

Abstracts

The following is a record of the Poster Presentations held at the
6th Meeting of the Asian Pacific Society of Periodontology

Preterm Low Birth Weight and Dental Intervention - Is There Any Link? **Poster Competition - First Place**

S. Bala*, S.C. Narula, R.K. Sharma

(Government Dental College, Rohtak, Haryana, India)

There is compelling evidence that a link exists between PLBW & Periodontitis. Although 25% - 50% of PLBW deliveries occur without any known etiology, there is increasing evidence that infection may play a significant role in preterm delivery. A model explaining the plausible relationship is proposed based upon the concept of infection leading to the cascade of inflammatory reactions associated with preterm labor & periodontal disease. Effect of periodontal intervention on pregnancy outcome in a randomized case-control study of Northern part of India (Haryana) will be presented.

Periodontal Regeneration Based on Multi-layered Cell Sheet Engineering **Poster Competition - Second Place**

M. Gomez Flores*, M. Hasegawa, M. Yamto, T. Okano, I. Ishikawa

(Department of Hard Tissue Engineering, Tokyo Medical and Dental University, Tokyo, Japan)

This study was undertaken to investigate the possibility of a novel tissue engineering approach for complicated periodontal tissue structures by layering periodontal ligament (PDL) cells expanded *ex vivo* on temperature responsive cell culture surface.

Human PDL cells were cultured on temperature-responsive cell culture surfaces with and without osteogenic inductor medium. After three weeks the cells were harvested as a single sheet and then layered. The multi-layered PDL cells were verified *ex vivo* and transplanted into immunodeficient rats with dentin blocks.

PDL cell sheets showed a large amount of extracellular matrix and the presence of mineralized nodules. Small amount of mineralized tissue and the attachment of some collagen fibers were confirmed onto the surface of the dentin blocks.

This strategy enables fabrication of viable, transplantable, tissue-engineered periodontal tissue constructs and might be suitable to manage periodontal defects.

Serological Analysis of the Implication of Periodontitis in Vascular Diseases

Poster Competition - Third Place

Y. Chen*, M. Umeda, Y. Huang, Y. Takeuchi, D. Wang, Y. Inoue, T. Iwai, I. Ishikawa
(Department of Hard Tissue Engineering, Tokyo Medical and Dental University, Tokyo, Japan)

Recent research has associated periodontitis with vascular diseases. The aim of this study is to investigate whether periodontal infection of resulting host immune responses play a role in vascular diseases.

The study population comprised 64 patients with vascular diseases (VD) and 47 control subjects. Periodontal status, serum IgG levels against periodontopathic pathogens and levels of periodontitis – associated inflammatory cytokines were examined. Periodontal status was worse in the VD group. IgG levels against *Porphyromonas gingivalis* and *Treponema denticola*, and inflammatory cytokine levels were significantly higher in the VD group than the control group. This study provides serological evidence that an infection caused by major periodontal pathogens may be associated with vascular diseases.

Synergistic Approach for Optimal Esthetics

A. Uppoor*, D. Naik

(Manipal College of Dental Sciences, Mangalore, India)

Esthetics has long been the domain of restorative dentistry but gingival esthetics have often been compromised. Recently, an entire array of periodontal plastic surgical procedures has contributed to the improvement of facial esthetics. Periodontists working synergistically with prosthodontists will go a long way in achieving optimal esthetics. A series of cases from the Manipal College of Dental Sciences are presented demonstrating the achievement of esthetics through co-operation.

Black Triangles – The Unwanted Outcome of Periodontal Surgery: Methods of Prevention and Correction

K.J. Nisha*, K. Nandakumar

(Department of Periodontics, Government Dental College, Trivandrum, Kerala, India)

Black triangles, or the non-existence of a papilla between two teeth, are one of the notorious drawbacks of periodontal surgical therapy. These black triangles create an unaesthetic appearance when the patient smiles. Once lost, the regeneration of interdental papilla is a very difficult and challenging task to the clinician. This poster presents various case reports demonstrating modified suturing techniques to prevent the loss of interdental papilla and surgical and non-surgical techniques to regenerate the papilla.

Periodontal Manifestation in Florid Osseous Dysplasia – A Rare Case Report

B. Joseph*, K. Nandakumar

(Department of Periodontics, Dental College, Trivandrum, Kerala, India)

A 33 year old female patient reported to the Department of Periodontics for correction of enlarged gingiva and space between the anterior teeth. The gingival enlargement was firm and diffuse with no pocket formation, with grade I mobility and spacing of anterior teeth. Full mouth IOPA xrays showed generalized cotton wool appearance, loss of lamina dura, hypercementosis and blunting of roots. This case was diagnosed as Florid Osseous Dysplasia on the basis of the overall combination of findings. Florid Osseous Dysplasia is a non neoplastic condition characterized by multiple radiopaque lobulated masses and apparent gingival enlargement occurring in two or more quadrants, often in middle aged women. This condition is usually asymptomatic and therefore periodontal maintenance therapy is advised.

Efficacy of Chitra Calcium Phosphate Cement Graft in the Management of Periodontal Osseous Defects

J.B. Rajesh, K. Nandakumar

(Department of Periodontics, Government Dental College, Trivandrum, Kerala, India)

In an independent research and development attempt, the Biomedical Technology wing of Sree Chitra Tirunal Institute for Medical Sciences and Technology, Trivandrum has developed a unique bioactive calcium phosphate cement (Chitra-CPC) for use in the management of periodontal osseous defects.

The principal of CPC is a cementing action of acidic and basic calcium phosphate compounds on wetting with an aqueous medium. The cement powder contains tetra calcium phosphate (TTCP) and dicalcium phosphate dihydrate (DCPD) particles of size in range 100 μ m, mixed in equimolar ratio. The wetting medium used was distilled water with Na₂HPO₄. Mixing of these in suitable proportions gives a self-setting mass. The chemical phase of the set mass depends on the net Ca-P ratio in the ingredients and when this is adjusted to 1.67, hydroxyapatite, the basic bone mineral with the chemical formula Ca₁₀(PO₄)₆(OH)₂ will result.

This present study is designed to evaluate the regenerative potential of Chitra calcium phosphate cement when used in the management of periodontal osseous defects.

A Study to Evaluate Tooth Mobility in Menstruating and Non-Menstruating Women

P. Mishra*, P.P. Marawar, G. Byakod

(Department of Periodontics, Rural Dental College, Loni, Maharashtra, India)

Hormonal variation in puberty and menstruation tends to accentuate the existing clinical signs and symptoms of gingivitis. Oral health care needs during these stages are unique which require the clinician to have a better understanding of the changes occurring in the tissues at these specific times.

The aim of this study is to determine the precise difference in mobility of teeth in menstruating and non-menstruating females using a mobilometer.

Diabetes Mellitus and the Periodontium – Case Report

R.B. Pushpalatha

(M.S. Ramaiah Dental College & Hospital, Bangalore, India)

The impact of systemic conditions on oral health is well recognized. The periodontium is an end organ similar in many ways to other end organs such as the skin and the glomerulus of the kidney. In this regard, conditions commonly affecting various end organs throughout the body like diabetes mellitus, may also influence the periodontium.

Modern epidemiologic methods used in large populations have clearly established that diabetes is a risk factor for periodontal disease. While diabetes significantly impacts the periodontium, evidence also suggests the potential for periodontal infection to adversely affect glycemic control in diabetics.

This poster depicts the classic two-way relationship between diabetes mellitus and the periodontium with the help of case reports.

Familial Aggregation of Aggressive Periodontitis – A Case Report of Siblings Affected

S. Janitha

(M.S. Ramaiah Dental College and Hospital, Bangalore, India)

Aggressive periodontitis comprises a group of rare often severe, rapidly progressing forms of periodontitis often characterized by an early age of onset and distinctive tendency to aggregate in families. It is widely recognized that siblings of patients with aggressive periodontitis frequently also suffer from periodontitis. Almost 50% of siblings are affected by aggressive periodontitis. Familial aggregation suggests genetic etiology. However, families also share many aspects of common environmental factors like diet, nutrition, exposure to pollutants, and aggregation of certain micro-organisms in the families. Twin studies performed concluded that genetics form the basis for familial aggregation of aggressive periodontitis.

This poster presents information on the pedigree of the family and how this affected their clinical, radiographic and laboratory findings and the treatment given to siblings affected by aggressive periodontitis.

Matrix Disrupter – A Creative Plaque Disrupting Device

M. Parvez*, S. Hedge, K.S. Rajesh

(Department of Periodontics, Yenepoya Dental College, Mangalore, India)

Over the years, time and money have been invested in designing oral health care products to marry form and function. Products are available in all shapes, colours and sizes, promising to perform better than the rest. These have changed to fit the times, and are likely to continue to evolve.

This poster is a blueprint of a new mechanical oral hygiene device equipped with multiple oral hygiene aids, designed with the help of specialized 3D Software.

Evaluation of the Efficacy of Taurine as an Antioxidant in the Management of Patients with Chronic Periodontitis

S. Lakshmi Sreee

(R.M. Dental College and Hospital, Annamalai University, Tamil Nadu, India)

This study evaluated the antioxidant property of Taurine in the management of chronic periodontitis patients. Periodontal status in ten chronic periodontitis patients was assessed in terms of gingival index, plaque, index, probing pocket depth and clinical attachment level prior to and after administration of Taurine. The oxidative stress present in the gingival tissue and blood (measured using the test TBARS) and the antioxidants namely GSH (reduced glutathione) and GPX (glutathione peroxidase) were also estimated before and after administration of Taurine. The changes in the biochemical parameters were significant statistically where as the changes in the clinical parameters were insignificant.

A Clinical Evaluation of the Use of Demineralized Bone Matrix and Bioactive Collagen Membranes in Peri Implant Bone Regeneration

V. Chadha*, V.S. Battu, G. Rajan

(Private Practitioner, Chandigarh, India)

The objective was to evaluate the clinical efficacy of the adjunctive use of Chlorhexidine Chip (CHX) following scaling and root planing (SRP) in treatment of chronic periodontitis.

A randomized, blinded, split-mouth study was designed. A total of 16 patients, both men and women, aged between 30 and 60 years with chronic periodontitis with at least 2 sites having 5 to 8 mm pockets that bled on probing were enrolled into the study. A tooth was selected as a target and its parameters of probing depth, attachment loss, gingival index, and plaque index were recorded. Each site was randomly assigned to one of two treatments – SRP + CHX or SRP alone. All parameters were recorded at baseline, 1 month, 3 months, and 6 months. Results showed the reduction of PD and gain of attachment at 6 months in the group of SRP plus CHX (3.94 mm, 2.83 mm) were significantly higher than those in group of SRP alone (1.39 mm, 1.89 mm) ($P < 0.001$).

It was concluded that the chlorhexidine chip is an effective adjunct to SRP for use in patients with chronic periodontitis.

Tissue Engineering – Revolutionizing Periodontics Towards Greater Horizons

N.K. Sowmya, T.S. Sriniva

(Bapuji Dental College & Hospital, Davangere, Karnataka, India)

True regeneration is at the forefronts of research in periodontics. Many treatment modalities have been developed to achieve complete regeneration. Tissue engineering is one of the latest treatment modalities used to achieve this “elusive” goal. This poster presents the case reports of materials used in periodontal regenerative treatment modalities which work on the principal of tissue engineering. This poster depicts the use of Emdogain, Peppen P-15 & PRP with Bio-Oss used in periodontal intra-bony osseous defects.

Buccal and Coronal Bone Augmentation Using Forced Eruption and Buccal Root Torque - A Case Report

V. Priya Darshini

(Bapuji Dental College & Hospital, Davangere, Karnataka, India)

The following case report described the buccal and coronal bone augmentation around an irretrievable tooth using forced eruption and buccal root torque for immediate non-sub merged implant placement. Biodynamic orthodontic modeling modifies the osseous foundation for implant placement. A mandibular left second premolar with degree 2 mobility, severe buccal bone resorption and interproximal angular bony defects was subjected to forced eruption and buccal root torque. Five months after this process, the tooth was displaced 15 mm coronally and the root apex faced buccally. Buccal and coronal bone augmentation and soft tissue enlargement were evident at re-entry surgery. This technique enabled proper implant placement in a situation where the bone was compromised.

Ridge Augmentation with Dense Hydroxyapatite on Resorbable Suture (Permaridge) Matrix

S.R. Krishna*, P. Talreja

(Department of Periodontics & Implantology, Bapuji Dental College & Hospital, Karnataka, India)

The atrophic edentulous ridge represents one of the greatest challenges faced in routine practice. The endosseous dental implant is a proven, predictable and practical method of treating the edentulous maxilla and mandible and providing enhanced stability and retention for a full arch prosthesis. Many of these patients for various reasons are not candidates for endosseous implants. Presented here is a method of ridge augmentation with dense hydroxyapatite beads linked in a resorbable suture matrix to prevent particle migration during healing. This technique may be performed with minimally invasive surgery providing long term prosthetic support.

Psychological Stress and Oral Health

R. Jain, R Vidhyasagar*

(M.R. Ambedkar Dental College, Bangalore, India)

Gingivitis and periodontitis are inflammatory diseases primarily caused by an interaction between a specific group of micro-organisms colonizing the oral sites and the host. Various systemic factors like genetic background, diabetes mellitus, etc. alter the host response to local factors and may predispose the individual to rapid periodontal destruction. Recently, psychosocial factors such as stress have also been identified as one of the risk indicators for periodontal disease. Stress acts on the hypothalamic-pituitary-adrenal axis, increasing the release of noradrenalin. This stimulated release of Cortisol and noradrenalin has a suppressive action on the immune system, inhibiting the action of PMNs and antibodies and stimulating the release of prostaglandins and proteases. Academic stress is considered as a naturally occurring stressor of high ecologic values. This study was designed to evaluate the effects of academic stress on the gingival tissues in a group of 35 dental students during an academic exam and one month after the exams. Clinical parameters like simplified oral hygiene index, bleeding index and gingival index were evaluated and information was collected regarding oral hygiene measures and use of tobacco products.

Effect of Aspirin Intake on Periodontal Status

S. Swamy*, F. Tarannum

(M.R. Ambedkar Dental College, Bangalore, India)

Periodontitis is an inflammatory disease, which results from complex interactions between plaque micro-organisms and the host immune system. PGE₂ is the predominant inflammatory mediator implicated in the pathogenesis of periodontal disease whilst destruction of alveolar bone is attributed to PGE₂ in association with other proinflammatory cytokines. Aspirin, an anti-inflammatory drug is widely used by the middle aged and elderly population because of its benefits in preventing inflammation, coronary artery disease and peripheral vascular disease. Aspirin has inhibitory effects on cyclo-oxygenase metabolites including PGE₂ and this has lead to many studies on the effects of aspirin and other NSAIDs on periodontal diseases. Since patients with various cardio-vascular disorders are on long-term low dose aspirin therapy, this study aims to evaluate the periodontal status in these patients. It is a case-control study assessing probing pocket depth, clinical attachment loss and bleeding on probing in patients on aspirin therapy (n=100) as compared to those who are not taking any anti-inflammatory drug (n=100).

Effect of 0.2% Tempered Chlorhexidine as an Antiplaque Agent

S. Ebenezer, Md. Jalaluddin, S.K. Nair

(M.R. Ambedkar Dental College, Bangalore, India)

Epidemiological studies [Loe et al 1965] as well as clinical research [Page and Schroeder 1982] concluded that plaque is the primary etiological factor in gingival inflammation. The mainstay of primary and secondary prevention of periodontal disease is the control of supragingival plaque. As an adjunct to mechanical tooth cleaning various antimicrobial mouthrinses can be used. The most common is 0.2% chlorhexidine gluconate, the first clinically effective mouth rinse that inhibited supragingival plaque formation and thus the development of gingivitis as well as caries. Konig J et al – 2002 concluded from his study that 0.2% tempered chlorhexidine was more effective in inhibiting plaque. However, insufficient studies have been conducted on this subject to be able to provide conclusive results. The aim of this study is to evaluate the efficacy of 0.2% tempered (45° C) chlorhexidine (n=25) as antiplaque agent over 0.2% cold (25° C) chlorhexidine (n=25).

Investigation of Periopathic Bacterial Transmission From Periodontal Pockets to Peri-Implant Sulci

H. Ogawa*, T. Ohshima, F. Kawasaki, K. Gomi, N. Maeda, T. Arai

(School of Dental Medicine, Tsurumi University, Yokohama, Japan)

The aim of this study was to investigate the transmission of four periopathic bacterial (*Porphyromonas gingivalis*, *Prevotella intermedia*, *Prevotella nigrescens*, *Fusobacterium nucleatum*) from natural teeth to implants in the same patient.

Bacterial samples were obtained from 113 implants and 92 natural teeth of 50 partially edentulous patients and cultured. The bacterial strains from the same individuals were compared by arbitrarily primed polymerase chain reaction (AP-PCR). In more than 70% of the patients, the same strains existed both in the natural teeth pockets and the implants sulci. These results strongly suggested that the bacterial transmission occurred from the remaining natural teeth to peri-implant sulci.

Effects of Fractionated Enamel Proteins on Human Periodontal Ligament (HPDL) Cells Differentiation

T. Nagano*, S. Oida, S. Suzuki, A. Kakegawa, K. Gomi, T. Arai, M. Fukae
(School of Dental Medicine, Tsurumi University, Yokohama, Japan)

The purpose of this study was to identify osteogenic factors in porcine enamel extract. Enamel proteins were separated by size exclusion chromatography into 25 fractions, which were tested for ST2 and HPDL cells. Fraction 10~16 reduced ALP activity in ST2, but enhanced it in HPDL cells. The enhanced ALP activity was completely blocked by TGF- β inhibitors. We demonstrated that fraction 13 can induce promoter activity of the PAI-1 gene. These results show that the osteoinductive activity of enamel extracts on HPDL cells is mediated by TGF- β 1, and suggest that HPDL cells and osteoblast-like cells respond differently to TGF- β 1 stimulation.

The Antimicrobial Effect of Porcine Amelogenins

M. Ebisawa*, T. Ohshima, T. Nagano, K. Gomi, M. Fukae, N. Maeda, T. Arai
(School of Dental Medicine, Tsurumi University, Yokohama, Japan)

The purpose of this study was to evaluate the antimicrobial effect of amelogenins, which are main component of enamel proteins, used for periodontal regeneration clinically. Twenty-five kDa porcine amelogenin and its derivatives were extracted from immature enamel and purified to be homogenous. Their antimicrobial effects to oral pathogenic microorganisms were examined as MBC. The 25kDa porcine amelogenin and its derivatives showed significant antimicrobial effect against *Candida albicans*, while they showed low antimicrobial effect against *Porphyromonas gingivalis*. Amelogenins have antimicrobial properties against oral pathogenic micro-organisms.

Comparative Evaluation of CO₂ Laser and Radiosurgery as Techniques in the Treatment of Gingival Hyperpigmentation - A Clinical, Histological and Subjective Patient Evaluated Study Followed Over Six Months

R.P. Thakur

(Government Dental College and Hospital, Mumbai, India)

The need for esthetics and the demand for a pleasing smile has made individuals conscious of dark patches of pigmentation in the facial aspect of the anterior gingival region, which can be strikingly apparent during smiling and speech. This study tested the efficacy of CO₂ laser and radiosurgery for gingival depigmentation. The study was a randomized, split mouth comparison clinical trial carried over six patients in twelve sites. The parameters considered were Dummett's Pigmentation Index, area of pigmentation and an evaluation of inflammation and pain. A patient questionnaire was performed. Biopsies were taken pre-operatively and after six months for histological analysis. This study shows that both CO₂ laser and radiosurgery were successful treatment modalities for gingival depigmentation.

Possible Association Between Preterm Low Birth Weight and Early Periodontitis – A Case Control Study

V.S. Eligar

(Department of Periodontics, K.L.E.S. Dental College, Belgaum, Karnataka, India)

According to many studies generalized periodontitis can be a risk factor for preterm low birth weight. A case control study was carried out to examine if early, localized periodontitis could be a risk factor for adverse pregnancy outcome. Post partum women without any systemic diseases were included into the study. A pre term birth case was defined if a patient had a threatening premature labor during pregnancy, preterm premature rupture of membranes and/or the weight of the newborn was <2499 gm. Control women had delivery after the 37th gestational week and newborn weight was more than 2500 gm. The socio economic status and periodontal status was recorded. Smoking, alcohol and drug consuming subjects were excluded from the study. The data was statistically analyzed with results still forthcoming.

Finite Element Method in Periodontics – Looking Beyond the Obvious

M. Taneja*, I. Gupta*, K.L. Vandana

(College of Dental Sciences, Davangere, Karnataka, India)

Finite Element Method (FEM) is a computer assisted application of a mathematical model to study the stress and displacement pattern in structures after application of a load. In dentistry FEM is used in the fields of prosthodontics, orthodontics & implantology, but it has not been observed in the periodontal literature so far. Periodontal disease is influenced by traumatic occlusal forces and the study of normal occlusion and trauma from occlusion is one of the areas of FEM application in periodontics. Various animal models, photoelastic and strain gauge methods have shown inadequate information on comparison. This poster presents a study of stress analysis in the periodontium using FEM.

Attachment Loss in a Case of Pendred Syndrome - Incidental or Constitutive?

D. Sharma

(Government Dental College, Bangalore, India)

Pendred Syndrome (PS) is a rare inherited autosomal recessive disorder with an iodine organification defect of thyroxine hormone. The constitutive features of PS include sensorineural hearing loss, classically congenital, and goitre. No cases have been described with periodontal findings. This poster described a 21 year old female patient of PS with localized extensive attachment loss involving mandibular incisors without significant associated local factors. Hence, impairment of primary host immune response was suspected and the possibilities of neutrophil defects (in degranulation and chemotaxis) were investigated. The results were discussed in the presentation along with the management of such rare cases.

Primary Tuberculous Gingival Enlargement - A Rare Entity

B.V. Karthikeyan

(Government Dental College, Bangalore, India)

Primary gingival tuberculosis is an extremely rare and forgotten entity. It commonly manifests as an ulcer. This presentation highlights an unusual finding, primary tuberculosis, manifesting as gingival enlargement, which is reported for the first time in the literature. Diagnosis was based on histopathological features, immunological investigation of antibodies against *Mycobacterium tuberculosis* and PCR assay. Antituberculous therapy administered for six months resulted in complete resolution. It also emphasizes that we, as periodontists, need to be aware of this possibility and include tuberculosis in the differential diagnosis of gingival enlargements so that we can play of role in the early detection of tuberculosis.

Pachyonychia Congenita With Unusual Dental Findings – A Rare Case Report

C. Nagaraja

(Department of Periodontics, Government Dental College, Bangalore, India)

Pachyonychia congenita (PC) is a rare form of hereditary palmoplantar keratoderma. The most characteristic finding of the affected patient is the marked subungual hyperkeratosis with thickening of the distal parts of the nails. The oral findings include leukokeratosis of the tongue, buccal mucosa and palate, angular stomatitis, presence of natal and neonatal teeth, periodontitis and severe dental caries.

This poster represents a case report of PC associated with unusual dental findings like hypercementosis of posterior teeth, multiple retained deciduous roots, multiple talons cusps in patient with a poor periodontal condition and oral malodor and discusses the management of the same.

Plasma Cell Granuloma of Gingiva - A Case Report

P. Devi

(Department of Periodontics, Government Dental College, Bangalore, India)

An exceedingly rare case of gingival plasma cell granuloma is reported in a 40 year old female patient which presented as an exophytic mass in the gingiva, clinically resembling a traumatic fibroma. Histopathological findings revealed dense sheets of plasma cell infiltrate. Immunohistochemistry for kappa and lambda light chains showed polyclonal staining pattern confirming a diagnosis of plasma cell granuloma. Clinical features are usually suggestive of traumatic fibroma (benign) but histopathologically, in the early stages it closely resembles plasmacytoma (malignant). This poster highlights the need to biopsy such lesions to rule out potential neoplasms regardless of clinical impression and/or perceived surgical success.

Role of Platelet-Rich Plasma in Periodontal Regeneration - Fact or Fiction?

S. Pai

(Department of Periodontics, Government Dental College, Bangalore, India)

Platelet-rich plasma (PRP) is a component of blood in which the platelets are concentrated in a limited volume of plasma. Platelets contain many growth factors, including Platelet-derived growth factor, insulin-like growth factor and transforming growth factor-beta, which enhance wound healing and help to induce tissue repair and regeneration. Today, PRP represents the technique available for clinicians to apply tissue stimulation principles in periodontal regenerative procedures. This poster demonstrates the successful use of PRP combined with other regenerative techniques in the repair of intrabony defects, furcations and cyst cavities.

A Comparative Study Between Bioresorbable and Non-Resorbable GTR Membranes in Three Walled Defects

P.K. Singh

(Department of Periodontics, P.M.N.M. Dental College & Hospital, Bagalkot, India)

The objective of conventional reconstructive periodontal therapy is the predictable regeneration of periodontium at the sites of previous periodontal breakdown. Periodontal wound healing has resulted in the development of a treatment modality known as “Guided Tissue Regeneration” based on the principle of guiding the proliferation of the various periodontal tissue components during healing following periodontal surgery.

First generation GTR device have been non-resorbable which calls for a second surgical procedure. This was avoided when bio resorbable devices became available, however they have some disadvantages such as early resorption.

In the present clinical study a comparison of the use of these two methods on patients was made.

Clinical Efficacy of a Novel Collagen Membrane of Fish Origin in the Management of Periodontal Intrabony Defects

S. Anila*, K. Nandakumar

(Department of Periodontics, Dental College, Trivandrum, India)

Numerous animal and human studies have documented the efficacy of guided tissue regeneration. We evaluated a new bioabsorbable collagen membrane of fish origin (synthesized from type 1 collagen from air bladder of fresh water fish *Sacchobronchur opiocephalus*) in the management, alone and in combination with hydroxyapatite graft and platelet rich plasma, in two/three walled intrabony defects. The effect of the therapy was evaluated by assessing clinical attachment gain and the position of marginal gingiva at the time of surgery and 12 months after surgery. It was concluded that the use of the matrix barrier resulted in reduced probing depths, pronounced gain of clinical attachment and improved periodontal treatment outcome.

Varied Gingival Neoplastic Presentations of the Dreadful AIDS - Case Series

D. Deepa*, J. A. Kumar

(Bapuji Dental College & Hospital, Davangere, India)

Oral lesions are common in individuals with HIV infections. Early recognition & treatment of these oral lesions may reduce morbidity.

Diagnosis is made from biopsy, for these lesions may mimic other forms of swelling or ulceration. Patients with HIV disease have an increased risk of developing infections like lymphoma & other types of neoplasms. Their presence is an indication of immunodeficiency and predicts the progression of HIV disease.

Here, we report a series of highly malignant diffused lesions of gingiva with unique histopathological features, reported to our department.

Efficacy of a Local Drug Delivery System Using 8% Tetracycline Hydrochloride (Periodontal Plus AB) in the Treatment of Chronic Periodontitis Evaluated by a DNA Probe

B. Fernandes

(College of Dental Surgery, Mangalore, India)

Several methods such as bacterial culturing, direct microscopy, immunodiagnostic methods, enzymatic methods and deoxyribonucleic acid (DNA) probe technology have been employed for the detection of putative pathogens in subgingival samples. Some of these have been strictly used for research purposes, whereas others have been adapted or modified for clinical use.

This poster depicts a study conducted to evaluate the efficacy of 8% tetracycline hydrochloride (Periodontal Plus AB) as non-surgical therapy in the treatment of chronic periodontitis. A DNA probe (DMDx) was used to assess the qualitative and quantitative changes in the microflora over a period of 6 months.

Guided Tissue Regeneration Using Collagen Membrane - A Practical Approach in the Management of Gingival Recession

A. Madhukant*, S. Hedge, K.S. Rajesh

(Department of Periodontics, Yenepoya Dental College, Mangalore, India)

The concept of guided tissue regeneration in the treatment of gingival recession has shown promising results and is gaining clinical acceptance. Recent research has focused upon utilization of a bio-absorbable collagen membrane in guided tissue regeneration (GTR).

16 systematically healthy patients with Miller Class I or II gingival recession defects were randomly treated by coronally advanced flap, alone or in combination with a bio-absorbable collagen membrane (8 patients each), and followed up for a period of six months.

This poster depicts the clinical applicability of a type I collagen membrane (Healiguide™) in the treatment of localized gingival recession and the clinical results obtained.

Effect of Periodontal Treatment on Monocyte Functions in Periodontitis Patients

D. Hormdee*, T. Nagasawa, G. Koshy, M. Kiji, R. Yashiro, H. Nitta, I. Ishikawa

(Department of Hard Tissue Engineering, Tokyo Medical & Dental University, Tokyo, Japan)

Inflammatory cytokines, including IL-6 and TNF- α , play important roles in the pathogenesis of periodontitis-associated systemic diseases and monocytes are major source of these cytokines. The aim of this study was to evaluate the effect of periodontal treatment on the production of IL-6 and TNF- α by circulating monocytes. 36 systemically healthy subjects diagnosed with chronic periodontitis were treated with ultrasonic debridement. Clinical parameters and peripheral blood samples were obtained before treatment (baseline), immediately, 1, 3 and 6 months after treatment (follow-up). Production of IL-6 and TNF- α immediately after were significantly greater than those at baseline. Production of both cytokines at baseline was significantly greater than those at follow-up. The present study suggested that periodontal inflammation might activate circulating monocytes, and such activation might be reduced by the periodontal therapy.

Management of An Isolated and Advanced Gingival Recession in a Maxillary Premolar – A Case Report

A.A. Salman

(Department of Periodontics, Tamilnadu Government Dental College & Hospital, Chennai, India)

Isolated and advanced gingival recession is one of the complex mucogingival problems to treat. A 35 year old female with gingival recession score of F4 – 9* (Smith RG – 1997) in tooth number 14, with buccal root tip projecting into oral cavity reported to the Government Dental College, Chennai. Endodontic management of the non-vital 14 was performed. Intraoperatively, the protruding buccal root tip was smoothed and thorough root planning with tetracycline root conditioning was done. A laterally repositioned pedicle from 15, 16 region was used to cover the recession. The donor area of 15, 16 was covered with a FGG from the palate. A six month follow up examination showed good coverage of the recession.

Stem Cell Properties of Human Periodontal Ligament Cells

K. Nagatomo*, M. Komaki, K. Noguchi, S. Oda, I. Ishikawa

(Department of Hard Tissue Engineering, Tokyo Medical & Dental University, Tokyo, Japan)

The stem cell properties of periodontal ligament (PDL) cells are not fully understood. The purpose of this study was to investigate whether human PDL cells possessed stem cell properties including stem cell marker expression, self-renewal and multi-potency. PDL cells were sparsely plated and staining of STRO-1, FACS analysis for stem cell markers, proliferation assay for self-renewal and differentiation assay for multi-potency were performed. PDL cells proliferated, made colonies derived from a single cell and expressed stem cell markers. Some colonies showed positive staining for STRO-1 and differentiated into adipocytes and osteoblasts. Our findings indicate that PDL cells have crucial stem cell properties, self-renewal and multi-potency.

Production of BMP-2 by Human Periodontal Fibroblasts Stimulated with TGF- β

R. Yashiro*, T. Nagasawa, M. Kiji, D. Harmdee, G. Koshy, H. Nitta, I. Ishikawa
(Department of Hard Tissue Engineering, Tokyo Medical and Dental University, Tokyo, Japan)

Transforming growth factor (TGF- β) is abundant in the bone matrix. Bone morphogenetic protein (BMP-2) is essential for bone formation. The presented study was performed to evaluate the regulatory effects of TGF- β on BMP-2 production by human periodontal ligament cells (PDL). PDL was stimulated with TGF- β , with or without various additives. BMP-2, mRNA expression was quantified by real-time PCR. BMP-2 production was measured using ELISA. BMP-2 mRNA expression and BMP-2 production were augmented by TGF- β in PDL. PKC inhibitors suppressed TGF- β -induced BMP-2 production in PDL, whereas activators enhanced it. These results suggest that PDL may contribute to bone and cementum formation by producing BMP-2 in response to TGF- β through the PKC pathway.

Chronic Periodontitis with Gingiva Hyperplasia

R.M. A. Ferriols
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The treatment of a patient afflicted with chronic periodontitis with gingival hyperplasia and having class II division II occlusion was presented. Treatment involved surgical removal of root fragments, extensive reduction of probing depths through scaling and root planning, gingivectomy of fibrotic gingival enlargement, filling of carious teeth and continual motivation to improve oral hygiene practices. Orthodontic alignment took the longest time due to major loss of bone in the area. A prosthesis was constructed after retainers were removed. A synergistic interdisciplinary treatment approach contributed to the remarkable transformation in physical appearance as well as in intra-oral condition of the patient.

Multiple Epiphyseal Dysplasia/Bilateral Genu Valgum with Localized Aggressive Periodontitis – A Case Report

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A case report of an 18 year old female patient who was diagnosed with multiple epiphyseal dysplasia with bilateral genu valgum and was referred for the management of bleeding gums. She was then diagnosed with localized aggressive periodontitis and treated by surgical periodontal therapy for pocket elimination and splinting. This case report attempts to examine the link between the two stated conditions and also the incidence of such cases.

Assessment of Patient Recapitulation of Post Surgical Instructions

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Post surgical instructions undoubtedly play a very important role in reducing patients anxiety and stress after surgical procedures. The presented study consisted of two groups of twenty patient. Subjects in group I were given verbal instructions alone and whereas group II received both verbal and written instructions. The information provided by the patient is tabulated and analyzed. Results showed that the patients who received both verbal and written instructions were able to remember and follow the instructions better than those with verbal instructions only, thereby increasing patient compliance.