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Why do we need Holistic dentistry?

By definition holistic mean taking in to account all of the parts of a specific thing and treating them as one, instead of several loose parts stuck together. With this in mind we can assume that something that affect on part of your body will affect other parts as well, even if they are not next to each other. The same is said for the materials that are used to restore your teeth. Be it a filling, or prosthesis. If it is not biocompatible or processed correctly it could be harmful over time. This is the whole idea of holistic, wholistic or biologic dentistry.

The teeth and jaw have an enormous impact on general health and well-being. All parts of the body are connected. No part work in isolation from the rest. We often lose sight of this in the specialization approach of modern medicine. The mouth has a very rich nerve and blood supply. It harbours a lot of bacteria and is the entry point for all of the body's food and water. So it is important that your mouth is healthy! The mind, body and spirit are also connected, in very practical ways - much more so than we have been taught. Who would have thought that today's busy lives would have an impact on our teeth? But it is true.

WHAT DOES 'HOLISTIC' MEAN IN PRACTICE? - WE, THE HOLISTIC DENTISTS :

We use dental materials which are not toxic to the human body - for example, we do not use mercury amalgam

We use techniques which minimize harm and intervention - in this we are greatly assisted by the exciting new technologies, for example digital X-rays which deliver only 50% of the radiation level we use nutritional and other natural supplements to ensure healthy building blocks for teeth and gums we look at how your muscles and bone are working together and adjust these if necessary

TALL CLAIMS OR REALITY: Rather than focusing on illness of the teeth and gums and looking for its causes only in the structures of the teeth and gums, holistic approach to oral health considers the whole person and how he or she interacts with his or her environment. It emphasizes the connection of mouth and the rest of the body systems. The goal is to achieve maximum well-being, where everything is functioning as one. With Holistic Dentistry people accept that we are not this body part or that body part. Rather a person is a one unit with many inter-related systems.

Some holistic dental theories: Heart: It is an established truth that one can add years to life by proper oral care. Periodontal Disease influences the well being of the distant areas of the body.

Chinese medicine's meridian Chi system is interrupted by oral infections that may be dismissed as painless thus insignificant. Often, root canal treated teeth, if not healed fully, can be a source of

such festering infections. Toxic materials to some people (i.e. mercury, formalin compounds, chrome-cobalt, and presence of certain plastics) can significantly impact the overall health. Dr. Sherry Rogers' book "Detoxify or Die" is an excellent resource to learn more on the issue of Environmental Medicine's stand on toxic metals in the mouth.

Intestinal issues may show up in the mouth as gum disease. Often both areas need to be addressed before the healing of the periodontal disease can be achieved.

Nutritional fiber supplements in combination with the good probiotic supplement are a great addition to any periodontal disease therapy. The body can turn on itself trying to eliminate toxins. This autoimmune reaction can be seen in the gums of the mouth.

Poor nutrition will impact teeth and gums. Proper Vitamin and Mineral supplementation is a great adjunct to the treatment provided in the holistic dental centre.

LET'S LOOK AT THE OTHER SIDE OF THE ARGUMENT. A significant number of dentists have gone overboard in espousing pseudoscientific theories, particularly in the area of nutrition. Dentists who identify themselves as "holistic" or "biological" typically claim that disease can be prevented by maintaining "optimum" overall health or "wellness." In their offices, this typically involves inappropriate diagnostic tests, recommendations for expensive dietary supplements and/or homeopathic products; a plastic bite appliance; unnecessary replacement of amalgam fillings; and/or removal of root-canal-treated teeth. John E. Dodes, D.D.S., an expert on dental quackery, has remarked that "wellness" is "something for which quacks can get paid when there is nothing wrong with the patient.

A holistic claim says that facial pain, heart disease, arthritis, and various other health problems are caused by "cavitations," within the jaw bones, that are not detectable on x-ray examination or treatable with antibiotics. Advocates now call this condition "neuralgia-inducing cavitational osteonecrosis (NICO) and claim they can cure the patient by locating and scraping out the affected tissues. They may also remove all root-canal-treated teeth, most of the vital teeth close to the area where they say a problem exists, and even parts of the jawbone. Worse yet, the surgery may result in severe infections and a lifetime of pain. Holistic dentists claim "Cavitations are hard to find. They require lots of skill, years of experience, and most of all, a vivid imagination to spot them on an X-ray film." Vivid imagination may well be the basic requirement of holistic and biological dentistry. The whole idea seems so crude and sound more like a fairy tale told seriously. The scope and dangers of biological dentistry can be seen by reading the complaints against Alireza Panahpour, D.D.S., a California dentist. So far, suits have been filed by at least nine patients whom he subjected to inappropriate treatment that left them with severe discomfort and a need for expensive corrective procedures.

THE BOTTOM LINE

My advice is simple. Steer clear of dentists who practice "holistic dentistry" or "biological dentistry" or who use or even recommend any dubious methods to lure innocent people. Practicing good dentistry is a tough job and dentists who cannot cope with it have created a niche for their survival under the tag "holistic" dentistry whereby they can flourish striking fear in the minds of people with claims which have no evidence.

Reconstruction of Mandibular Defect with PRP & Alloplastic Bone Graft - A Case Report

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ABSTRACT

With the advent of blood factor fractionation in hematology and the search for haemostatic agents, interest has increased in platelet-rich plasma (PRP) fractions. PRP is a volume of autologous plasma that has a platelet concentration higher than normal and is applied to the site of a bone graft to deliver a high concentration of growth factors from platelets. Favorable clinical outcomes have been reported following the incorporation of PRP gel in ablative surgical procedures of the maxillofacial region, mandibular reconstruction, repair of alveolar clefts and fistulas, and implant placement. In this presentation, we report a case of reconstruction with alloplastic bone graft and PRP for mandibular alveolar defect due to enucleation of odontogenic keratocyst.

KEYWORDS: Platelet rich plasma, Alloplastic bone graft, Odontogenic keratocyst.

INTRODUCTION

Surgeons are continually searching for ways to improve the success of bone grafting with either autogenous bone or other bone substitutes. Since 1990, medical science has found several components in blood which could accelerate the healing process. Activation of the platelets within the gel and the resultant release of growth factors, enhances wound healing¹⁰. Combining PRP with autogenous bone in mandibular continuity defects results in significantly faster radiographic maturation and a histomorphometrically denser bone regenerate³. It certainly seemed as though a new age in bone grafting had begun.

The repair and regeneration of bone is a complex issue in the head and neck region. Bone loss by any means (trauma, pathology and surgical procedures) is a problem for functionality and has an ever-increasing social impact.

The odontogenic keratocyst (OKC) is a cystic lesion of odontogenic origin, which is classified as a developmental cyst derived from the dental lamina. Surgical management of odontogenic

keratocyst results in significant bone defects which may range from alveolar defects to continuity defects.

Here, we present a case of odontogenic keratocyst in anterior mandible treated with enucleation and chemical cauterization, followed by reconstructing the defect after 4 months with alloplastic bone graft material and platelet rich plasma.

CASE REPORT

A 17 years old female patient reported to the Department Of Oral And Maxillofacial Surgery, Mahatma Gandhi Post Graduate Institute of Dental Sciences with chief complain of swelling in lower right front tooth region since last 2 months. The patient was relatively asymptomatic 2 months back when she noticed a non-tender swelling present at lower labial vestibule region. Patient gives history of pus discharge from lingual aspect of lower left canine region since last 1 month. The swelling was accompanied by pain, which was constant, dull, and non radiating. No history of numbness or abnormal sensation was given by



Fig - 1



Fig - 2

the patient. No relevant dental, medical, & family history was found. Vitals were within normal limit.

On intraoral examination a swelling in the attached gingival and alveolar mucosa of size 1×1 cm on the lingual aspect of 33 was found. Swelling appeared smooth with pus discharge on the surface and was normal in colour except for focal erythematous area at the gingival margin. Borders were well defined and swelling was mildly tender on palpation and soft in consistency. Mouth opening was recorded as 38 mm. All four lower incisors were clinically mobile.

Occlusal view revealed a well-defined unilocular radiolucent lesion in the anterior mandible with corticated border extending from mesial aspect of 35 to 44. Thinned out lower border of the mandible and displacement of root in relation to 31,32 & 33 were seen without any evidence of root resorption. Thermal vitality test showed no response in relation to 33 (Non vital). On aspiration with 20 gauge needle a blood tinged cystic fluid mixed with white cheesy material was revealed.

Patient was provisionally diagnosed as a case of odontogenic keratocyst of anterior mandible. Patient was operated by enucleation of cyst with chemical cauterization with Carnoy's solution under general anaesthesia. Patient tolerated the procedure well and no post operative complications were encountered. After 4 months of follow up, defect was reconstructed with the mixture of alloplastic bone graft and platelet rich plasma.

METHOD OF PREPARATION OF PRP

10 ml of patient's blood was taken from median



Fig - 3



Fig - 4

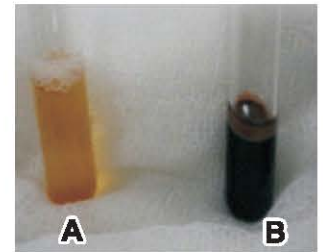


Fig - 5

cephalic vein of right arm with the help of 18 gauge needle and 10 ml syringe which was then added in test tube containing anticoagulant solution (Sodium citrate) to avoid platelet activation and degranulation. This test tube was then centrifuged at 5600rpm for 10 mins. The first centrifugation allows the blood separation into three distinct layers:

At the bottom of the test tube, the red blood corpuscles constitute 55% of total volume.

At the top of the test tube, the acellular plasma layer is mainly made up of circulating plasmatic molecules (in particular, fibrinogen) and low in platelets. It is designated platelet poor plasma (PPP) and constitutes 40% of total volume.

Between these two layers an intermediate layer of maximum platelet concentration is present. It constitutes only 5% of total volume and presents a characteristic buffy aspect that led to it being called "buffy coat".

Plasma layer of buffy coat and some amount of RBC's were aspirated with the help of a micropipette and were emptied in plain test tube without any anti-coagulant. This test tube was again centrifuged at 2400rpm for 10 mins. After second centrifugation platelet poor plasma and platelet rich plasma (PRP) got separated. Upper 2/3rd of the solution containing platelet poor plasma was aspirated out. Platelet rich plasma



Fig - 6



Fig - 7

was made into gel form with the help of addition of 3-4 drops of Calcium chloride. The prepared PRP gel and alloplastic bone graft were mixed and placed in the defect. Postoperatively antibiotics were prescribed for 7 days. No incidence of wound dehiscence, surgical site infection and any other complication occurred during this two month follow up.

DISCUSSION

PRP is a blood derivative, generated by differential centrifugation, in which platelets are concentrated in a small plasma volume⁷. The use of PRP is based on the premise that platelets constitute a reservoir of critical GFs, such as platelet-derived growth factor (PDGF), transforming growth factor- β (TGF- β), insulin-like growth factor-I (IGF-I) and vascular endothelial growth factor (VEGF), which, once released, may positively regulate the wound-healing process^{3,7}.

Considerable interest has recently emerged over the potential benefits of using platelet-rich plasma (PRP), a highly concentrated form of platelets. Platelet activation results in coagulation and release of regulatory peptides normally sequestered in α granules. Clinically, the resulting platelet gel has been also shown to act as a biologic adhesive and barrier, functioning as a sealant¹¹. Autologous platelets have been used clinically primarily for hemostatic control. Recently, PRP has been reported to promote hard and soft tissue wound healing. PRP has also been found to induce rapid bone maturation and increased density in cancellous marrow graft reconstructions of large mandibular continuity defects³. Favorable clinical outcomes have been reported following the incorporation of PRP gel in ablative surgical procedures of the maxillofacial region, mandibular reconstruction, repair of

alveolar clefts and fistulas, and implant placement¹⁰. Numerous reports have shown that the use of PRP facilitates clinical handling of graft material^{4,2}. An important feature of PRP is that this autologous product, which is prepared from the patient's own blood, eliminates concerns about immunogenic reactions and disease transmission.

OKC frequently results in large bony defects following enucleation. It takes long time for bony regeneration and filling of the defect. Researchers continuously strive to improve bone grafting techniques and to provide the means to obtain a faster and denser bony regeneration. Marx et al have proposed the use of platelet-rich plasma as a viable technique to obtain a high concentration of growth factors³. These authors observed that autogenous bone grafts matured faster when combined with PRP to treat mandibular defects resulting from the removal of benign and malignant tumours.

Bone is a dynamic tissue subject to balanced processes of bony formation and resorption; autologous platelet gel or concentrate PRP can be used alone or in association with bony graft for the treatment of bony defect, cystic lesions⁶, periodontal pockets⁹, and extraction sockets⁸. In this case report, we used the benefits of PRP on alloplastic bone graft, which provides us alternative reconstructive option for the management of residual defects.

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DNA FINGERPRINTING

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ABSTRACT

The discovery of DNA fingerprinting has brought about a epic change in the science and art of crime detection, This technique has proved to be highly reliable in convicting criminals and, equally importantly, helps in exonerating innocent individuals. This review aims at discussing the history and development of forensic DNA profiling and the advantages of DNA database in forensic investigations.⁽¹⁾

INTRODUCTION

DNA fingerprinting also known as profiling, is one of several techniques used for analyzing and comparing DNA from different sources, used especially in criminal justice system and law enforcement to identify suspects from blood, semen, hair or other biological materials found at the scene of a crime. Its basis depends on the fact that no two people have the exact same DNA sequence, except in the rare case of identical twins which is the sole exception. The human genome approx consists of about 3 billion base pairs containing genetically relevant information essential for the unique features of each individual. The genetically relevant information represents less than 10 % of the human genome. The other 90% of the genome is *junk* DNA, a term which is more of a misnomer since their functions are still unknown rather than useless.⁽¹⁾

HISTORY

DNA fingerprinting was first used in forensic science in 1986 when police in the UK requested Dr. Alec J. Jeffreys, of University of Leicester, to verify a suspect's confession that he was responsible for two rape-murders. Tests proved that the suspect had not committed the crimes. The first person to be convicted on the basis of

DNA evidence in the UK was Robert Melias in 1987.^(2,3)

METHODS

The most common procedure for DNA fingerprinting is restriction fragment length polymorphism or RFLP. In this method, DNA is extracted from a sample and cut into segments using restriction enzymes such as SNA1, Ava II etc. The focus of RFLP is on segments that contain short sequences of repeated DNA bases, which vary widely from person to person. The segments are separated a technique called gel electrophoresis, which sorts the fragments by length. The segments are then tagged radioactively to produce a visual pattern known as an autoradiograph, or "DNA fingerprint," on X-ray film. A newer method known as short tandem repeats (STR) analyzes DNA segments for the number of repeats at 13 specific DNA sites. The chance of wrongful identification in this procedure is one in a billion. Yet another process, polymerase chain reaction (PCR), is used to produce multiple copies of segments from a DNA template which is limited in amount (as little as 25 - 40 molecules), enabling a DNA fingerprint to be made from a single hair. Once a sufficient sample has been produced, the pattern of the alleles from a limited number of genes is compared with the

pattern from the reference sample. A non-match is conclusive, but the technique provides less certainty when a match occurs.

DISCUSSION

RFLP was the first DNA typing technology introduced in the mid 1980s. This method of DNA typing involved core units of sequences consisting of 30 to 100 nucleotides which are present in many repeats (VNTR)⁽⁴⁾. This method of DNA typing requires high molecular weight intact genomic DNA in large quantities (20 to 40 mg). However, the biological specimens received in a forensic laboratory are usually in a state of degradation due to environmental factors, and at times only a minimal amount of DNA can be obtained, it is in such situations that the RFLP technique cannot be applied. The method of choice presently in use is the STR typing method. The STR method can co-amplify many loci composed of core units of nucleotide repeats approx 80 to 400 base pairs in length, the results can be obtained in the same day by automated DNA fragment analyses. As the STR technique requires minute amounts of DNA (0.5 to 1 ng) and degraded samples can also be tested it has proven to be far superior than the RFLP method. DNA analysis and fingerprinting has been instrumental in securing convictions in hundreds of crimes. It has also helped to eliminate suspects and has led to the release of wrongly convicted individuals. DNA fingerprinting can focus investigations by narrowing down the suspects, thus shortening trials and leading to correct convictions.

CONCLUSION

The increased use of forensic DNA evidence will lead to rightful conviction of felons and lawful carriage of justice in the criminal justice system. Through storage of DNA data in computer data banks specially designed for the purpose, DNA analysis can be used to solve crimes without the physical presence of suspects. Forensic scientists can match DNA profiles of retrieved biological evidence samples with a data bank to assist the police in detecting suspects. A national DNA data bank would also help police identify serial offenders both within and across the country.

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ORTHO INTERDISCIPLINARY MANAGEMENT FOR MIDLINE DIASTEMA RELATED TO ABNORMAL FRENUM AND INTRABONY DEFECT – A CASE REPORT

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ABSTRACT

Interdisciplinary approach helps the specialists of contributing disciplines immensely in diagnosis, treatment planning, execution of planned treatment and problem solving for any untoward complication. Orthodontic treatment may be adjunctive to periodontal therapy or vice versa. This case report describes a case of maxillary midline diastema that was related to the presence of highly placed papilla penetrating type of labial frenum with deep intrabony defect. A combined Periodontal and orthodontic approach involving Frenectomy, Bone grafting and closure of midline diastema was done to improve the anterior esthetic zone.

KEYWORDS: Midline Diastema, Frenectomy, Bone grafting

INTRODUCTION

Midline diastema occur in approximately 98% of 6 year olds, 49% of 11 year olds and 7% of 12–18 year olds^{1,2}. There are many possible causes of midline diastema—physiological, dentoalveolar disproportion, missing teeth, midline supernumerary teeth, proclination of the upper labial segment and a prominent frenum³. There have also recently been reports of self-inflicted pathological cases of diastema caused by tongue piercing⁴. In many of these cases, orthodontic treatment alone can help to close a diastema. Combined treatment with Periodontal and Orthodontic techniques may be advocated when, for example, a highly placed labial frenum with an intrabony defect. The case presented describes maxillary midline diastema due to a highly placed papilla penetrating aberrant frenum along with an existing deep intrabony defect. A combined orthodontic and periodontal approach resulted in successful management of the patient with diastema closure.

CASE REPORT

A 19 year old female patient was referred from Department of Orthodontics to Department of Periodontics, Mahatma Gandhi Post Graduate Institute of Dental Sciences, Pondicherry, with the complaint of maxillary midline diastema with highly placed papilla penetrating type labial frenum (for the treatment of frenectomy) (Figure 1). Her medical history was reviewed using a questionnaire and verbal confirmation. Her



Fig. 1

medical and dental history was non-contributory. A comprehensive periodontal examination was completed including extraoral, intraoral and radiographic evaluations.

On clinical examination, maxillary midline diastema of 5mm with highly placed papilla

penetrating labial frenum along with a periodontal pocket of probing depth 8mm was present in relation to left maxillary central incisor(Figure 4). An intraoral periapical radiograph was taken to rule out the presence of supernumerary teeth and also for assessing the underlying bony defect. Radiograph revealed vertical bone defect in relation to mesial aspect of 21 and there was no associated supernumerary teeth(Figure 10 a). Initial periodontal treatment consisting of oral hygiene instructions and complete scaling along with rootplaning on left maxillary central incisor was completed and patient was recalled after one week for management of aberrant frenum. Routine blood investigations were within normal limits and Frenectomy was done under local anaesthesia(Figure 2) and the patient was put under maintenance phase. Patient was reviewed after one month, there was satisfactory healing after frenectomy(Figure 3) but there was no reduction in probing depth and there was bleeding on probing in relation to left maxillary central incisor. As a result, surgical intervention was recommended to eradicate this underlying problem. Papilla preservation flap technique was done (Figure 5) and the deep two wall intrabony defect was filled using Bonemedik-S(Figure 6). Immediate intraoral periapical radiograph taken revealed evidence of bone filling and the patient was put under maintenance protocol for six months. After six month revaluation there was complete healing of the frenum and probing depth reduced to 3mm along with complete bone formation in relation to mesial aspect of left maxillary central incisor(Figure 7). Patient was referred to Department of Orthodontics for the



Fig. 2



Fig. 3



Fig. 4



Fig. 5



Fig. 6



Fig. 7



Fig. 8

management of midline diastema. Follow up of the patient after six months of orthodontic treatment revealed closure of the midline diastema with satisfactory periodontal health(Figure 8).

DISCUSSION

Midline diastema is described as midline spacing greater than 0.5 mm between the proximal surfaces of adjacent teeth⁵. Tait listed causes like ankylosed central incisor, flared or rotated central incisors, anodontia, macroglossia, dentoalveolar disproportion, localized spacing, closed bite, facial type, ethnic and familial characteristics, inter-premaxillary suture and midline pathology⁶. Weber reported macrognathia, supernumerary teeth, peg laterals, missing lateral incisors, midline cysts and habits such as thumb sucking, mouth breathing and tongue thrusting⁷. Angle concluded the presence of abnormal frenum as the cause for midline diastema⁸. Keene reported the incidences of maxillary and mandibular midline diastema are 14.8% and 1.6% respectively. During mixed dentition stage a transient midline diastema

develops⁵. Treatment involves correct diagnosis and an early intervention relevant to its specific etiology. Different treatment modalities include orthodontic removable or simple fixed appliances, excision of the frenum, restoration techniques with direct composites, laminates, veneers, ceramic restorations, extraction of mesiodens, habit breaking appliances etc. The morphology of the osseous defect largely determines the treatment technique to be used. Two wall angular defects can be treated depending on their depth, width, and general configuration. Two wall defects are the most common bony defects found in patients with periodontitis. Numerous therapeutic grafting modalities for restoring periodontal osseous defects have been investigated. Bone graft materials are generally evaluated based on their osteogenic, osteoinductive or osteoconductive potential. Hydroxyapatite has a calcium-phosphate ratio of 1.67, similar to that found in bone material⁹.

In the present case there was an associated deep two wall intrabony defect along with high labial frenal attachment and midline diastema. Treatment was planned in such a way to do frenectomy first followed by management of the intrabony defect and then referral of the patient to orthodontist for management of midline diastema. One of the most commonly used bone graft substitute is Hydroxyapatite (HA), which has similar crystal structure to that of natural bone mineral and has been in clinical use for over 30 years. Various forms of Hydroxyapatite (HA) bone grafts have been used in the treatment of human intrabony defects with favourable clinical results. In the present case BoneMedik-S, silicon contained coralline hydroxyapatite bone graft substitute which is similar in structure and composition to human cancellous bone was used as a bone substitute. Follow up of the patient after one year revealed satisfactory healing after frenectomy and bone regeneration along with the reduction of probing depth, so that possible tooth movement was achieved for the closure of midline diastema.

CONCLUSION

Co-operation between different specialties in dentistry is extremely important in establishing diagnosis as well as in treatment planning. The interrelationship between orthodontics and Periodontics is often symbiotic and interdependent. Establishing a logical treatment plan can only occur if the initial diagnosis is correct. The diagnosis will lead to a prognosis for each tooth and the overall dentition. After completion of active periodontal therapy, it is important to create a healthy periodontium that can be maintained with ideal home care and regular recall appointments. In the esthetic zone it is important to understand all the factors that affect the smile and that relate to uneven gingival contours.

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Auricular Prosthesis – Enhancing Social Contact

Clinical Case Report

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ABSTRACT

Maxillofacial prosthodontics is defined as “the branch of prosthodontics concerned with the restoration and/or replacement of the stomatognathic and craniofacial structures with prostheses that may or may not be removed on a regular or elective basis”. Introduction of silicon materials came as a breakthrough in the field maxillofacial Prosthodontics as it greatly enhances esthetics. From the time when the maxillofacial prosthetic treatment came into practice, various researches have been done to improve esthetics and retention. This article describes the management of a patient with missing partial ear who was rehabilitated with auricular prosthesis fabricated using RTV silicone.

Key words: Auricular prosthesis, Esthetics, Modes of retention, Silicone prosthesis

“It is the God given right of every human being to appear human”.

Cases of facial tissue loss are known to be often acquired, congenital malformation, tumoral lesions or accidents. Loss of facial structures comes as a social constraints and restraints that makes the people to avoid social contact and put them under great psychological depression. Thus the aim of a maxillofacial prosthodontist is not only to improve their functions but also to alleviate psychological fear, apprehension and depression^{1,2,3}.

Several studies have revealed that maxillofacial prosthetic treatment enhances the patients' personality and helps to attain betterment in the society. Though plastic and reconstructive surgery may be helpful in certain situations all patients may not be good candidates because of advanced age, poor health, large deformity or poor blood supply to irradiated tissues. Maxillofacial prosthetic rehabilitation has three main advantages, it requires little or no additional

surgery, decreases hospital stay, has more esthetically pleasing results and is less invasive than plastic surgery⁴. In patients with complete or partial missing ear, replacement with auricular prosthesis not only enhances esthetics but also improves their acoustic functions⁵. Long term facial prosthesis depends on esthetics in general and retention in particular. There are various modes of retention used for auricular prosthesis; anatomic undercuts, tissue adhesives and implants. Among these, implants are considered to provide best retention⁶. However there are some disadvantages like economical factors, projection of abutment from the implant when prosthesis is not in place etc. In this article we have discussed about the management of a patient with Treacher Collin's syndrome (mandibulofacial dysostosis) who presented with partial missing ear.

CASE REPORT

A 13 year old male patient reported to the Department of Prosthodontics and implantology,

Mahatma Gandhi Postgraduate Institute of Dental Sciences with a complaint of partially missing ear (**Fig 1**). On examination it was revealed that the patient was suffering from Treacher Collin's syndrome for which he was undergoing treatment in JIPMER. Auricle on the right side was malformed with helix and tragus part missing. Based on these findings treatment plan of fabrication of auricular prosthesis was decided.

Procedure:

Impression phase:

Patient was made to lie down in semi supine position to get full access to the defect area. A plasticine strip was cut and rolled to form a cylinder of diameter two inch larger than the defect. Irreversible hydrocolloid (alginate) impression material was used. The plastic cylinder was placed over the defective ear. The external auditory meatus was closed using a



Fig - 1

cotton plug. Thin mix of alginate was made and poured inside the plastic cylinder. Impression of a normal ear from a donor which is approximately of the same size as that of the patient's ear was made. This aids in carving and sculpting the wax pattern. Condensation silicone impression material in putty consistency was used. Impression material was first placed in the back part of the helix and then it was placed to cover the entire ear (**Fig 2**).

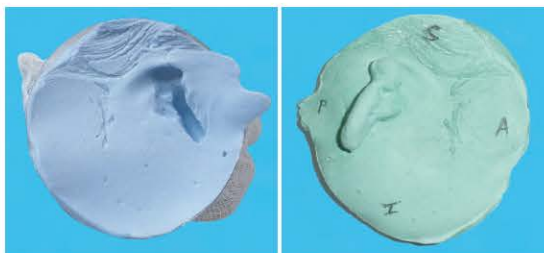


Fig - 2

Wax pattern fabrication:

Modeling wax was melted and poured into the donor impression to obtain approximate shape of the wax pattern. The wax pattern was carved and adjusted according to the defective ear with the help of the stone model. Wax pattern was then tried in the patient and checked for fit and alignment (**Fig 3**).



Fig - 3

Flasking and Dewaxing:

Two pour technique was used for flasking the wax pattern for easy retrieval of the prosthesis. First pour was done till the outer border of the helix. After it is set petroleum jelly was applied. Then second pour was done to cover the entire wax pattern (**Fig 4**). The flask was then dewaxed.



Fig - 4

Colour matching:

This step plays an important role in the success of the prosthesis as it determines the esthetic out come. Thus sufficient time should be allotted for colour matching. To get better result trial mixing of the silicone material and the colouring agent must be done. Basic skin colour was determined and added to small amount of silicone material. Colouring agents

were added incrementally to match with the patients skin colour.*

Processing and Finishing:

Room temperature cured (RTV) silicone was used. After final colour was obtained sufficient amount of silicone material was taken in a glass slab. Colouring agents were added in same ratio as used for trial mixing. After mixing, the silicone material was packed into the flask moulds. Curing was done for 24 hours at room temperature. After deflasking, prosthesis was removed and finished using alpine stones and silicon burs (Fig 5).

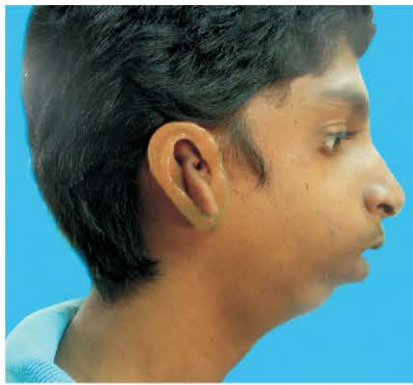


Fig - 5

Mode of retention:

Double sided adhesive tape was used to aid in retention, though the main mode of retention was using the anatomic undercut. Patient was instructed about the usage of adhesive tapes. He was informed that the tape has to be changed at periodic intervals and water contact for an extended period of time should be avoided. An organic solvent like acetone, should be used to clean the tissue surface of the silicone prosthesis to remove the remaining adhesive, before applying new tape for usage of the auricular prosthesis.

CONCLUSION

Difficulties with facial prostheses arise due to movable tissue beds, quality of prosthesis retention, and associated skin reactions to adhesives. Patients' perceptions of their facial prostheses in terms of esthetics, comfort, ease of placement and removal, fit, and most importantly the quality of retention affect their level of compliance to wear the prostheses. Thus every effort must be made to restore the defect that has acceptable esthetics and good retention to enable the patient to re-enter the society with confidence.

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DIAGNOSTIC IMAGING OF PREOPERATIVE IMPLANT SITE – PAST AND PRESENT

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ABSTRACT

Implant imaging is a rapidly growing concept in dental practice. Accurate dental implant placement requires comprehensive preoperative radiographic examination. The objectives of diagnostic imaging depend on a number of factors, including the amount and the type of information required and the time period of the treatment rendered. There are many imaging modalities that have been employed for implant placement. This paper reviews the growing body of literature concerning various types of preoperative imaging procedures for the dental implant site and also addresses about the current concepts.

KEYWORDS: Dental radiography, Dental implants, Implant planning, Preoperative planning.

INTRODUCTION

The use of dental implants for replacing missing teeth and other oral structures has been increasing rapidly throughout the world, with functional 5-year success rates of 90% being reported. Alveolar bone is resorbed in edentulous segment, sometimes quite dramatically, and imaging is required to assess residual bone height, width and quality. Treatment planning for implants includes a radiographic examination that provides information about the location of anatomical structures, the quality and quantity of available bone, the presence of bone lesion, the occlusal pattern and the number and size of implants, as well as prosthesis design all of which are essential for successful implant treatment. The selection of a specific imaging technique should be based on the technique best suited to provide the information required by the restorative dentist, surgeon, and maxillofacial radiologist.

HISTORICAL PERSPECTIVE

In the earlier days, implant sites were evaluated with intraoral, panoramic, cephalometric, tomographic techniques and a combination of these methods to optimize the

diagnostic outcome. Potentially, both two dimensional and three dimensional imaging modalities suffer from superimposition and completely lack the third dimension of bone depth such that diagnostic value is inaccurate and unreliable. Recently, there has been an increase in the use of both conventional and computed tomography for preoperative evaluation. Reformatted CT images using software such as Dentascan or Simplant are recommended if the patient is being evaluated for total jaw reconstruction or for multiple implants within the maxilla. They are also recommended if ridge augmentation is required, if sinus may be breached during the procedure or if there are variations in the anatomy, atrophic changes or pathology. However, review of literature shows no single method to be appropriate for preoperative assessment of implant site.

BASIC IMAGING PRINCIPLES

Selection of appropriate imaging technique and judging whether the resultant images are of adequate quality is guided by a number of basic principles: (A) Anatomic information required is provided by adequate number and type of images. This information includes the quality and

quantity of bone, as well as the location of anatomic structures, which requires multiple images and at right angles to each other (B) Adequate precision and dimensional accuracy are mandatory (C) The technique selected should allow accurate repositioning of the patient to compare the pre and post-operative images (D) Method should allow for relating images to the patient's anatomy, like using a radiopaque marked stent during imaging (E) X-ray beam and imaging receptor positioned with minimum distortion providing images with adequate density and contrast for better interpretation (F) Selecting a suitable method for obtaining preoperative information should be balanced with radiation dose and cost. In the case where there is more than one technique suitable, ALARA principle governs the selection.

CLASSIFICATION

- ★ Analog
- ★ Digital

ANALOG

- ❖ Periapical radiography
- ❖ Occlusal radiography
- ❖ Cephalometric radiography
- ❖ Orthopantomography

DIGITAL

a. Based on section

- ❖ 2-D
- ❖ Quasi 3-D
- ❖ 3-D

b. Quasi 3-D

- ❖ Tomography
- ❖ Cross-sectional panoramic images

b. Quasi 3-D

- ❖ Tomography
- ❖ Cross-sectional panoramic images

c. 3-D

- ❖ CT
- ❖ MRI
- ❖ Interactive CT

INTRA ORAL RADIOGRAPHY



Fig - 1

Intra oral radiography is still the most widely used modality for pre and post operative implant assessment. Best image definition with minimum geometric distortion is provided by periapical radiograph [Fig 1]. They can resolve 20 pairs of lines per millimetre which is twice the resolving power of extra oral radiography. Intra oral radiographs are less expensive and readily available. Images produced are of higher resolution and are well tolerated by patients. The resultant images of intra oral radiography are two dimensional with distortion as well as magnification and are difficult to position in edentulous region.

CEPHALOMETRIC RADIOGRAPHY



Fig - 2

Lateral profile radiographs can be useful diagnostic aids in implant treatment planning. These images provide angulations, thickness and vertical bone height in the midline, inter jaw skeletal relationship and soft tissue profile [Fig 2]. They are of low cost and easily available but cross sectional anatomic information is limited to the midline of the maxilla and mandible. Information from this radiograph alone is inadequate to evaluate the bony architecture of any implant site completely.

ORTHOPANTOMOGRAPHY

Panoramic radiography displays image slices through the jaws by producing a single image of maxilla and mandible and their supporting

structures in a frontal plane [Fig 3]. They display anatomic structures like nasal cavity, maxillary sinus, inferior alveolar canal, mental foramen and indicated when multiple implants are planned. The resolution of panoramic radiograph is less when compared to intra oral periapical radiograph. A 10-20% image magnification occur which is non-uniform. Geometric distortion and overlapping of images of teeth also occur. Panoramic radiographs are a part of the standard of care for preoperative evaluation of an implant site, as well as for longitudinal assessment of the success of the implant.



Fig - 3

Recently a modification of the panoramic x-ray machine has been developed that has the capability of making a cross-sectional image of the jaws. These devices use limited angle linear tomography and a means for positioning the patient. The tomography layer is approximately 5 mm. This technique enables the appreciation of spatial relationship between the critical structures and the implant site and quantification of the geometry of the implant site.

CONVENTIONAL TOMOGRAPHY

Conventional tomography is used as an adjuvant to screening radiographs, cross-sectional tomograms enhance visualization of the available bone by providing reliable dimensional measurements at proposed implant sites, especially the cross-sectional (facial-lingual) dimension [Fig 4]. Tomographic machines were readily available but now are being replaced with CBCT machines. The dimensional accuracy of the cross sectional tomograms is particularly useful in measuring the distance between the alveolar crest and adjacent structures, such as the floor of the nasal fossa, maxillary sinus floor, mandibular canal, mental canal, and inferior mandibular

cortex. The appropriate bucco-lingual axis of insertion of the implant may also be assessed preoperatively. Measurements are directly acquired from the images and subsequently corrected by the magnification factor used. Conventional tomography is especially convenient in the planning of single implants or multiple implants within a quadrant.

COMPUTED TOMOGRAPHY

An advanced digital radiographic technique proposed for implant treatment planning is computed tomography, also called CT scanning [Fig 5]. CT was invented by Sir Hounsfield and was announced to the imaging world in 1972. CT produces multiplanar views of high contrast and image layer free of blurring with uniform magnification. Image analysis by computer and three dimensional reconstruction of computed tomography is available. In addition many implant recipient sites can be evaluated in one exposure. However It is also associated with limited accessibility, high expense and high radiation doses. The presence of metallic restorative material can cause streak artefacts [Fig 6]. CT may be more appropriate in the treatment planning of fully edentulous patients. CT provides a unique means of post-imaging analysis of proposed surgery or implant sites by reformatting the image data to create tangential and cross-sectional tomographic images of the implant site [Fig 7 & Fig 8].

CONE-BEAM COMPUTED TOMOGRAPHY

Cone-beam computed tomography is a newer modality that provides all information of CT. The ideal imaging modality for the preoperative radiographic assessment of potential implant sites produces the desired diagnostic information to the operator while minimizing the cost and risk



Fig - 4



Fig - 6

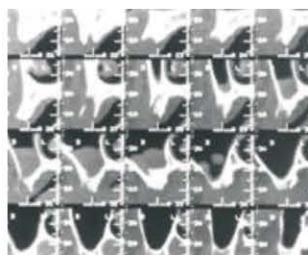


Fig - 7



Fig - 8

to the patient. After reviewing the literature, the evidence suggests that CBCT may be viable, more practical and perhaps even better alternative to CT in the preoperative radiographic assessment of potential dental implant sites. Some of the disadvantages of conebeam computed tomography include radiation scatter, the truncated-view artefact and artefacts caused by beam hardening.

MAGNETIC RESONANCE IMAGING

Magnetic resonance imaging is a technique developed in medical imaging that is probably the most innovative and revolutionary other than CT [Fig 9]. Complex tomography fails to differentiate the inferior alveolar canal in 60% of implant cases. MRI is used in implant imaging as secondary imaging techniques fails to provide the required details. MRI visualizes the fat in the trabecular bone and differentiates the inferior alveolar canal and neurovascular bundle from the adjacent trabecular bone. Oriented magnetic resonance imaging of the posterior mandible is dimensionally quantitative and enables spatial differentiation between critical structures and the proposed implant sites. Magnetic resonance imaging visualizes inferior alveolar nerve canal and helps to prevent perforation. Main characteristic feature is that it produces zero radiation dose and good soft tissue details with low level of imaging artifacts. There is no special software available and is still in experimental phase.

RADIATION RISK ASSOCIATED WITH THE IMAGING METHOD

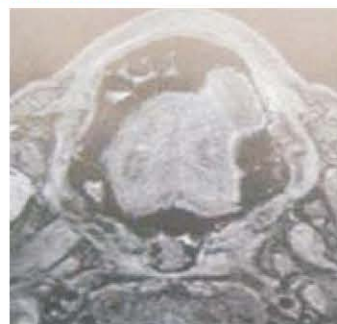


Fig - 9

Radiation hazards of various imaging method also play a role when deciding which examination to choose for implant planning. Studies have been reported on radiation doses from various radiographic techniques. Intraoral and panoramic radiography are associated with low radiation doses (Ekestubbe 1999). The radiation dose from conventional tomography is comparable with that from intraoral radiography while CT examinations are associated with high radiation burden to the patient. Absorbed doses from conventional tomography and computed tomography were compared; it was shown that the doses were higher with spiral tomography than with hypocycloidal tomography. It was observed that the doses absorbed by single organs were up to 200 times higher for CT scanning than for conventional tomography. Frederiksen et al estimated that an effective dose of 10 μ Sv is attained from a single periapical film exposure; 26 μ Sv from a panoramic projection; 150 μ Sv from a full mouth survey; 761 μ Sv from the CT of mandible; and 104 μ Sv from the CT of maxilla. MRI is not commonly used for implant imaging because bony detail cannot be readily appreciated.

CONCLUSION

An important aspect of radiographic evaluation is that there is no single universally accepted method. Dental panoramic tomography is sometimes used in the initial assessment, but suffers from unpredictable magnification and does not render an assessment of alveolar bone width in bucco-lingual plane. Conventional tomograms may overcome the latter shortcoming

and are sometimes useful if short edentulous segments are being assessed. However, the imaging technique of choice is CT, with curved and radial reconstructions. Bone height, width and quality are easily assessed on the radial reconstructions. Unerupted teeth and retained root fragments within the proposed implant sites are also important findings. It is considered that for assessing single site of implant placement, conventional tomography can be useful. But in case of multiplesite imaging, considering the amount of radiation, one may have to prefer CBCT. Knowledge of all the merits and demerits of various radiographic methods as well as radiographic doses and risks are essential and appropriate selection criteria must be applied individually to each patient.

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Human Papilloma Virus as a Risk Factor for Head and Neck Squamous Cell Carcinoma

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INTRODUCTION

Head and neck squamous cell carcinomas (HNSCCs) have notably high rates of incidence and mortality in Southeast Asia region. The established risk factors for HNSCC include tobacco smoking and chewing and alcohol consumption. Over the last two decades, human papillomavirus (HPV), the necessary cause of cervical cancer, has also been etiologically linked with a subset of HNSCCs.^[1] It is now known that 50% of oropharyngeal cancers harbor oncogenic variants of HPV.^[2]

HPV – TYPES AND SUBGROUPS

Human papilloma viruses (HPVs) are Deoxyribonucleic acid (DNA) viruses, which are of 70 genetically distinct types, based on their DNA sequence and are subgrouped into high and low oncogenic risk.^[3,4] Of the 15 known "high-risk" or "oncogenic" subgroups, detected in nearly all biopsies of invasive cervical cancer, some have also been found in the oral cavity and oropharynx of cancer-free adults and in cancer biopsy specimens from HNSCC patients.^[1,4]

HPV TYPES IN HNSCC AS COMPARED TO CERVICAL CANCER

HPV16, the most prevalent HPV type in cervical SCCs, is also the most common type present in HPV-positive HNSCCs. HPV18 is extremely rare in the oropharynx. Also, in the cervix uteri, HPV18

seems to be less effective at evading the host immune response and is less likely to persist compared with HPV16. Apart from HPV16 and HPV18, other oncogenic HPV types commonly detected in invasive cervical cancer biopsies (e.g., HPV31, 33, 35, 45, 56, 58, and 59) are rarely or never detected in HNSCC biopsies.^[1]

ONCOGENIC POTENTIAL OF HPV

Although the virus can infect only the immature squamous cells, the replication of HPV occurs only in the maturing squamous cells. The physical state of the virus differs in different lesions, being integrated into the host DNA in cancers, and present as a free (episomal) viral DNA in most precancerous lesions.^[4]

Since HPV replicates in maturing, nonproliferating cells, it must reactivate the mitotic cycle in such cells. HPV accomplishes this by interfering with the function of Rb and p53, two important tumor suppressor genes. Viral proteins, E6 and E7 are critical for the oncogenic effects of HPV. They can promote cell cycle by binding to Rb and upregulation of cyclin E (E7); interrupt cell death pathways by binding to p53 (E6); induce centrosome duplication and genomic instability (E6, E7); and prevent replicative senescence by up-regulating of telomerase (E6). These effects are more pronounced with the high risk HPVs as compared to the low risk types.^[3,4]

Thus it is evident that many of the hallmarks of cancer are driven by HPV proteins. However, infection with HPV itself is not sufficient for carcinogenesis, instead it involves an interplay of multiple genetic and environmental factors.^[3,4]

SITE SPECIFICITY FOR HPV IN HNSCC

Molecular biology techniques have identified that a subset of HNSCC cancers may be the consequence of HPV infection. Such a subset is mainly found in the oropharyngeal region, particularly the tonsils, the base of the tongue, and the oropharynx.^[1,2] The biological explanation for why the prevalence of HPV is higher in tumors from the oropharynx compared with other sites in the head and neck remains unclear.^[1]

A plausible explanation is that the complicated juxtaposition between squamous cell epithelium and lymphatic tissue in the tonsils may share properties similar to the squamous-columnar junction of the cervix uteri, where the majority of HPV-associated cancers in the female genital tract arise despite the almost ubiquitous presence of HPV infection in the vagina and vulva of sexually active women.^[1]

Furthermore, extensive epithelial surface areas are present in the oropharynx due to invaginating crypts that provide an exposed layer of basal epithelial cells seems that the type distribution of HPVs in HNSCCs may also vary by head and neck site.^[1]

HPV AND KOILOCYTES

The replication of virus in the cell results in a cytopathic effect, “koilocytic atypia”, consisting of nuclear atypia and a cytoplasmic perinuclear halo.^[4] Presence of koilocytes in histologic sections is considered to give a clue to the

diagnosis of HPV infection. Presence of koilocytes has been documented in smears and tissue sections of OSCC cases.^[5]

CONCLUSION

Due to the evidence of increasing association of HPV with OSCC, timely diagnosis of the presence of HPV in such lesions is essential. The growing incidence of HPV in association with oropharyngeal carcinomas is also a matter of concern and requires further studies in this regard.

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PRORESOLVING LIPID MEDIATORS IN MANAGEMENT OF PERIODONTAL INFLAMMATION

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ABSTRACT

Through an understanding of the pathogenesis of periodontal diseases, it has become evident that this disease is driven by a microbial biofilm leading to initiation of an inflammatory response. But a large part of the inflammatory component is due to the exaggerated host response which leads to the destruction of the attachment apparatus and bone. Recent evidence states that in chronic periodontal disease restoration of normal homeostasis is impaired due to failure of inherent resolution pathways¹. A new area of research has emerged due to isolation and characterization of endogenous lipid mediators and their potential as therapeutic agents for the management of periodontal inflammation is being investigated.

INTRODUCTION

Periodontal diseases are chronic inflammatory diseases which have a multifactorial component, the important contributing factor being pathogenic microorganisms. It is becoming increasingly clear that when there is an excess of unchecked host mediated response periodontal tissues are destroyed. Along with local therapy pharmacologic agents have been used to check this inflammatory response which act against the proinflammatory pathways. Resolution of inflammation is actually a process wherein the proresolving molecules neutralize and eliminate inflammatory leukocytes and prevent pathology^{1,2}. Proresolving molecules are endogenously produced by the metabolism of arachidonic acid (AA). These include lipoxins and their more stable aspirin triggered forms (ATL). Other molecules produced from omega-3 poly unsaturated fatty acids (PUFA) which also have proresolving properties include resolvins and protectins^{3,4}. These molecules help in resolution of tissue to normal homeostasis without the side effects of anti-inflammatory pharmacologic agents.⁵

RESTORATION OF TISSUE TO HOMEOSTASIS

In periodontal disease phase I therapy helps to remove etiologic agents associated with inflammation which helps to arrest the progression of disease. Unfortunately many a time these procedures do not help in complete resolution of inflammation to restore tissue homeostasis.

Agonist stimulation of G protein receptors on the cell membrane triggers the production of AA and subsequently production of prostanoids by the cyclooxygenase (COX)-1,-2 dependent pathway, and leukotriene by lipoxygenase dependent pathway. These mediators are associated with inflammatory cell recruitment, edema, pain, collagen destruction and bone destruction⁷.

Late in the inflammatory process when there is a high concentration of cells containing lipoxygenases and corresponding proinflammatory products, such as prostaglandin E2 a "class switch" may occur within neutrophils^{8,9}. This gives rise to synthesis of proresolving molecules through pathways that are distinct from those involved in the generation of proinflammatory lipid mediators^{8,9}. Activation of these pathways that promote resolution occurs

through cell – cell interaction in which lipoxins (LXA4, LXB4) are produced by transcellular biosynthesis through repeated oxidation of AA. These lipoxins then act as agonists to stimulate resolution of inflammation and restoration of tissue to homeostasis through mechanisms regulating polymorphonuclear leukocyte (PMN) function such as limiting PMN migration to sites of inflammation, activating monocytes with a nonphlogistic phenotype (without generation of superoxide anion)² and stimulating uptake of apoptotic PMN by macrophages^{10,11,12}. In the presence of aspirin further production of prostanoids is inhibited and lipoxin pathway is enhanced leading to the formation of more stable forms of lipoxin (aspirin triggered lipoxins ,ATLs) which have more powerful proresolving properties.¹

RESOLVINS AND PROTECTINS

In addition to endogenously derived lipoxins and ATLs, resolvins and protectins are other proresolving lipid molecules derived from omega-3 PUFAs,^{8,4} Eicosapentanoic acid (EPA) and docosahexanoic acid (DHA). EPA metabolises to resolvin E series (RvEs), DHA metabolises to docasatrienes- resolvin D series (RvDs) as well as protectins (neuro protectins in neural tissues)^{8,4} Resolvins and protectins act in a similar fashion as lipoxins to control and resolve inflammation except that binding occurs to distinct sites on inflammatory cells¹³. Again in the presence of aspirin the stability and duration of action of resolvins and protectins is longer. Resolvins and protectins stimulate resolution of inflammation by preventing PMN penetration and by phagocytosis of apoptotic neutrophils. Thus faster resolution prevents progression of acute inflammatory response to chronic inflammation.

ACTION OF LIPOXINS, RESOLVINS AND PROTECTINS IN PREVENTION AND TREATMENT OF PERIODONTAL DISEASE

Lipoxin analogs prepared through organic synthesis selectively interact with lipoxin receptors on neutrophils in-vitro. In an

experimentally induced inflammation in a mouse model, lipoxin analog when applied topically prevented PMN mediated vascular permeability and PMN infiltration¹⁴.

Topical treatment with RvE1 also prevents the inflammation induced tissue and bone destruction. RvE1 prepared by organic synthesis when applied to experimentally induced periodontitis (by application of *Porphyromonas gingivalis* to ligated teeth) in rabbit model did not elicit an inflammatory response. There was an absence of neutrophil infiltration or tissue damage. There was no osteoclast proliferation and bone remained intact¹⁵.

RvE1 prevents the onset and progression of periodontal disease. Experimental periodontitis was induced in a rabbit model by application of *Porphyromonas gingivalis* to ligated teeth. Then repeated RvE1 topical application was done for six weeks. There was complete resolution of inflammation, restoration of all interproximal tissue and bone. There was in fact bone growth with formation of new periodontal ligament and cementum which suggested regeneration⁵.

There appears to be a considerable shift in microflora as a result of RvE1 treatment. With RvE1 treatment following the induction of the base line disease, the complexity of microflora was greatly simplified in association with the reduction in inflammation and periodontal tissue destruction. A reversion in *Porphyromonas gingivalis* concentration was observed back to negligible levels. The reasons are primarily due to release of antimicrobial peptides such as defensins and bactericidal / permeability – increasing protein resulting in destruction of select microorganisms¹⁶ secondly *Porphyromonas gingivalis* survives on peptides formed by the degradation of collagen fragments such as those produced during an inflammatory response.

CONCLUSION

Though periodontal disease is a multifactorial disease, initiated by plaque

microbiota, the unchecked host response plays a significant role in the destruction of tissues. Inadequate resolution of this inflammation may lead to severe progression of periodontal disease. Resolution of inflammation through lipoxins and their aspirin induced stable forms as well as the newly elucidated resolvins and protectins may help in restoring tissue homeostasis. In the near future analogs of these mediators may help in control and treatment of periodontal diseases.

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Esthetic management of gingival recession using GTR membrane with osteoinductive bone graft matrix-a case report.

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ABSTRACT

Predictable root coverage is the major therapeutic end points in the treatment of gingival recession. Several techniques such as the free gingival graft, Laterally repositioned flap, Coronally positioned flap, double papilla graft and non-autogenous graft like alloderm have been proposed for the correction of these mucogingival deformities. The healing results with minor amounts of connective tissue attachment and/or the formation of a long junctional epithelium (LJE) with little or no new cementum or bone formation. The present case report was designed to evaluate the effectiveness and predictability of using a collagen barrier along with a demineralized bone matrix in the treatment of gingival recession defects in a single surgical procedure.

INTRODUCTION

The major therapeutic goals in mucogingival surgery are correction of gingival recession (GR). The goal of treating gingival recession is to restore the gingival margin to the cemento-enamel junction (CEJ) and create a normal sulcus with functional attachment¹. Various periodontal plastic surgical techniques have been used for the treatment of GR including pedicle soft tissue grafts, free soft tissue grafts, and subepithelial connective tissue grafts^{2, 3}. Although these procedures can produce predictable root coverage, the healing results with minor amounts of connective tissue attachment and/or the formation of a long junctional epithelium (LJE) with little or no new cementum or bone formation⁴.

Tinti and Vincenzi⁵ in 1990 used the principles of guided tissue regeneration (GTR) to obtain coverage of the denuded root surface along with regeneration of the entire attachment apparatus. Presently collagen is the most commonly used GTR membrane. However, compared to conventional grafting techniques, the use of GTR

for root coverage was found to have an inferior outcome⁶, as the inability of collagen membrane to create and maintain space by itself between the root surface and the overlying GTR membrane may be the reason. A space is necessary to provide a channel for the migration of progenitor cells towards and onto the detoxified root surface, where they can differentiate into cementum and periodontal ligament cells⁷. Various techniques have been used to provide space beneath membranes with allografts⁸. Demineralized freeze-dried bone allograft (DFDBA) has an osteoinductive activity and the ability to create and maintain space, and is thus, capable of promoting regeneration of the attachment apparatus⁹. The aim of this case report is to treat the Miller's class I gingival recession using the combined use of an osteoinductive demineralised bone graft matrix and a GTR collagen barrier membrane.

Case Report:

A 24 year old male patient reported to the department of Periodontics, Chettinad dental college & research institute with the complaint of

sensitivity in the upper front tooth. On clinical examination, the patient had an isolated single Miller's Class 1 facial gingival recession defect measuring around 3 mm on labial side of 13 region (Figure-1).



Clinical parameters were recorded prior to the surgery (baseline), at 3 months and 6 months postoperatively and included the following assessments.

1. Recession depth (RD) - Distance from the CEJ to the gingival margin. All measurements were made with a William's periodontal probe
2. Recession width (RW) - Calculated at the CEJ
3. Clinical attachment level (CAL) - Distance from the CEJ to the base of the sulcus
4. Probing depth (PD) - Distance from the gingival margin to the base of the sulcus
5. Width of keratinized tissue (WKT) - Distance from the gingival margin to the mucogingival junction.

Surgical technique:

After the surgical site was anesthetized, an intracrevicular incision was made through the bottom of the crevice and a horizontal incision was placed at the level of cemento-enamel junction (CEJ) extending 3mm on either side of the involved tooth including their papilla. Two vertical incisions were placed from an end point of horizontal incision to the alveolar mucosa to establish a trapezoidal flap. A combined full thickness/ split thickness flap was elevated and all muscle interferences were eliminated in order to facilitate its coronal advancement. The remaining buccal soft tissue of the anatomic interdental papillae was de-epithelialized. The root surface was mechanically treated with Gracey curettes followed by conditioning it with 1ml tetracycline Hcl solution for 3 minutes with subsequent rinsing

with saline. Following flap reflection, intra-bone marrow perforations were made on the mesial and distal portions of the root with a round bur (Figure-2).



Demineralized bone graft matrix (OSSEOGRAFT) mixed with the patient's blood was layered evenly to a thickness of 1 mm to cover the roots up to the CEJ and 2 mm of the adjacent bone (Figure-3). A GTR collagen membrane (HEALIGUIDE) was trimmed such that 2-3 mm of surrounding adjacent was covered and the membrane was at the level of the CEJ. The membrane was stabilized in place using firm pressure with moist gauze for 2-3 minutes and using 4-0 absorbable suture (Figure-4). The pedicle flap was then coronally repositioned (tension-free) to completely cover the membrane



and secured (Figure-5). A periodontal pack was placed at the surgical site. Following surgery, routine written and oral postoperative care instructions were given to the patient. To control plaque at the surgical site, patient was instructed



to apply 0.12% chlorhexidine solution with a cotton swab twice daily and to avoid toothbrushing in the area for 2 weeks. A non-steroidal anti-inflammatory analgesic was prescribed. Clinical parameters were evaluated at 3 months, and 6 months post surgery (Figure-6, Figure-7).

Discussion:

The ultimate goal of periodontal plastic surgical procedure utilized in the treatment of marginal tissue recession is the complete regeneration of all the supporting components of the periodontium, resulting in complete coverage of the denuded root surfaces in an esthetic and natural appearance as well as a functional manner.

Several studies have shown the effectiveness and predictability of GTR as a procedure for root coverage¹⁰. Histologically, new bone and cementum with inserting fibers have been shown to form after recession coverage by GTR¹¹. The collagen membrane has the ability to promote platelet aggregation, be chemotactic for fibroblast and enhance wound stability, required for proper healing. A disadvantage of collagen membranes is its lack of stiffness resulting in its collapse onto the defect. Studies have shown that space creation and maintenance are essential for periodontal regeneration¹². Bone replacement grafts have been advocated for maintaining space under membrane and providing osteoinductive and osteoconductive capacity¹³. In this case, osteoinductive bone graft was used primarily due to its ability to stimulate progenitor cells to undergo differentiation to osteoblasts and form bone under the membrane.

A significant reduction in recession depth (RD), recession width (RW) at the end of 3 months, whereas at the end of 6 month 100% root coverage and adequate width of the gingival keratinized tissue was obtained. The results obtained at the end of 3 months showed an improvement in the PPD and CAL at 6 month could be attributed to creeping attachment as proposed by Goldman¹⁴. Although histological

evidence of new attachment formation could not be obtained in this case, the significant improvement in the clinical parameters studied over a period of 6 months is suggestive of regeneration of the periodontium.

Conclusion:

This case report could be taken as an indirect evidence of new attachment formation. Since alveolar bone and periodontal ligament formation is a process that requires several months, the improvement in clinical CAL and PPD could be noticed up to the stage at which new tissue formation occurred. The significant improvement in the width of the gingival keratinized tissue and the good root coverage obtained is evidence of the feasibility of using this procedure in the treatment of Miller's Class-1 and class-2 gingival recessions.

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Paperless Orthodontics

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ABSTRACT

Orthodontics deals with greater quantities of records, it was inevitable that paperless operations would become a necessity. All the records can be maintained in the computer with the introduction of imaging, scanning, 3D electronic models and digital x-ray system..

INTRODUCTION

It is simply a practice where all information on diagnostic & communication tools are fully integrated into one computerized system.(i.e.) Instead of using paper, the treatment notes and plans are entered directly into the computer.¹

DISCUSSIONS:

APPLICATIONS:

General Applications²

1. Record maintenance
2. Accounting and payment
3. Appointment and recall

Orthodontic Applications²

1. Patient education
2. Evaluation of diagnostic records and Treatment planning.
3. Appliance design and wire bending
4. Single and multi centred Clinical trials/Research

RECORD MANAGEMENT

- Orthodontic records are nothing but case history, clinical examination report, x ray films and models. They usually occupy a lot of space in our regular practice. Here the computer helps to keep our clinic compact with storing all the records just in a small

hard disk. Even we can transfer the records to an external device (HDD\DVD). And, any staff member can access any patient's data to answer the patient's questions.

ACCOUNTING AND PAYMENT

- Computer programs made easier to handle the accounts with every individual. It doesn't only deal with patient payment reports, but also the lab charges, rental and miscellaneous charges.
- In patient payments like insurance/ reimbursing from the company, the bills can be sent through e mail which make the procedure faster.

APPOINTMENT AND SCHEDULE

- It is common to give appointment cards and phone calls to the patient to keep up their appointment. With today's development, most of the youngster and their parents using computer and it will be more useful if we send email to the patients for the reviews. Software available to send automatic email to the patients to remind the appointment.

PATIENT EDUCATION

- Though our routine patient education techniques are efficient, computer makes them more efficient by detailing with better understanding and motivation of the patient.

Nowadays every problem and their consequences, treatment procedures available as videos in variable format (mpeg, flash, flv.....). The operator just makes them understandable to the patients.

- Patient education can be done in 3 ways. They are...

1. TREATMENT VISUALIZATION

- It describes the applications that manipulate digital facial images to simulate treatment results. The patient sees his own face on the monitor, making it easier for an orthodontist to explain the treatment plan.



Source : Dolphin imaging and management solutions

1. IMAGE EDITING

- It uses simple editing tools to simulate the effects of treatment on facial form. The artistic skill of the operator controls the quality of the image.



Source : Dolphin imaging and management solutions

1. PHOTOCEPHALOMETRIC VISUALIZATION

- These softwares use algorithm used in cephalometric treatment planning to embrace lateral facial images. They work by linking digitized lateral cephalogram to lateral facial bitmapped images for automatic facial transformation.



DIAGNOSIS

- Diagnosis in orthodontia can be made using following ways⁴

STATIC

1. Photograph
2. Digital models
3. Digital cephalogram
4. Stereophotogrammetry.

DYNAMIC

1. Digital Video

DIGITAL VIDEO

- One second of video gives 30 frames of pictures which helps the operator to examine the patient more clearly during function like smiling.
- So videos of patients recorded from a standardized distance can be edited using cyber link power director software and the pictures produced can be edited to life size using Adobe Photoshop CS4 software for diagnosis.

PHOTOGRAPHS

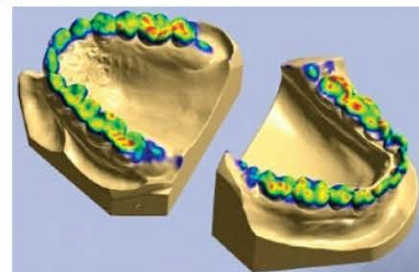
- Routine photographs are taken with high resolution digital camera and directly entered into the computer for future reference.³

DIGITAL MODELS

- Virtual models are created from the impressions by 3D scanning or directly from the patients mouth by asking them to bite the bite sensors available.

They are used for,

1. Model analysis
2. Appliance fabrication



Source: Dolphin imaging and management solutions

3. Wire bending
4. Custom bracket designing

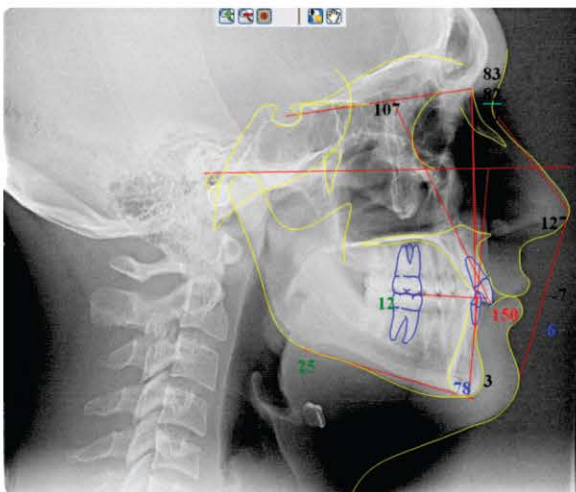


Source: Dolphin imaging and management solutions

- But digital model technique is still in its infancy and not fully replicates the advantages of plaster model.
Eg: mock surgery prior to fabrication of splint for orthognathic surgery still needs plaster model.

DIGITAL CEPHALOGRAM

- The advantages we have with digital cephalograms are...
 1. The hard and soft tissue landmarks can be clearly differentiated.
 2. Markings are accurate compared to the conventional cephakograms.
- A conventional cephalogram can also be digitized using a scanner and viewbox version 4 software.



Source: Dolphin imaging and management solutions



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STEREOPHOTOGRAMMETRY

- This device generates accurate 3D images of a patient's face.⁴
- It has two digital cameras on each side which detect the central object with slight different perspective. These images will be then processed by a central processor to produce a 3D image.

APPLIANCE DESIGN

- Invisalign, individualized brackets etc., are now being processed using computers only.
- Robotic wire bending reduces our workload and also produces accurate designs. But this is still in research stage.

CLINICAL RESEARCH

- There are a variety of websites like Pubmed, Medline, Ochre, Cochrane library etc., which offer domains for clinical research.

CONCLUSION

ADVANTAGES: The major advantage of paperless operation can be summed up as increased functionality and efficiency.

This is accomplished due to the following:

- Easier access to patient records
- Patient records are more portable & secure
- Improved communication capabilities
- Increased awareness of treatment status

- Reduced office space requirements
- Office design can be enhanced
- More efficient use of staff
- Augmented management capabilities
- Enhanced emergency operation capabilities
- Easier operation of multiple office locations

DISADVANTAGES

- Requires a larger investment in system hardware and/or software. The efficiency brought about by paperless operation requires having an adequate number of strategically located workstations, chair side workstations are essentially mandatory. Although digital imaging and radiography systems are desirable, photos and x-rays can be scanned into the patient record using a flatbed scanner.²
- It is being told that an experienced hacker can intrude into the office system and can manipulate or erase all the information as

his wish. But with better security measures and making periodical back up of information, this threat can be eliminated.

- Since these data can be manipulated, computerized records are not approved for legal encounters.
- Practical difficulties.
- E-wastage.

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CAMPUS NEWS

Total Number of Patients treated from April 2011 to March 2012

a)	Out Patient Department	:	1,58,553
b)	In Patient Census	:	768
c)	Major & Minor Surgeries performed (General Surgery)	:	189
d)	Major & Minor Surgeries performed (Oral Surgery)	:	1212
e)	Ultrasonic scan / Echo / C. Doppler / ECG	:	585
f)	Various Dental Camps	:	2083
TOTAL (a + f)			1,60,636

The Institute has also undertaken the following service and welfare activities for serving the population at large. These services are as follows.

- 1. Oral Cancer Detection Programme.**
- The Institute has adopted **2 Community Health Centres** (Karikalampakkam and Mannadipet) and **2 Primary Health Centres** (Ariankuppam and Villianur) of the Govt. of Puducherry.
- 3. School Dental Health Programmes** are conducted on a regular basis covering all the schools in Puducherry.
- 4. Dental treatment camps** are organized in various areas of Puducherry and adjacent areas in Tamil Nadu.
- 5. Dental Health Programmes** are organized on a regular basis.

DENTAL CAMPS

A total of **3 special dental camps** were conducted during this period, wherein the screening and treatments were provided to the various sections of the public apart from the regular weekly dental camps at **two Primary Health Centres** (Ariankuppam and Villianur) and **two Community Health Centres** (Karikalampakkam and Mannadipet).

STUDENTS ACTIVITIES

1. The students organized the **Teacher's Day Programme** on 05.09.2011 with felicitations & games for the Teaching staff followed by various cultural events.
2. **N.S.S. ACTIVITIES.**

N.S.S. Unit of MGPGI along with JIPMER Blood Bank has organized a Blood Donation Camp on 21/4/2012. More than **25** volunteers (Teaching & Non Teaching Staff & Students) have donated their blood.

The volunteers of N.S.S. Unit of this institution have actively participated in **34** dental camps and **3** special dental camps organized by Department of Community Dentistry.

PRIZES AND AWARDS

Prizes and awards have not been constituted, since, the Institute Day for the year 2011-2012 was not celebrated due to Assembly Election and also paucity of funds.

ACADEMIC ACTIVITIES: ACADEMIC ACHIEVEMENTS AND AWARDS



The staff and students of this Institution are encouraged to participate in National Conferences and International Conferences. In this year, totally, **42 members attended** the National Conferences, Seminars and Symposiums. Out of this, **56 papers were presented** at National level from this Institution and **11 papers were adjudged as Best Papers** at National level and were awarded.

At present, **25 Scientific Projects** are underway at various stages. **12 papers were published** in various National and International Journals in this academic year.



Dr. M. Jonathan Daniel, Professor & Head attended and chaired a scientific session at the XXIII National Conference of Indian Academy of Oral Medicine and Radiology held in December 2011 at Bengaluru. The postgraduate students have attended and presented in the National Triple 'O' Symposium in July 2011, held at Raipur.

Dr. R. Kanmani	Mandibular third molar development as an indicator of chronological age.
Dr. Ankur Aggarwal	TNM staging as a prognostic marker and its correlation with fine needle aspiration cytology of regional lymph nodes in oral cancer.
Dr. Juhi Gupta	Reliability of ultrasonography in the screening in salivary gland diseases : A pilot study
Dr. Jimsha V.K.	A comparative analysis of conventional sialography with direct digital sialography for evaluation of salivary gland diseases.

Achievement

Best Paper – awarded for the presentation of Dr. Ankur Aggarwal,

The postgraduate students have attended and presented in the National Conference of Indian Association of Forensic Odontology in October 2011 held at Salem.

Dr. Jimsha V.K.	Mandibular angle as an indicator for sex determination for a Puducherry population.
Dr. Juhi Gupta	Dimension of mandibular and maxillary canine teeth and intercanine distance in establishing sex identity for a Puducherry population.
Dr. Mihir khatri	A comparative study of overlay generation techniques in bite mark analysis.

Achievements

Best Paper – Dr. Jimsha VK, Dr. Mihir Khatri

Dr. Mihir Khatri, Dr. Ambiga attended “**Oral cancer symposium**” held in February 2012 at KSR Institute of Dental science and Research, Tiruchengode.

The postgraduate students have attended and presented in the XXIII National Conference of Indian Academy of Oral Medicine and Radiology in December 2011 held at Bengaluru.

Dr. Mihir Khatri	Inter operator reliability of overlay generation techniques in bite mark analysis.
Dr. Kanmani R	Comparison of conventional and digital panoramic imaging in the qualitative and quantitative assessment of mandibular cortex in post menopausal women.
Dr. Ankur Aggarwal	Correlation of tumour characteristics and regional nodal metastasis in oral cancer.
Dr. Juhi Gupta	Craniofacial syndromes – An Institutional experience.
Dr. Jimsha V.K.	Salivary gland tumours- An analysis of unusual cases.

Achievement

Best poster –awarded for the presentation of Dr. Mihir Khatri

On going Dissertation projects:

Junior Resident	Title	Guide/Co-Guide
Dr.Juhi Gupta	Crown size and arch width dimension as an indicator in gender determination for a Puducherry Population	Dr. M.Jonathan Daniel Dr.S.V.Srinivasan
Dr.Jimsha V.K	Reliability of digital trans-tomography in the localization of impacted teeth	Dr. M.Jonathan Daniel Dr.S.V.Srinivasan
Dr. Mihir khatri	Mandibular bone radiomorphometric measurements and its correlation with bone mineral density	Dr. M. Jonathan Daniel Dr.S.V.Srinivasan
Dr. Ambiga	Relationship between mandibular bone radiomorphometric measurements and bone specific alkaline phosphatase levels.	Dr. M. Jonathan Daniel Dr.S.V.Srinivasan

Publications – April 2011- March 2012

Author/Co-Author	Title
Dr. Ankur Agarwal Co-Authors Dr. M. Jonathan Daniel Dr. S.V. Srinivasan Dr. Charles. D. Sargouname	Gray scale ultrasonography in the assessment of regional lymph nodes in oral cancer and its correlation with TNM staging and FNAC. JIAOMR, April-June 2011,Volume 23, No 2.
Dr. Vandana Arya Co-Author Prof. Dr. M. Jonathan Daniel	Ellis- van Creveld syndrome- A case report. Int. J.Clin Pediatr Dent 2012 Volume 5, No 1.
Dr. Aniruddh Yashwant Co-Authors Dr. Arti Agarwal Prof. Dr. M. Jonathan Daniel	Ultrasonography – Its revival in Dentistry. Int. Poster. J. Dent Oral Med,2011: Volume 13, No 3 poster 554.
Dr. Kanmani R Co-Authors Dr. M. Jonathan Daniel Dr. S.V. Srinivasan	Diagnostic Efficacy Of Cross-sectional Digital Transtomography In Post-operative Implant Assessment e-Journal of Dentistry Apr-Jun 2011 Vol 1 Iss.2.

Author/Co-Author	Title
Dr. Kanmani R Co-Authors Dr. Jimsha V.K. Prof. Dr. M. Jonathan Daniel Dr. S.V. Srinivasan	Diagnostic imaging of preoperative implant site – past and present. PONDENT :July – December 2011: Volume15, No 2
Dr. Ankur Agarwal Co-Authors Dr. Juhi Gupta Dr. M. Jonathan Daniel Dr. S.V. Srinivasan	Osteochondroma of the mandibular condyle – A case report. PONDENT :July – December 2011: Volume15, No 2



DEPT. OF ORAL & MAXILLOFACIAL SURGERY

Dr. N.J. Eswari, Associate Professor attended Midterm Conference / PG Convention of Association of Oral & Maxillofacial Surgeons of India, Kanyakumari on June 16-19, 2011 and appointed as the Chairperson for one of the Scientific Sessions consisting 6 paper presentations by the PGs – OMFS from various institutions.

Dr. N.J. Eswari, Associate Professor attended 35th National Annual Conference of the Association of Oral & Maxillofacial Surgeons of India, New Delhi on November 24-26, 2011 and presented a Scientific Paper titled **“Prospective analysis of the frequency and contributing factors for nerve injuries following mandibular third molar surgery”**.

The following Postgraduate students attended 23rd National Conference of Indian Society for Dental Research on January 7-9, 2011 and presented the following poster.

Junior Resident	Title	Guide	Co-Guide
Dr. R. Muthunagai & Dr. Kayon Ratan	Autogenous Iliac crest graft for the reconstruction of segmentally resected mandible in a patient of odontogenic myxofibroma – A Case Report	Dr. K. Sankar	Dr. M.R. Ramesh Babu

The following Postgraduate students attended 15th Midterm Conference / PG Convention of Association of Oral & Maxillofacial Surgeons of India, Kanyakumari on June 16-19, 2011 and presented the following Posters.

Junior Resident	Title	Guide	Co-Guide
Dr. R. Muthunagai	Collagen membrane in surgical treatment of oral submucous fibrosis – A Case Report	Dr. K. Sankar	Dr. M.R. Ramesh Babu
Dr. Arunprasad. G	Locking miniplates in mandibular fracture – A prospective study.	Dr. K. Sankar	Dr. N.J.Eswari
Dr. Kayon Ratan	Implant retained auricular prosthesis	Dr. K. Sankar	Dr. M.R. Ramesh Babu

The following Postgraduate students attended 36th Annual Conference of Association of Oral & Maxillofacial Surgeons of India, New Delhi on November 23-26, 2011 and presented the following Posters.

Junior Resident	Title	Guide	Co-Guide
Dr. R. Muthunagai	Collagen membrane – Biodegradable wound dressing material	Dr. K. Sankar	Dr. N.J.Eswari
Dr. Arunprasad. G	Central giant cell granuloma in maxilla – A Case Report	Dr. K. Sankar	Dr. N.J.Eswari

Junior Resident	Title	Guide	Co-Guide
Dr. Kayon Ratan	Autogenous Iliac crest graft for the reconstruction of segmentally resected mandible in a patient of odontogenic myxofibroma – A Case Report	Dr. K. Sankar	Dr. M.R. Ramesh Babu
Dr. Nithin Joseph Jude	Sialolith of submandibular gland duct – A Case Report	Dr. K. Sankar	Dr. M.R. Ramesh Babu
Dr. Mudit Agarwal	An emerging trend in rehabilitation of atrophied maxilla – Zygomatic & pterygoid implants	Dr. K. Sankar	Dr. K. Thirumurugan



DEPT. OF ORAL PATHOLOGY

PUBLICATIONS

1. **"Ameloblastic Carcinoma – A Case Report Highlighting Its Variations In Histology"** In Journal Of International Oral Health - Vol.3, Issue:6, Dec 2011
Dr. Karthikshree. V. Prashad, Dr. V. Ramesh, Dr. Balamurali. P.D.
2. **"Odontogenic Myxoma of The Maxilla – A Case Report"** In Journal Of International Oral Health - Vol.3, Issue:1, Feb.2011, Pg.No.:59-62
Dr. Ramesh.V, Dr. Dhanuja. M, Dr. Sriram. K, Dr. Balamurali. P.D.
3. **"Thyroid Carcinoma Metastasizing In The Mandible – A Case Report"** In Journal Of International Medical Sciences Academy – Vol.24, Issue: 4, Oct. – Dec.2011, Pg.No. : 189-190.
Dr. Kshitiz Rohilla, Dr. Ramesh. V, Dr. Vineet Singh, Dr. Sriram. K.
4. **"Angiofibroma Masquerading As A Cheek Swelling – A Diagnostic Dilemma"** In Journal Of International College Of Dentists, India, Srilanka And Nepal Section, Vol.56, Issue No.:1&2, 2011, Pg.No. :56-57.
Dr. Vineet Singh, Dr. Ramesh. V, Dr. Sriram. K, Dr. Kshitiz Rohilla.
5. **"Role Of Collagen Fibres In The Expansion Of Odontogenic Cyst – A Histochemical Study"** In Internet Scientific Publications, Vol.11, No.:2, 21/7/2011
Dr. Shanti Viswanathan, Dr. Ramesh. V, Dr. Balamurali. P.D.
6. **"Calcifying Odontogenic Cyst Associated With Ameloblastoma"**
Dr. Abikshyeet Panda, Dr. Ramesh. V., Dr. P.D. Balamurali.

CONFERENCES ATTENDED

STAFF

- 1) Dr. B. Premalatha, Associate Professor, attended and presented a paper on – PROCEDURES TO VIEW ABERRATIONS-TRAVEL FROM PROTEIN TO GENE – A REVIEW. at the Indian Society For Dental Research at the 23rd NATIONAL CONFERENCE OF ISDR at Chettinadu Dental College, Chennai on 8th & 9th Jan 2011.
- 2) Dr. B. Premalatha, Associate Professor, attended the 8th National Workshop on Basic Techniques in Molecular Biology & Bioinformatics in Pharmacogenomics held at Dept of Pharmacology, JIPMER, Pondicherry on Aug 08-13 2011.
- 3) Prof. Dr. P.D. Balamurali, Dr. Nirima Oza, Dr. Karthikshree V. Prasad, Associate Prof. attended the 20th National Conference of Indian Oral And Maxillofacial Pathologists held at Ramoji Film City, Hyderabad on 18,19 & 20th Nov 2011.
- 4) Dr. Karthikshree V. Prasad, Associate Professor judged a scientific session, during the 20th National Conference of IAOMP, at Hyderabad.
- 5) Dr. P.D. Balamurali, Professor attended the CME programme on HIV/AIDS - MICROAIDS 2011 organized by Dept Of Microbiology, Sri Manakula Vinayagar Medical College & Hospital on the 1st of December 2011.

POSTGRADUATE STUDENTS

1. Postgraduate student, Dr. Vineet Singh attended the CDE Programme on ODONTOGENIC TUMOURS - UNITY IN DIVERSITY on 20th April 2011 held at Bangalore, hosted by Dept. of Oral Pathology, GDC Bangalore.
2. All Postgraduate students attended XI National PG Convention of IAOMP held at Manipal on 9th & 10th July, 2011.
3. The following Postgraduate students participated in the scientific presentations at XI National PG Convention of IAOMP held at Manipal on 9th & 10th July, 2011.

Topic	Presented by	Type of Presentation
Uremic Stomatitis-An enigma.	Dr. Vineet Singh	Poster
Telomere, Telomerase & Cancer	Dr. Simranjit Singh Dr. N.S.C. Charles	Poster
An interesting journey from Aneurysmal Bone Cyst to Ameloblastoma.	Dr. S. Sriram	Paper

- 4) Post Graduate student Dr. Kshitiz Rohilla, attended the 1st National Workshop on Forensic Odontology held at Nagpur on 30th -31st July 2011.
- 5) Post Graduate students Dr. Vineet Singh & Dr. N.S.C. Charles attended the 8th National Workshop on Basic Techniques in Molecular Biology & Bio-informatics in Pharmacogenomics on 8th-13th August 2011 Organised by the ICMR Centre for Advance Research in Pharmacogenomics in JIPMER, Pondicherry.
- 6) Postgraduate students Dr. N.S.C. Charles, Dr. Simranjit Singh, Dr. Suganya R., Dr. Sudip Indu, Dr. Vasupradha G., Dr. B. Pallavan attended ISARCON 2011 – Annual Conference on Atherosclerosis, organized by the Dept of Pathology, JIPMER on September 2011.
- 7) Postgraduate students Dr. R. Suganya, Dr. Sudip Indu, Dr. Vasupradha G., Dr. Pallavan attended the Quiz competition & National Conference on Stem cell and Regenerative medicine conducted by NICHI – IN, Chennai on 15th October, 2011.
- 8) The following Postgraduate students attended the 9th National Conference of the Indian Association of Forensic Odontology, held at Salem on 22nd-23rd October 2011.

Topic	Presented by	Type of Presentation
The role of tooth cementum annulations in age estimation in humans	Dr. Kshitiz Rohilla	Paper
Age estimation in adults by pulp to tooth width ratio	Dr. Suganya.R	Paper
Pattern Variation in Palatal Rugae as an adjunct in Forensic Odontology	Dr. Sudip Indu	Paper

9. All Postgraduate students attended XX National Conference of IAOMP held at Hyderabad from 18th to 20th November, 2011.
10. Postgraduate students Dr. Kshitiz Rohilla, Dr. K. Sriram, Dr. R Suganya, Dr. N.S.C. Charles, Dr. Simranjith Singh, Dr.Sudip Indu, Dr.Vasupradha G, Dr. B. Pallavan participated in the Scientific Presentation at XX National Conference of IAOMP held at Hyderabad from 18th to 20th November, 2011.

Topic	Presented by	Type of Presentation
Retrospective search to explore the real nature of undifferentiated malignancies	Dr. Kshitiz Rohilla	Paper
Cancer Immunoediting: From immunosurveillance to tumour escape	Dr. Suganya Dr. N.S.C. Charles	Poster
Evaluation of serum lipid profile in Oral Cancer	Dr. Simranjit Singh	Poster
Gene therapy : An overview	Dr. Sudip Indu Dr. G. Vasupradha Dr. B. Pallavan	Poster

11. All Postgraduate students attended the CME Programme on HIV /AIDS- MICROAIDS 2011 organized by the Dept of Microbiology, Sri Manakula Vinayagar Medical College & Hospital, Puducherry on 1st December, 2011.
12. Post Graduate Students Dr. Suganya, Dr. Sudip Indu, Dr. Vasupradha. G, Dr. Pallavan attended the Saveetha Histopathology Slide Seminar 2012 & Hands On Workshop on-Basic & Research Microscopes held at Saveetha Dental College & Hospital, Chennai on 8th June 2012.

SCIENTIFIC ACHIEVEMENTS

1. The photograph presented by Post Graduate student Dr. Kshitiz Rohilla at 'The Photography of museum mounted specimen' competition and won the '**BEST PHOTOGRAPH AWARD**' at the XI NATIONAL PG CONVENTION OF IAOMP held at Manipal on 9th & 10th July,2011. Received the certificate on behalf of the institute.
2. The paper presented by Postgraduate student Dr. R. Suganya titled 'Age estimation in adults by pulp to tooth width ratio' at 9th NATIONAL CONFERENCE OF IAFO held at SALEM on the 22nd & 23rd October 2011 has been awarded with a '**BEST PAPER AWARD**'.
3. Dr. Kshitiz Rohilla, Post Graduate student was Awarded the T. Rajasekaran Award for the **BEST PHOTOGRAPHY**- in Oral and Maxillofacial Pathology at the 20th National Conference of IAOMP, Hyderabad, 2011.

The following academic activities were carried out by the post graduate students:

S. No.	Name of the student	Topic	Guided by
1.	Dr. Vineet Singh	Mast cells & their relevance in oral squamous cell carcinoma.	Dr. V Ramesh
2.	Dr. Kshitiz Rohilla	The role of tooth cementum annulations in age estimation in humans.	Dr. P.D.Balamurali
3.	Dr. Sriram. K	Cytologic Study of the odontogenic tumours of the jaw.	Dr. V. Ramesh
4.	Dr. Suganya. R	Age estimation in adults by pulp to tooth width ratio.	Dr. V. Ramesh
5.	Dr. Sudip Indu	Pattern Variation in Palatal Rugae as an adjunct in Forensic Odontology	Dr. V. Ramesh



DEPT. OF PROSTHODONTICS

Faculty

Name	Conference attended	Courses/ lectures presented/ Chairing sessions
Dr. Shyam Singh, M.D.S., Director, Professor and Head	13th IPS PG Convention, Babu Banarsi Das College of Dental Sciences, Lucknow [24th – 26th June 2011]	Chaired a scientific session
Dr. R. Shakila, M.D.S., Assistant Professor	13th IPS PG Convention, Babu Banarsi Das College of Dental Sciences, Lucknow [24th – 26th June 2011]	Conducted pre-conference course on “Impressions in Implantology” Chaired a scientific session

Post Graduate Students

Name	Conference attended	Presentations	Guide/Co –guide
Dr. Dhruv Arora, IIIrd Year Junior Resident (P.G)	13th ISP Convention, Babu Banarsi Das College of Dental Sciences, Lucknow [24th - 26th June 2011]	Extraoral prosthesis – nearer to reality	Guide: Dr. Shyam Singh Co Guide: Dr. R. Shakila
	5th International Congress of Oral Implantology, New Delhi [23rd - 25th September]	Paper: Comparison of conventional complete denture Vs Implant overdenture – a clinical study	Guide: Dr. Shyam Singh Co Guide: Dr. R. Shakila

Name	Conference attended	Presentations	Guide/Co –guide
Dr.Santosh Anand, III Year Junior Resident (P.G)	13th IPS PG Convention, Babu Banarsi Das College of Dental Sciences, Lucknow [24th – 26th June 2011]	Paper: Overdentures – a stitch in time	Guide: Dr.Shyam Singh Co Guide: Dr.R.Shakila
	5th International congress of Oral Implantology, New Delhi [23rd – 25th September]	Paper: Stress Distribution in tooth implant supported fixed prosthesis– a finite element study	Guide: Dr.Shyam Singh Co Guide: Dr.L.Jeevanandam
Dr. S.K.Jagdish, II Year Junior Resident (P.G)	13th IPS PG Convention, Babu Banarsi Das College of Dental Sciences, Lucknow [24th – 26th June 2011]	Poster: Single appointment final impression and centric jaw relation in complete dentures – Best Poster	Guide: Dr.Shyam Singh Co Guide: Dr.R.Shakila
	5th International congress of Oral Implantology, New Delhi [23rd – 25th September]	Paper: Dental implant awareness and acceptance among Pondicherry population – A survey	Guide: Dr.Shyam Singh Co Guide: Dr.R.Shakila
Dr. V.R.Arun Kumar, II Year Junior Resident (P.G)	13th IPS PG Convention, Babu Banarsi Das College of Dental Sciences, Lucknow [24th – 26th June 2011]	Poster: Reservoir Denture – A hope to xero.	Guide: Dr.Shyam Singh Co Guide: Dr.R.Shakila
	5th International congress of Oral Implantology, New Delhi [23rd – 25th September]	Paper: Zirconia implants – entering the new era	Guide: Dr.Shyam Singh Co Guide: Dr.L.Jeevanandam

Name	Conference attended	Presentations	Guide/Co –guide
Dr.Balaji J, I Year Junior Resident (P.G)	13th IPS PG Convention, Babu Banarsi Das College of Dental Sciences, Lucknow [24th – 26th June 2011]	Poster: Rapid prototyping – a way to precise replica	Guide: Dr.Shyam Singh Co Guide: Dr.R.Shakila
	5th International congress of Oral Implantology, New Delhi [23rd – 25th September]	Paper: Transitional implants	Guide: Dr.Shyam Singh Co Guide: Dr.R.Shakila
Dr.Gayathri, I Year Junior Resident (P.G)	13th IPS PG Convention, Babu Banarsi Das College of Dental Sciences, Lucknow [24th – 26th June 2011]	Poster: Flexible dentures – a comfort zone	Guide: Dr.Shyam Singh Co Guide: Dr.R.Shakila



DEPT. OF CONSERVATIVE DENTISTRY

Postgraduate students Dr. Mithunjith & Dr. Karthikeyan attended **12th FODI and IES post graduate convention** on 4th and 5th of june 2011 in Ahmedabad.

Postgraduate students Dr. Mithunjith & Dr. Karthikeyan attended a **pre conference course** on Stem cell isolation in 12th FODI and IES post graduate convention in Ahmedabad on 3.6.2011.

Postgraduate students Dr. Prakash Athiban & Dr. Saranya attended Accredited continuing dental education Program on 12th june 2011- IDA Puducherry on **"Endodontic practice Today" & "Aesthetic restorations Which? When? and Why?"**

Postgraduate students Dr. Mithunjith, Dr. Karthikeyan, Dr. Prakash Athiban & Dr. Saranya attended **26thFODI and 19th IES National conference** held in delhi from 10.11.2011 to 13.11.2011 and presented the following :

Dr. Mithunjith	Paper : Incidence of Radix Entomolaris in Puducherry population
Dr. Karthikeyan,	Paper : Treatment of Radix Entomolaris using canal projection system
Dr. Prakash Athiban	Poster : Evaluation of antimicrobial efficacy of aloe vera and its effectiveness in decontaminating gp cones - an in vitro study. – Best Poster
Dr. Saranya	Poster : Antimicrobial efficacy of Curcuma longa - an in vitro study

Postgraduate students Dr. Prakash Athiban & Dr. Saranya Attended a Lecture on Regenerative Endodontics **"Endo ReGen 2012"** held at Annamalai University, Chidambaram on 25/1/12

Postgraduate student Dr. Mithunjith **Attended a lecture and a Hands on workshop on** Art and science of porcelain laminate veneers by Dr. Galip guel held in Mumbai on 10.3.2012.

Postgraduate student Dr. Karthikeyan **Attended a lecture on** Art and science of porcelain laminate veneers by Dr. Galip guel held in Mumbai on 10.3.2012.

Postgraduate students Dr. Mithunjith, Dr. Karthikeyan, Dr. Prakash Athiban & Dr. Saranya attended **Attended 13th IACDE and IES post graduate convention** on 21st and 22nd april 2012 held in kasauli.

Dr. Mithunjith	Paper : Re- attachment of fractured segment using fibre post: case reports
Dr. Karthikeyan,	Poster : Tooth in eye: Vision through teeth
Dr. Prakash Athiban	Poster : Determining the pH of root canals –An instant and innovative chair side procedure- Colour coding the root canals – Best Poster
Dr. Saranya	Paper : Comparison of disinfection effectiveness of endodontic files –an invitro study

Dr. Prakash Athiban & Dr. Saranya attended a pre Conference course on **"Retreatment Endodontics"** on 20th April 2012 at the13th postgraduate IACDE and IES convention held at kasauli.

Postgraduate students Dr. Mithunjith, Dr. Karthikeyan, Dr. Prakash Athiban & Dr. Saranya attended a **lecture and Hands on workshop on** MTA splinting and Post and core by Dr. Bruno rosa in SriVenkateshwara dental college in Chennai on 3.5.2012.



DEPT. OF PERIODONTICS

Postgraduate students Dr. S. Agila and Dr. Sandeep Kumar, III M.D.S, Junior Residents (P.G.) attended ISDR 23rd National Conference held at Chettinad Dental College, Chennai on January 7th to 9th 2011 and also presented the following papers.

Dr. S. Agila	Probiotics – A New Gate for Periodontal Therapy *
Dr. Sandeep Kumar	Biomarkers *

* was awarded Best Scientific Paper.

Postgraduate students Dr. S. Agila, III M.D.S., Dr. P. Sivaranjani & Dr. Vineet Kashyap, II M.D.S attended 10th ISP PG workshop at Sri Ramachandra University, Chennai on June 24th and 25th 2011.

Postgraduate students Dr. S. Agila, III M.D.S, Dr. P. Sivaranjani & Dr. Vineet Kashyap, II M.D.S attended CDE Programme on “**How To Become a Successful Teacher?**” held at Ragas Dental College and Hospital, Chennai on September 5th, 2011.

Postgraduate students Dr. S. Agila, III M.D.S, Dr. P. Sivaranjani & Dr. Vineet Kashyap, II M.D.S attended 36th National Conference of ISP on October 14th to 16th 2011 at Ahmedabad and presented the following E – Posters.

Dr. S. Agila, III M.D.S	Idiopathic Gingival Enlargement- A Case report
Dr. P. Sivaranjani & Dr. Vineet Kashyap, II M.D.S	Periodontal Regenerative Medicine

Postgraduate students Dr. S. Agila, III M.D.S, Dr. P. Sivaranjani & Dr. Vineet Kashyap, II M.D.S attended Breaking Barriers 2012- National Scientific Convention held at Tamil Nadu Government Dental college and hospital, Chennai on January 18th & 19th, 2012.

We welcome your feedback, please write to us :

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A TRIBUTE TO THE CONTRIBUTORS



Dr. RAFIUDDIN AHMED
(1890-1965)

Dr. Rafiuddin Ahmed was born on December 24, 1890, in Bardhanpara, East Bengal, India. He graduated from Aligarh University in 1908 & in the next year, left for the United States. He enrolled in the University of IOWA School of Dentistry, earning his dental degree in 1915. Dr Ahmed then worked in the Forsyth Dental Infirmary for Children in Boston, Massachusetts, until 1918. In 1919 he returned to India to open a dental practice in Calcutta. Dr Ahmed's philosophy was, "Education is the responsibility of the State; but if no one is willing to carry, I will, for as long as I can." With the aim to keep his efforts for the development of the profession, on the 60th year of formation started Accredited Continuing Dental Education programmes on its 60th year of formation.

In 1920, Dr Ahmed founded the First Dental College of India, which was financed by "The New York Soda Fountain" in Calcutta. Dr Ahmed published the First Student's Handbook on Operative Dentistry in 1928. The First Dental College of India was affiliated to the State Medical Facility in 1936, and then with the University of Calcutta in 1949. In the same year, Dr Ahmed donated his First Dental College of India to the West Bengal Government. Dr Ahmed served as principal of the college from 1920 to 1950. Dr. Raifuddin Ahmed, the pioneer of dentistry in the Indian terrain and one of the revered names in the history of Indian dentistry. Today, Dr. R. Ahmed is remembered as the Nestor and Dean of Dentistry, Dental Education, and the Dental Profession in India. He died on January 18, 1965.

Yesterday's fun... Today's habit...
Tomorrow's death.....

ORAL CANCER RISK FACTORS

SMOKING & THE USE OF TOBACCO PRODUCTS

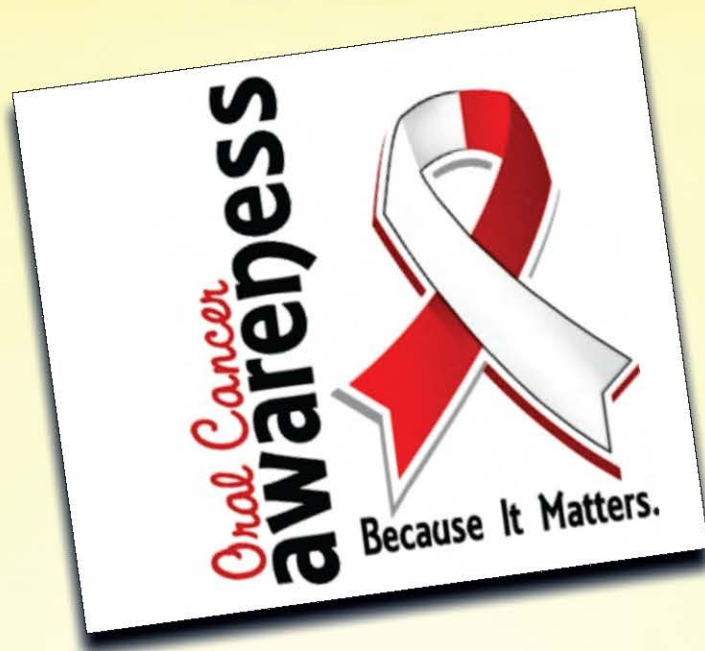
EXCESSIVE USE OF ALCOHOL

PROLONGED SUN EXPOSURE

ADVANCING AGE

FAMILY HISTORY OF CANCER

SOME VIRAL INFECTIONS LIKE HPV



**"IF YOU THINK YOU ARE AT RISK OF DEVELOPING ORAL CANCER,
CONTACT YOUR DENTIST FOR CHECK UP"**