas for future investigation to continually advance the field of digital dentistry.

Anterior loop of Mental nerve and foramen

*Neha Singhal, Nishat Saifi
I.T.S Dental College, Ghaziabad*

Introduction: The mental foramen is a strategically important landmark. Its location and the possibility that an anterior loop of the mental nerve may be present mesial to the mental foramen needs to be considered before implant surgery to avoid mental nerve injury.

Methods: Articles that addressed the position, number, and size of the mental foramen, mental nerve anatomy, and consequences of nerve damage were evaluated for information pertinent to clinicians performing implant dentistry.

Results: The mental foramen may be oval or round and is usually located apical to the second mandibular premolar or between apices of the premolars. However, its location can vary from the mandibular canine to the first molar

Conclusions: To avoid nerve injury during surgery in the foramina area, guidelines were developed based on the literature with respect to verifying the position of the mental foramen and validating the presence of an anterior loop of the mental nerve. These guidelines included leaving a 2 mm zone of safety between an implant and the coronal aspect of the nerve; observation of mental foramen on panoramic and periapical films prior to implant placement; use of CT scans when these techniques do not provide clarity with respect to the position of the nerve surgical corroboration of the mental foramen's position when an anterior loop of the mental foramen is suspected of being present or if it is unclear how much bone is present coronal to the foramen to establish a zone of safety (in millimetres) for implant placement; once a safety zone is identified, implants can be placed anterior to, posterior to, or above the mental foramen; and prior to placing an implant anterior to the mental foramen that is deeper than the safety zone, the foramen must be probed to exclude the possibility that an anterior loop is present. In general, altered lip sensations are preventable if the mental foramen is located and this knowledge is employed when performing surgical procedures in the foramina area.

Awareness and knowledge of endo-perio lesions among BDS Interns and Post Graduates in our College :A questionnaire-based KAP Survey

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Background: The endodontium and periodontium are closely related and diseases of one tissue may lead to secondary diseases in the other. The differential diagnosis of endodontic and periodontal diseases can sometimes be difficult but it is of vital importance to make a correct diagnosis so that the appropriate treatment can be provided. Objective: As EPL is uncommon in daily practice and dentists' knowledge and awareness of EPL is quite low, this study aims to assess the diagnostic knowledge and understanding of endoperio lesions among dental graduates and post graduates in and around Ghaziabad.

Method: A cross-sectional Knowledge, Attitude and Practices (KAP) questionnaire-based survey was conducted using Google Forms. The questionnaires included and assessed participants' experience with endo-perio lesions, confidence in diagnosis, and familiarity with treatment approaches. The questionnaire was then sent to some of colleges, consisting of BDS interns and post graduate students via e-mail, WhatsApp, and social media platforms. The chi-square test was used for comparison of data.

Results: Awaited

Conclusion: This study highlights the importance of adequate knowledge and understanding of the endo-perio relationship for accurate diagnosis and management of endo-perio lesions. A consensus is needed on this issue to develop a successful multidisciplinary approach to endo-perio lesions. Incorporating comprehensive theoretical education, clinical case management, and continuing education courses may help improve students' diagnostic skills and treatment outcomes for endo-perio lesions.

Dynamics of Tooth Abrasion in Tobacco Users

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*Esthetic Rehabilitation Of Amelogenesis Imperfecta With Dark Gingival Pigmentation :Review
Of Case Report*

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Background: Amelogenesis imperfecta is a developmental disturbance of enamel formation, characterized by genetic mutations of various genes. It refers to collection of inherited diseases that alter the composition and appearance of the enamel of tooth along with other intra-oral and extra-oral tissues.

Case report: This case report shows a 16 year old patient with a complaint of severe pain and sensitivity in the lower jaw while chewing and relieved with medication. Generalised gingival hyperpigmentation and tooth discoloration was observed upon clinical examination. Hypocalcified variant of AI was the final Diagnosis. The comprehensive treatment plan involved firstly, endodontic therapy in all tooth to relieve pulpal inflammation. This was followed by gingival depigmentation using Nd:YAG laser. Finally veneers were given on the incisors and canine for aesthetic rehabilitation, and prosthetic rehabilitation of the first molars were done.

Conclusion: In cases of Hypocalcified AI, the enamel of teeth becomes soft and wears of using a prophylaxis instrument. The unaesthetic appearance affects both physical and mental well-being. Hence, aesthetic rehabilitation boosts confidence of individuals along with aiding in overall health. This case included an interdisciplinary plan of treatment, involving, endodontic, periodontal and prosthodontic management in order to achieve the desired aesthetic appearance and over all well-being of the patient.

Pathway To Rehabilitation Using Zygomatic Implants Post Partial Maxillectomy In A Mucormycosis Patient: A Clinical Case Report

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SHREE GURU GOBIND SINGH TRICENTENARY UNIVERSITY, Gurugram

Mucormycosis is an opportunistic infection brought on by a family of fungi called Zygomycete. Fungal spores that penetrate the mucous membrane of the paranasal sinuses and adjacent tissues and induce tissue destruction and necrosis are the cause of rhinocerebral mucormycosis. A 48-year-old man came to the Department of Maxillofacial Prosthodontics at a private dental hospital in Gurugram. The patient had a history of suffering from Mucormycosis post-COVID infection and had undergone surgical intervention under general anaesthesia which led to partial resection of the maxilla in the second quadrant. Zygomatic implants are a well-recognized surgical and prosthetic therapy option for maxillectomy deformities and atrophic edentulous maxilla. In situations of mucormycosis, where there is partial or complete loss of maxilla following surgical removal of necrosed bone, they specifically minimize the need for subsequent bone grafting and sinus augmentation procedures and offer anchorage to the maxillary prosthesis, speeding up the rehabilitation process. This clinical study demonstrates the adaptability of fixed prostheses supported by zygomatic implants in treating partial maxillectomy cases including mucormycosis following COVID-19 infection.

Rehabilitation of Mucormycosis Survivors- An Enigma

Dr. Arshia Chopra

INTRODUCTION: An unprecedented mucormycosis outbreak occurred in India during the second COVID-19 wave in spring 2021. COVID-19-associated mucormycosis (CAM) was observed, mainly rhino-orbito-cerebral mucormycosis (ROCM), in patients with poorly controlled diabetes and treated with inappropriate doses of glucocorticoids. The diagnosis is difficult and consequently it is often delayed, resulting in high lethality despite appropriate antifungal and surgical treatment.

CASE REPORT :A series of various cases are hereby included in this paper performed in the Department of Oral and Maxillofacial surgery, SGT Dental College and Hospital, Gurgaon that covers the various rehabilitation options for Mucormycosis survivors. It mainly involves zygomatic implants that give a ray of hope for dental patients in need of dental implants who have severe maxillary (upper jaw) resorption.

DISCUSSION: The common presentation of Mucormycosis is of rhino-orbital-cerebral type. The causative organism Mucorales invade the vessel walls causing thrombosis, ischemia, and necrosis and/or spreads directly through the paranasal sinuses. Maxillary partial or complete resection performed in such cases, was associated impaired mastication, swallowing difficulties (dysphagia), speech difficulties (Dysarthria) and an impact on the individual's lifestyle and social interaction. Zygomatic bone engagement is one of the most evidence-based techniques when restoring the resected or atrophic cases.

CONCLUSION : This paper concludes that patients with maxillectomy as a result of complication of covid 19-related ROCM can be successfully rehabilitated with zygomatic implants (four implants). Hereby an attempt is made in this paper to focus on prosthetic rehabilitation of maxillectomy patients post mucormycotic necrosis and it has also been seen that maxillectomy patients show less anxiety and stress after they are rehabilitated using zygomatic implant supported prosthesis.

The local application of natural antioxidants in treating oral submucous fibrosis

Deepak Verma

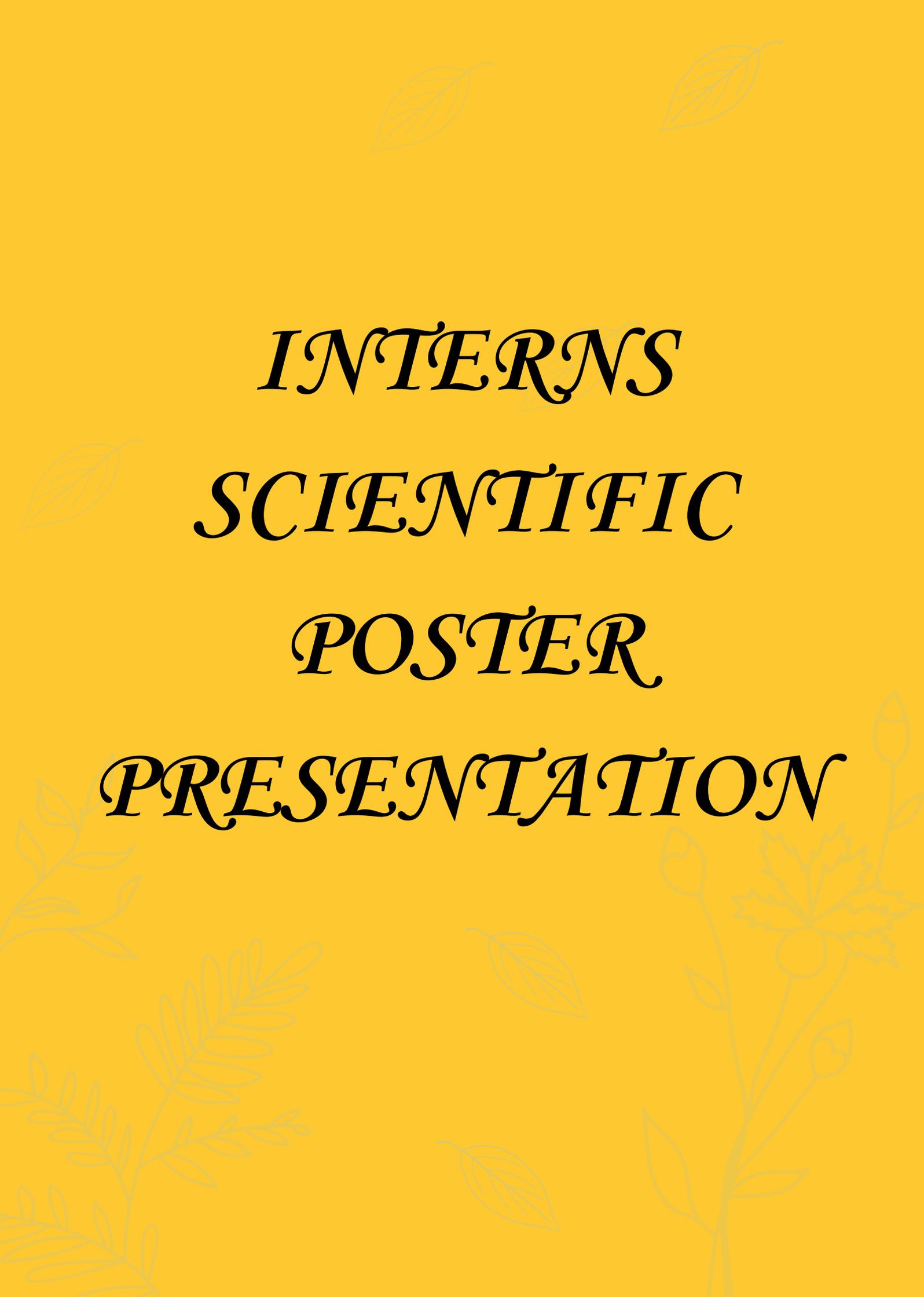
Introduction: Oral submucous fibrosis is a malignant condition, and its treatment poses a significant challenge. Oral submucous fibrosis (OSMF) is a chronic, persistent, insidious disease that can affect any part of the oral cavity and is associated with forming vesicles.

Aim:- The present study aimed to determine the efficacy of a natural remedy for treating oral submucous fibrosis.

Objectives:-

- 1. To determine the efficacy of Turmix mouth gel on stage-1 OSMF patients by observing from different parameters and reduction of the disease.*
- 2. To determine the efficacy of Turmix mouthwash on stage -1 OSMF patients by observing from different parameters and reduction of the disease.*
- 3. To Compare the efficacy of mouth gel and mouthwash in stage 1 OSMF patients.*
- 4. To evaluate by patient's perspective (Like burning sensation, mouth opening, taste alterations) by using self-administered Questionnaire.*

Conclusion: - In conclusion, the study provided extensive information about the effectiveness of Turmix mouth gel in treating buccal mucosa. Oral submucous fibrosis is a complex condition characterized by difficulty in mouth opening and other symptoms. The study found that Turmeric containing product as an effective home remedy for managing OSMF as it provided symptomatic relief to the patient. It was also observed that Turmix Mouthgel is cost effective and has negligible side effects as compared to the Traditional treatment options for OSMF Also, it is considered that the topical application provides prolonged duration of retention of mouthgel makes it more effective than Turmix Mouthwash. The herbal ingredients in the formulation have potential therapeutic effects due to their antioxidant, anti-inflammatory, analgesic, and immunomodulatory properties. However, rigorous scientific research with a larger sample size is required to establish these natural products' efficacy, safety, and optimal use.



*INTERNS
SCIENTIFIC
POSTER
PRESENTATION*

Management Of A Staple Pin Embedded In The Root Canal – A Case Report On Regeneration, Restoration, And Rehabilitation

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Introduction : The intrusion of foreign objects into the root canal poses a significant challenge in endodontic treatment, especially when the pulp chamber is exposed due to trauma or severe decay. This report details the case of a 12-year-old boy with a staple pin lodged in the root canal of his maxillary right permanent central incisor, discussing the management of the case.

Case Report: A 12-year-old boy presented at ESIC dental college with a broken upper front tooth and a history of pain for the past 1 month. The tooth had been injured during a trauma two years prior and underwent access opening at a private clinic. Examination revealed a Ellis class 3 fracture with an open pulp chamber and an embedded foreign object in the root canal of tooth number 11. Radiographs showed a radiopaque object in the root canal. The apex of tooth 11 was open. The patient admitted to using a staple pin to clean food lodged in the tooth. Based on clinical and radiographic examination, a diagnosis of Ellis class 3 fracture with foreign body embedment wrt 11 was made. Root canal therapy was initiated. The staple pin was retrieved using an H-file, and the canal was flushed with saline and sodium hypochlorite. calcium hydroxide was used as an intracanal medicament for 4 weeks. After that, the tooth was asymptomatic, and obturation was completed using MTA plug in apical third followed by obturation and post endo restoration and is on recall after 4 weeks for review and crown placement.

Discussion : This case highlights the complexities and challenges in managing a foreign object embedded in the root canal of a young patient. The staple pin in the root canal of tooth number 11 was a result of the patient's attempt to clean the tooth following trauma, underscoring the importance of early and appropriate intervention after dental injuries. This case emphasizes the need for meticulous diagnostic and therapeutic procedures in managing such endodontic challenges, ensuring both the removal of the foreign object and the resolution of infection. It also highlights the importance of educating patients, particularly children, on the dangers of inserting objects into their teeth and the necessity of seeking prompt dental care following trauma.

Conclusion : This case underscores the theme of "Regenerate, Restore, Rehabilitate" in endodontic therapy. Prompt and appropriate intervention facilitated the regeneration of healthy tissue, the restoration of tooth function through meticulous retrieval and disinfection, and the rehabilitation of the patient's oral health and aesthetics. Effective management and patient education are vital in preventing and addressing such complex dental issues.

IP-02

C shaped canals

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INTRODUCTION -C shaper canals are called so as their pulp chamber appears single ribbon shaped with an arc of 180° or more . Obtaining a 3-D fill of a C shaped canal may prove to be a problem to the various intricacies present within a root canal system.

TECHNIQUE- Use of cold lateral condensation through combined technique of filling the continuous wave of condensation using system B and Obtura-11 and thermal obturation and sealer. Another modified technique is Walid's technique.

CONCLUSION - The C- shaped root canal configuration has an ethnic predilection and a a high prevalence rate in mandibular 2nd molars. Understanding the anatomical presentations of this variation will enable the clinician to manage these cases effectively

IP-03

Endodontic Management Of A Mandibular Canine With Two Canals In A Single Root: An Anatomical Variation.

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Mandibular canines, typically characterized by a single root and canal, exhibit morphological variations that include the presence of two root canals within a single root or two distinct roots. These anatomical anomalies pose challenges during root canal treatment, potentially leading to treatment failure if not addressed properly. The appropriate interpretation of radiographs for the presence of an extra canal and a thorough knowledge about the root canal anatomy is essential for a successful endodontic treatment. This poster highlights the endodontic management of single root mandibular canines with two root canals.

IP-04

Mouth Guards: The smile protectors

*Dr. Yashaswita, Dr. Shubham Tyagi, Dr. Videesha Bhargava
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Mouth guards are an essential tool in preventive dentistry, offering protection and therapeutic benefits across various applications. Mouth guards, also known as mouth protectors, are devices worn over the teeth to protect them from injury. They are commonly used in sports to prevent dental trauma, but they also have significant applications in other areas of dentistry, including bruxism management and orthodontic treatment. Mouth guards have proven effective in significantly reducing the incidence of dental injuries in sports, with custom-made guards providing the highest level of protection and comfort. In the management of bruxism, mouth guards help to minimize tooth wear and alleviate symptoms of TMD. For orthodontic patients, they protect against potential damage from appliances and help maintain tooth alignment post-treatment. Custom-made mouth guards, although more costly, provide superior fit and protection compared to stock and boil-and-bite types. Continued advancements in materials and fabrication techniques are expected to further enhance their effectiveness and patient compliance.

IP-05

Autologous Tooth Graft: Innovative

*Dr. Sneha Chaturvedi, Dr. Buldeep Kaur
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Different biomaterials, from synthetic products to autologous, have been suggested for the preservation and regeneration of bone. In recent years, special attention has been given to dentine as a biomaterial in bone regeneration. The aim of this study was to determine whether the autogenous dentin graft (ADG) shows comparable results and similar clinical performance to other graft materials when utilized for its principal application in sinus and ridge augmentations and for socket preservation before implant placement.

DISCUSSION: Despite the diversity of structure between dentin and cortical bone, the biochemical composition presents similarities. The majority of dentin is composed of proteins common to both dentine and bone. Autogenous teeth grafted as particles were gradually reabsorbed and replaced by new vital bone thanks to osteoinduction and osteoconduction. The main advantages of the presented technique were great availability in terms of volume, the use of fully autogenous material to reduce the possibility of adverse immune reactions in case of refusal of the patient to receive biomaterials of animal origin.

CONCLUSION: Demineralized dentin can be used as a grafting material, demonstrating high cell compatibility and rapid bone regeneration due to an optimal balance between resorption and production of newly formed bone.

Irrigation Revolution: Sweep To Sweep The Canal

*Dr. Nandita Aggarwal, Dr. Naman Kumar
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INTRODUCTION: In irrigation technology there is continuous evolution aiming to achieve complete disinfection of the root canal system including the minutest ramifications of the pulp canal space.

METHOD : A recently introduced Novel SWEEPS (shock wave enhanced emission photoacoustic streaming) technology using Er: YAG. laser has been developed to improve the cleaning and disinfecting efficacy of laser assisted endodontic procedures. It is based on the emission of a couple of consecutive laser pulses, where the second subsequent laser pulse shoots into the liquid at an optimal delay time from the first pulse, when the initial bubble is in the final phase of its collapse. This phenomenon produces an acceleration in "Laser induced bubbles" Another contemporary technique uses Nanobubbles (NBs) which are gas filled cavities within the liquid .

CONCLUSION :This poster aims to highlight the technologies in irrigation such as use of Endo activator ,and other efficient techniques as Photo induced photo acoustic streaming (PIPS)which have brought about a paradigm shift in the approach towards root canal sterilization.

*Dr. Urwashii Kumari, Dr. Palak Varshney
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The term "laser" was first introduced to the public in Gould's 1959 conference paper "The LASER, which is an acronym for Light Amplification by Stimulated Emission of Radiation". Therodore H. Maiman developed the first laser and called it Maser (Maiman 1960).

Fear and anxiety of dentistry procedures specially anaesthesia are influential factors that prevent patients from visiting dental clinics at the right time, which is largely resulted from the experience of pain during dental procedures; there is a significant association between painful experiences during dental treatments in childhood and anxiety and fear of dental procedures in adulthood.

It is a common experience amongst laser dentists and patients that mid-IR wavelength application in cavity preparation may be achieved without causing any associated pain. The erbium family of lasers (Er:YSGG 2780 nm and Er:YAG 2940 nm) are frequently used without employing injectable local anesthesia as an adjunct: the phenomenon arising from the application of these devices is known as laser analgesia.

Laser decreases nerve sensitivity by decreasing bradykinin; a pain eliciting chemical. It normalizes ion channels [cellular gatekeepers] and releases endorphins [body's natural pain reliever] and enkephalins [related to endorphins] that produce an analgesic effect. It also has a pain-blocking effect on certain nerve fibers." Laser therapy is currently at the experimental and research stages. Remarkable results have been achieved using this procedure in the treatment of conditions such as dentine hypersensitivity, temporomandibular joint (TMJ) syndrome, inferior alveolar nerve (IAN) paresthesia caused by surgical removal of 3rd molars, trigeminal neuralgia, herpes labialis, aphthous ulcers and inflammation after chemotherapy. The advantages of this procedure include diminished bleeding during and after treatment (and thereby efficient access and monitoring), pain-relieving and anti-inflammatory effects, stress-less intervention, diminished gingival swelling through closing lymphatic vessels, no need for sutures and no scarring after surgery.

CONCLUSION: The concept of using dental lasers for the treatment of periodontal disease elicits very strong reactions from all sides of the spectrum. Everyone has an opinion. Everyone is certain that their own opinion is correct. But the only certainty is confusion, and the lack of clear direction in the concept of Laser Assisted Periodontal Therapy (LAPT).

NANOTECHNOLOGY: A BOON TO DENTISTRY

*Dr. AKSHAT MITTAL, Dr. AKASH
ITS Dental college, Ghaziabad*

ABSTRACT: Dentistry is frequently facing revolution in order to provide a more reliable and comfortable therapeutic option for the patients. Nanotechnology being an interdisciplinary field, has main three extensively overlapping areas, nanoelectronics, nanomaterials and nanobiotechnology and these have application in healthcare. Nanotechnology has diverse application in dentistry. Different nanotechnology approach in dentistry includes application of nanotechnology to local anaesthesia, permanent cure of hypersensitivity, dentition renaturalisation and continued oral health maintenance.

IP-09

Bone Augmentation in Implantology: A Triad of Regeneration, Restoration, and Rehabilitation

Dr. Nikhil Chanalia
JN Kapoor DAV dental college

Introduction: Dental implants are a widely accepted solution for edentulous patients, requiring precise placement for optimal prosthetic support. Often, insufficient bone volume poses a significant challenge, risking implant failure due to inadequate bone coverage, leading to crestal bone loss, inflammation, and infection. Bone augmentation techniques are therefore critical to ensure successful implant integration and longevity.

Search Strategy: A comprehensive literature review was conducted using PubMed, Google Scholar, and Cochrane Library databases. Keywords included "bone augmentation," "dental implants," "guided bone regeneration," "block bone grafting," and "sinus floor elevation." Articles published from 2000 to 2023 were considered, focusing on clinical studies, reviews, and guidelines relevant to bone augmentation in implantology.

Discussion: This poster reviews common bone augmentation techniques including guided bone regeneration (GBR), block bone grafting, and maxillary sinus floor elevation (SFE). The selection of augmentation materials—autogenous, allogenic, xenogenic, and synthetic—is crucial and requires an understanding of bone biology and physiology. Additionally, patient evaluation before augmentation procedures should include a comprehensive medical history and assessment of factors affecting bone healing, such as systemic health conditions and medication use. Radiographic assessment, primarily through Cone Beam Computed Tomography (CBCT), is essential for planning augmentation procedures. Alternatives to augmentation, such as the use of tilted or angulated implants, narrow implants, zygomatic implants, short implants, or nonimplant-supported prostheses, should be considered and discussed with the patient.

Conclusion: Bone augmentation is essential for achieving optimal implant placement and success in implantology. A thorough understanding of augmentation techniques and materials, coupled with careful patient assessment and radiographic planning, is vital. Alternatives to augmentation should also be considered to tailor the best approach for each patient. This review underscores the importance of comprehensive planning and knowledge in enhancing the success rates of dental implants.

Aesthetic Rehabilitation of Discoloured Teeth: A Comprehensive Approach

Dr. Kavita Banga

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Discoloured teeth can significantly impact an individual's self-esteem and confidence, leading to psychological distress and social inhibition. Aesthetic rehabilitation aims to restore not only the natural appearance but also the emotional well-being of the patient. This abstract outlines a comprehensive approach to addressing discoloured teeth through various treatment modalities.

Firstly, a thorough assessment of the underlying cause of tooth discoloration is crucial. Whether it stems from intrinsic factors such as dental trauma, genetic predisposition, or extrinsic factors like lifestyle habits, understanding the root cause guides treatment planning.

Treatment options include minimally invasive procedures such as dental bleaching for extrinsic stains and micro abrasion for mild enamel defects. For more severe cases, restorative techniques like composite resin bonding, porcelain veneers, or crowns may be recommended to achieve optimal aesthetic outcomes while ensuring functional integrity.

Furthermore, interdisciplinary collaboration between dental specialists, including prosthodontists, periodontists, and orthodontists, may be necessary to address complex cases comprehensively.

Patient education and communication are integral throughout the process, ensuring realistic expectations and active participation in treatment decisions. Post-treatment maintenance protocols, including regular dental visits and proper oral hygiene practices, are emphasized to prolong the longevity of aesthetic results.

In conclusion, the aesthetic rehabilitation of discoloured teeth requires a multifaceted approach tailored to the individual's unique needs and circumstances. By combining conservative techniques with advanced restorative procedures and fostering patient engagement, dental professionals can restore not only the natural beauty of the smile but also the confidence and quality of life of their patients.

Atul Stem Cells: Miracle mix for gingival defects.

Dr. Shalvi

I.T.S Dental college, Ghaziabad

Introduction: Gingival recession defects present both functionally and aesthetic problems that require effective treatment to achieve a long-term positive clinical outcomes Many techniques have been developed to deal with this problem , including the use of pedicure flap free gingival graft,allografts,connective tissue grafts with pedicle flap.

Discussion: The application of stem cells in periodontal defects for regeneration holds promise for the development of novel,more effective approaches to periodontal regeneration during root coverage procedures.

Conclusion: Stem cells with PLA/PGA membrane showedsignificantly higher mean root coverage compared to only PLA/PGA Membrane group

Nature's Blueprint: Building with Biomimetic Brilliance.

*Dr. Albeena Shakeel, Dr. Varnita Varshney
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INTRODUCTION-

Biomimetics has arisen as a promising approach in dentistry that aims to mimic the natural morphology and functioning of dental tissues to develop advanced materials and strategies for supportive and regenerative dental treatment. As teeth do not hold regenerative properties, biomimetic principles can be used to artificially repair the tooth function and esthetics. It is considered as a modern approach to many conventional problems faced by the clinicians during daily practice.

METHODOLOGY-

Reading and reviewing various articles which focus on cases which have been resurrected using the modern biomimetic approach and their results.

RESULT- Biomimetic dental materials possess enhanced physio-chemical properties with increased biocompatibility. They have been successfully applied in different dental fields with advantage of increased strength, adhesion, regeneration and aseptic properties. They have also known to overcome certain limitations for their predecessors.

CONCLUSION- This poster aims to shed light on the use of some of these recent developments in the emerging field of biomimetics especially in restorative and regenerative dentistry. Thus, as clinicians the onus lies on us to gain knowledge and inculcate this biomimetic approach into our practice to enhance patient care.

The Blueprint To Implant Success: Guided Bone Regeneration Unveiled

*Dr. Diksha Sharma Dr Amit Bhardwaj, Dr Shagun
SGT Dental College, Hospital and Research*

INTRODUCTION: A lack of horizontal and/or vertical bone at the implant sites may cause significant clinical problems that must be corrected before implant placement. A ridge augmentation technique is often required to regenerate adequate bone to ensure the successful placement and longevity of dental implants. One technique of ridge augmentation is Guided tissue regeneration (GBR). This literature review explores the principles, techniques, and outcomes of GBR in dental implantology.

SEARCH STRATEGY: A detailed literature search was performed using the facilities on PubMed, Google Scholar, and the Cochrane Library using the keywords "Guided Bone Regeneration", "Barrier Membranes", "Bone Grafts" and "Dental Implants". All the articles selected were within the period 2013 to 2023 from journals. The articles were chosen based on the relevancy of methodology and result implications.

DISCUSSION: The literature indicates that GBR, involving the use of barrier membrane with/without particulate bone graft or/and bone substance is used. Studies have shown that for bone defect regeneration, osteogenesis from adjacent bone must outpace fibrogenesis from surrounding soft tissue. There are two approaches to GBR in implantology GBR along with implant placement and GBR before implant placement to increase the alveolar ridge. To ensure successful GBR, there are four key principles: exclusion of epithelium and connective tissue, space maintenance, stability of the fibrin clot, and primary wound closure.

CONCLUSION: GBR is a successful method to overcome the deficiency of bone at the implant site, leading to improved implant stability and longevity. Sticking to the key principles and the selection of suitable materials are essential for successful outcomes.

Low Level Laser Therapy

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A type of light therapy known as Low Level Laser Therapy has been incorporated in the field of dentistry. LLLT uses only one wavelength of light. Low level lasers have played crucial and colorful roles in performing periodontal surgeries. Their anti-inflammatory and painless effect have been reported in in-vitro studies.

Low level lasers do not cause temperature elevation within the tissue, rather produce their effect from photobiostimulation effect within the tissue. Low level laser do not cut or abiate the tissue.

Low level lasers has been suggested as a method

for post operative pain reduction. 80% of the patient respond positively to low level laser therapy.

SPONSORS

