



KDJ

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- Comparative study of colony counts of different species of oral streptococci in saliva of dentulous, edentulous and in those wearing partial and complete dentures
- Graphoanalysis : an aid in patient evaluation
- A comparative study on the marginal fit of multi unit single piece castings using over refractory technique and conventional technique- A pilot study



President's Message	6
Editorial	7
DCI President's Message	9
Comparative study of colony counts of different species of oral streptococci in saliva of dentulous, edentulous and in those wearing partial and complete dentures	11
Rajani Mary Kurien, Ganesh Shenoy Panchmal, Vijaya Hegde, Ronald Roche	
Graphoanalysis : an aid in patient evaluation	14
Anupama M.S., Sadhvi K.V., Hari B., Chandrasekharan Nair K., Jaykar Shetty, Vishwanath G	
A comparative study on the marginal fit of multi unit single piece castings using over refractory technique and conventional technique- A pilot study	20
Sushma Y, Chandrika L, Srividya S; Chandrasekharan Nair K; Jayakar Shetty; Vishwanath G	
Peripheral osteomas of jaws- A study of 6 cases	23
Akhilanand Chaurasia, Dr. Anita Balan	
The C shaped canal- an anatomical variant	27
Saumyakanta Mohanty, Jolly Mary Varughese, N.O. Varghese	
Prevention of periodontal diseases	31
Riyas Seinnullabdeen, Tintu Sara Chandy, Seba Abraham, Prakash P., Ambili R. Nisha K.J.	
Diagnose the following cases	34
Akhilanand chaurasia, Anita Balan	
Hemisection - A better option in furcation management	35
Preeja C, Presanthila Janam, Haeigin Tom Varghese, T. Sreelal, K.Harshakumar	
Eagle's Syndrome	38
Arun George, Devi Gopakumar, Bobby John, S Sunil	
Herpes zoster infection of the maxillary nerve	40
Ajay G. Nayak, Laxmikanth Chatra Prashanth Shenai K., Prasanna Kumar	
Scleroderma	43
Gayathri Krishnan, Vishnu Mohan	
Management of fractured edentulous mandible with gunning splint	45
Harshakumar, Anitha Gopinathan Ajith Kumar P.K.	
Osteogenesis imperfecta type IV	47
Roopashri Rajesh Kashyap, Gopakumar R., Gogineni Subhas Babu, Sreejan C.K.	
Dental Jewellery	50
Shibu Thomas Mathew	
Quiz	52
Rani Mol, Anita Balan	
Secretary's Message and Association Reports	53

President's Message



Dr. K.N. Pratap Kumar

Dear Colleagues,

I am delighted to have this opportunity to extend my personal BEST WISHES to all of you. I sincerely hope you all enjoyed the 41st State Conference at Nedumbassery as it was a wonderful opportunity for IDA members State wide to toast their collective achievements in 2008, with memories of triumph joy and friendship blended together.

To be committed and to perform better, the organization necessarily has to have the set up of simple and transparent working conditions. Let us have the synergy in serving together with the motto "WE" rather than "YOU" or I. Synergy helps the organization to maximize the combined efforts of individuals working in different teams.

Motivation is the driving force in our lives. It comes from a desire to succeed. Without success there is little pride in life, no enjoyment or excitement at work and at home. The most powerful motivation comes from within our belief system. To move in to action, we need to believe in what we do and accept responsibility for our life. When we accept responsibility for our behaviour and action, our attitude towards life becomes positive. We become more productive, both personally and professionally. Life becomes more meaningful and fulfilling.

Enthusiasm and motivation go hand in hand. Enthusiasm inspires confidence, raises morale, build loyalty and is priceless. You can feel enthusiasm by the way a person talks, walks or shakes hand, a habit that one can acquire and practice.

We often talk about attracting new members and retaining current ones but rarely discuss developing quality members with character, commitment, conviction, courtesy and courage. Yes, we certainly need to devote our attention to building membership but let us also nurture the members already in the fold.

More and more rules, regulations, and money extracting methodologies are introduced every year. In such circumstances this organization will be the one which will protect the interest

of all the dental practitioners. Your active involvement and firm unity under the banner of IDA is mandatory in the coming years to fight for our causes.

Let us

Be Professional in our approach and implementation,

Observe the code of ethics and discipline of our association,

Maintain and enhance the relationship and convert it in to everlasting,

Maintain an effective communication thereby resulting in total transparency

Resolve issues internally if any.

Life is not just party and pleasure; it is also pain and despair. Unthinkable things happen. Sometimes every thing turns upside down. Bad things happen to good people. It takes both rain and sunshine to create a rainbow. Our lives are no different. There is happiness and sorrow. There is the good and the bad, dark spots and bright spots. When we can handle adversity well, it only strengthens us.

Oral Cancer Detection and Awareness Programme, Smoke Free Institutions, Voluntary Blood Donors Forum, Photo Health Card, Swanthanam [Spend a day with handicapped (physically or mentally) orphans geriatrics] are some of the programmes of major importance this IDA year.

I request all the branch members to take part in IDA activities and give life to IDA. The world around us has changed a lot and we need to change too. If we are willing to change our thinking we can change our life and we can make our tomorrow better and brighter. Future belongs to those who grab it and take advantage of every opportunity and thus we create our own destiny.

LET US LEARN TO EXCEL IN LIFE AND
IN PROFESSION

With regards and love
Yours in IDA



Dr. K. Nandakumar

N e e d o f t h e h o u r

The last quarter century was the golden period of Indian dentistry if the demand for the related professional course is considered as the parameter. The number of dental colleges, increased by twenty times. Colleges belonged both to the public and private sectors. While the government colleges put a solid foundation to the academics, modern developments were ushered in vast proportions because of the liberal finances available to the private colleges. Both government and private colleges had a complementary growth which has put the profession into a developmental track. Last two years have witnessed a lack of demand for the professional courses of dentistry. In Kerala it is not very evident but the neighboring states like Karnataka and Tamilnadu are facing it really, with many seats remaining unfilled. Can dental professionals remain complacent after observing this down trend? India needs more dentists so that our rural population will gain access to dental health care amenities. Youngsters have kept dentistry in the low priority list which is not a good sign. Indian Dental Association has the a responsibility to promote our profession amongst the youngsters who are in the plus two classes. We have to market our profession highlighting its scope and relevance in the broad picture of health care system. The nobility and success of dentistry as a profession should be brought to the notice of the youngsters so that they will get attracted to it. We have to conduct promotional lectures using effective visuals in the schools and in the public forum where many parents do attend. I feel we have to give serious thought over this and take effective steps. It is the need of the hour.

I take this opportunity to thank each and every member for reposing confidence in me once again by electing to the post of Editor of Kerala Dental Journal. On behalf of the members of IDA Kerala State branch, I have great pleasure to place on record our greatest appreciation to the former editor Dr.Santhosh Sreedhar who set a standard to our Journal which has won national award thrice in a series.

What 'IDA' means to you

Description:

- ◆ Founded in 1946, IDA is a premier non-profit, professional organization of dental professionals in the country numbering over 40000.
- ◆ Being an exclusive body of dentists in India, it effectively harnesses its vast resources aimed at attaining professional excellence in their day to day clinical and research activities and in making India the hub of oral healthcare destination of the world

Vision/Mission:

- make IDA the national, authoritative and independent, voice of the dental professionals;
- vigorously promote, safeguard, defend and protect the interests and rights of members in their commitment to providing optimal oral healthcare of high professional standards
- promote, preserve and uphold the highest ethical values and principles of dental practice
- contribute to evolving the Oral Health Policy in the country
- contribute to improving the quality of dental services and enhance the image of its members
- undertake education, communication, research and other support activities
- update dental professionals on clinical and technological advances of global significance
- partnering other organizations in the promotion of oral and general health in the country
- promoting professional advancement of members and their commitment to dental excellence

Principal Activities:

- Implements programmes and projects aimed at improving oral health in the country;
- undertakes education and research activities and serves as incubators for dental research development;
- organizes accredited continuing dental education programmes for professional advancement and improving quality of dental service;
- provides an excellent forum for exchange of clinical and scientific articles through Its publications;
- participates in conference and workshops aimed at improving oral healthcare;
- implements projects and programmes for the enrichment of the fraternity, students of dentistry and the general public;
- focuses on prevention and interception of dental and oral diseases
- organizes early detection and treatment of oral cancer lesions through SPOT Centres and TII Centres being established under Oral Cancer Foundation

Member Benefits:

- ❖ provision of Legal/Ethical Advice
- ❖ Dental Shield Insurance
- ❖ Retirement Benefits
- ❖ Advocacy and Negotiations
- ❖ Representation in various fields

Certification/Product Endorsement

- 3 awards certificates on being trained in oral cancer detection/tobacco intervention initiative
- 3 grants IDA Seal of Approval for healthcare products to ensure their safety



Ashok Dhoble
Hon. Secretary General



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Brig (Dr.) Anil Kohli

Dental profession has an undeniable role in the health care system of our country. When we aim at the well being of the people, improvement of dental health becomes increasingly relevant because teeth are vulnerable to the most rampant diseases viz. dental caries and the diseases affecting the periodontium. The enormous nature of the dental diseases highlights the importance of prevention. But preventive measures alone will not be the only realistic solution in the context of India because of the volume of population. Hence we are settling to the fact that twenty functioning teeth are to be considered as the essential dentition. Perhaps this practical realization is possible only with teeth and not with any other organ in the human body. Successful dental health maintenance is possible only when we keep curative as well as preventive measures at equilibrium with a realistic expectation of the number of existing teeth.

Dental council of India has always been aiming at strengthening the building blocks of our profession- education and clinical practice. Availability of competent professionals is ensured by the council by adhering to high standards of educational institutions both in infrastructure and qualified teaching professionals. Post graduate, undergraduate and diploma courses are offered in recognized institutions all over the country. Both urban and rural areas of our country will have availability of qualified dental professionals very shortly. The council also would like to bring advanced treatments like dental implants within the reach of the common man. That is the reason for making our curriculum more dynamic by introducing the five year BDS programme and by reorienting the MDS regulation. Making professional advancement programmes mandatory for renewal of council registration will make far reaching changes to our profession. Research should also be given a new direction in India and quality publications will provide ample opportunities for the young dental professionals of our country to publish their work without much delay. I hope Kerala Dental Journal would be a torch bearer of our profession. Jai Hind.

Brig (Dr.) Anil Kohli



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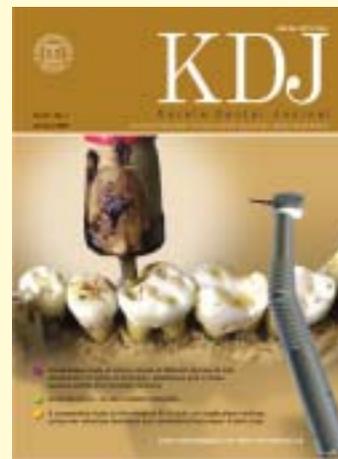
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Dental profession is greatly related to fast cutting devices. Present day dentist cannot think of daily practice without the use of air turbines. It is interesting to note that ancient world also has used drilling devices with ingenious designs. The cover picture shows one of the ancient drills which was supposed to be used in ancient India or Pakistan. Excavated skulls showed evidences of drilling which probably might have been undertaken by this drill. The sophisticated modern airtor is shown to highlight the evolutionary process.

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Comparative study of colony counts of different species of oral streptococci in saliva of dentulous, edentulous and in those wearing partial and complete dentures

* Rajani Mary Kurien ** Ganesh Shenoy Panchmal *** Vijaya Hegde *** Ronald Roche

Abstract

Objectives: To study and compare the number of colony forming units of *Streptococcus mutans*, *Streptococcus sanguis*, *Streptococcus salivarius*, *Streptococcus mitis* and *Streptococcus milleri* in dentulous, edentulous and in those wearing partial and complete dentures by using semi quantitative culture method of saliva samples with calibrated standard loop. **Materials:** Sterile specimen collection bottles, *Mitis salivarius* agar plates, Standard loop, Candle jar, Incubator, Colony counter. **Methodology:** Study population consisted of 100 subjects with 25 in each group, from the age group of 40-80 years who were attending the departments of Community Dentistry and Prosthodontics at Yenepoya Dental College, Mangalore. Unstimulated saliva samples were collected from patients and inoculated on to *Mitis salivarius* agar plates using calibrated standard loop. The plates were then incubated anaerobically at 37°C for 24 hours and left at room temperature for further 24 hours. Using a colony counter the number of colonies of each species was counted. **Result:** *Streptococcus mutans* and *Streptococcus mitis* predominates in dentulous group, *Streptococcus sanguis* in complete denture group, *Streptococcus salivarius* in edentulous group and *Streptococcus milleri* in removable partial denture group.

Introduction

Numerous studies have shown that mutans streptococci in saliva can be used as an index of the degree of colonization on teeth. The study of micro organisms of the genus *Streptococci* is of great clinical interest due to their pathogenic potential.⁽¹⁾ They cause a wide variety of diseases which include dental caries and also serious systemic diseases like bacterial endocarditis, rheumatic fever, peurpural fever and various pyogenic infections.

The warm and moist condition in the oral cavity, combined with its variety of sites suited for prospective bacterial colonization offers the oral streptococci an optimal environment for their growth.⁽²⁾ The composition of oral micro flora at different surfaces within the mouth is based on physical and biological properties like presence of receptors for microbial adhesion, the redox potential of the site and provision of essential nutrients.⁽³⁾ Saliva bathes both hard and soft tissues of the oral cavity and maintains the ecologic balance in the mouth.⁽⁴⁾

Microbes that were formerly associated only with oral diseases have been shown to be increasingly pathogenic in general. Almost 50% of the oral micro flora is constituted by oral streptococci. Bacteremia may occur after dental treatment; but also after vigorous tooth brushing especially in patients with periodontitis.⁽⁴⁾ Thus for many micro organisms the oral cavity acts as an important pathway into the human body.

Methodology

Study population consisted of 100 subjects with 25 in each group of age group 40-80 years who attended the departments of Community Dentistry and Prosthodontics at Yenepoya Dental College, Mangalore. Period of study was from September to November, 2007. Informed consent was obtained prior to the study.

Criteria for inclusion in the study

- (1) Edentulousness without dentures for past three months for edentulous group.
- (2) Minimum 20 teeth for dentulous group.
- (3) Partial dentures in either maxillary or mandibular arches for partial denture group.



Fig. 1, 2, 3 Series of Streptococcus Species

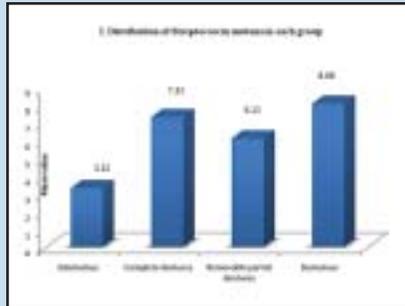


Fig. 4 Distribution of Streptococcus mutans in each group

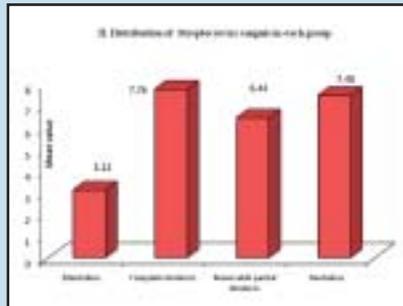


Fig. 5 Distribution of Streptococcus sanguis in each group

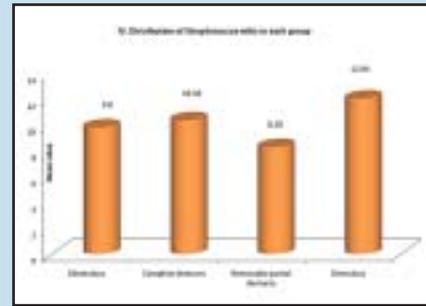


Fig. 6 Distribution of Streptococcus salivarius in each group

- (4) Wearing complete dentures for the past 3 months for complete denture group.
- (5) Absence of active dental caries.
- (6) No history of antibiotics or steroidal therapy in past 3 months.
- (7) No history of diabetes.

1-2 ml of unstimulated saliva was collected in sterile bottles at least 2 hours after ingestion of food or beverage. Samples were inoculated on to Mitis-Salivarius Agar plates by impregnating 0.001 ml of saliva using calibrated standard loop. The agar plates were incubated at 37°C under anaerobic conditions for 24 hours and left at room temperature for further 24 hours for better appreciation of colony characteristics of oral streptococci. Using a colony counter, the number of colonies of different species of streptococci produced by 1 µl of saliva was counted based on colony morphology. (Figures 1-3)

Results

The highest counts of Streptococcus mutans (Fig. 4) was obtained from saliva samples of dentulous group followed by slightly lower counts in the complete denture group. The levels of S. mutans in the edentulous group were very low.

The distribution of Streptococcus sanguis (Fig. 5) was highest in the complete denture group, followed in decreasing order by dentulous, removable partial denture

and edentulous groups. Levels of S. sanguis were similar to that of S. mutans except for slight predominance in the complete denture group.

The pattern of distribution of Streptococcus salivarius (Fig. 6) was contradictory to those of S. mutans and S. sanguis. Significantly higher levels of S. salivarius were seen in the edentulous group, in comparison to the other groups. Least counts were observed in the dentulous group. The complete and partial denture groups showed values in between the extremes.

Highest salivary counts of Streptococcus mitis (Fig. 7) were shown by the dentulous group followed in decreasing order by complete denture, edentulous and removable partial denture groups. On contrary to all the above Streptococcal species, Streptococcus milleri (Fig. 8) gave the highest counts in removable partial denture group followed by the dentulous and complete denture groups which showed similar counts. However, S. milleri levels in the edentulous group were significantly low.

Discussion

The pattern of distribution of S. mutans is consistent with the studies by Fitzgerald et al, 1983, which proved that the prevalence patterns of S. mutans in the saliva of naturally dentate individuals is similar to that of full denture wearers; the edentulous individuals without dentures had no detectable mutans streptococci in their saliva. S. mutans is considered by most experts to be

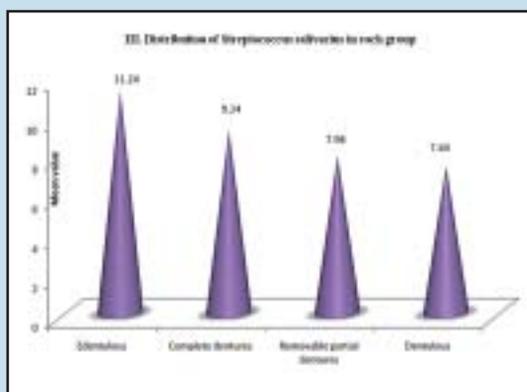


Fig. 7 Distribution of Streptococcus mitis in each group

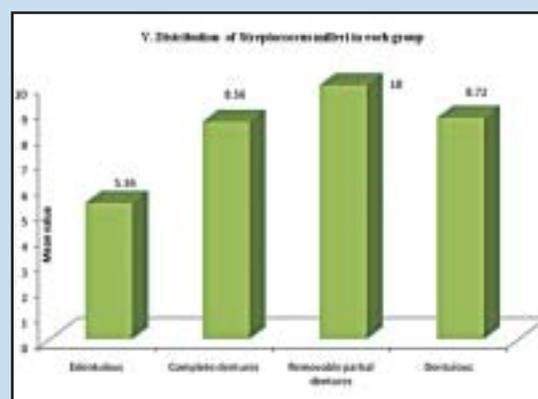


Fig. 8 Distribution of Streptococcus milleri in each group

the prime etiologic agent involved in human dental caries. Thus the elderly and especially those wearing dentures can harbor high levels of potentially cariogenic organisms and could therefore continue to remain at risk of caries and could act as vectors for the transmission of these bacteria to young children in close family situations.⁽⁵⁾

Distribution patterns of Streptococcus sanguis closely agrees with the results of Loesche. et al. Streptococcus sanguis levels increased both in the presence of dentures and with increased number of teeth.⁽⁶⁾ Predominance in complete denture group is in accordance with the fact that S. sanguis prefers hard surfaces, but is capable of colonizing mucosal surfaces also. Previous studies have shown that S. sanguis represents one half of the oral streptococci involved in bacterial endocarditis.⁽²⁾

Very high levels of Streptococcus salivarius in edentulous mouths prove that the organism has a clear cut predilection for mucosal surfaces. This also supports the fact that the sterile mouth of newborn infant is first colonized by S. salivarius. They have been isolated from the mouth of infants 18 hours after birth, and continues to predominate on tongue and mucosa with age.⁽¹⁾

Streptococcus mitis comprises a major percentage of microorganisms in plaque.⁽²⁾ It is well known that plaque easily accumulates in mouths with dentures and teeth. This explains the increased counts of S. mitis in the dentulous and complete denture groups. However slightly elevated counts in the edentulous group could not be explained.

The study results show significantly high counts of S. milleri in the removable partial denture group. Previous studies have shown that S. milleri is associated with oral and systemic pyogenic infections.⁽²⁾ This could probably explain the result, as most of the RPD patients in the study had poor periodontal conditions.

Conclusions

Each species of oral streptococci is unique in its preference of surfaces or sites within the oral cavity. From the study, it can be concluded that Streptococcus mutans and Streptococcus mitis predominate in dentulous group, Streptococcus sanguis in complete denture group, Streptococcus salivarius in edentulous group and Streptococcus milleri in removable partial denture group. The presence of Streptococcus mutans and Streptococcus sanguis has an antagonistic effect on Streptococcus salivarius. Presence of dentures and increase in the number of teeth gives increased counts of Streptococcus mutans and Streptococcus sanguis and decreased counts of Streptococcus salivarius.

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Graphoanalysis : an aid in patient evaluation

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Abstract

Objectives: The objectives of the study were to find out the personality trait of the individuals using interview method, find out the personality trait through graphoanalysis and to compare and find out the congruence of the traits revealed from interview and graphoanalysis. **Methodology:** Ten edentulous individuals were selected and whose personality was evaluated both by interview method and using a handwriting sample. Later the evaluations were matched to find out the congruence. **Results:** Out of the ten patients, the personality trait revealed both in hand writing and interview methods matched in eight. **Conclusions:** Graphoanalysis can reveal the hidden personality traits without subjecting the patients to elaborate interviews and this has great prognostic potential.

Assessment of personality of a patient is made by keen observation and communication, but very often this may not be factual since the attitude and expectations are camouflaged during the first few meetings. Successful treatment of completely edentulous patient is often complicated by the unrevealed attitudes and expectations. Graphoanalysis can reveal a person's dominant psychological behavior. Graphoanalysis is a scientific system of identifying and assessing the character and personality of an individual through a study of handwriting. The techniques used are based on a well-defined, standardized method of identifying strokes, slants, and traits in the writing and relating them to personality.

Slant indicates the writer's emotional response to external forces. A right slant (///) indicates a strong response to emotional situations. Such persons are caring, warm and outgoing and their heart rules the mind. A vertical slant (||) indicates that the emotions are on check ie. mind rules the heart. A left slant (\\) indicates concealing of emotions and the personality is observed as cold and indifferent. Slant is evaluated by an instrument called emotional gauge which contains different slants which are related to a base line. There are five different slants, each having a different meaning. Different slants are shown in Fig.1. AB / BC slants indicate less emotion. They are reserved, self oriented and decisions are made on judgment. CD slant indicates optimistic and philosophical attitude. DE slant is suggestive of people, who thrive on their mood changes. They are very expressive and outwardly display their emotions. Because of their mood changes they may face health problems quite frequently.

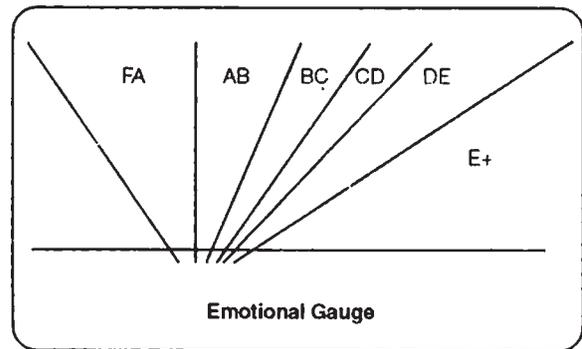


Fig. 1 Emotional gauge

Traits

- *Optimistic base line* : An upward base line of the sentences shows this trait



- *Philosophical mind* : Open loops in the letters 'l' and 'h' shows this trait



- *High self esteem* : The high horizontal bar on the letter 't' shows this trait



- *Physical frustration* : Incomplete loop formation in letters 'y' and 'g' shows this trait



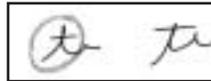
- *Close minded*: Prominent appearing letter 'k' shows this trait



- *Defiance* : Closed loop in letter 'e' shows this trait



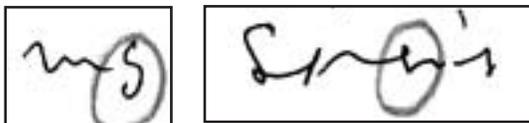
- *Stubborn*: Pre stroke in letter 't' shows this trait.



- *Resentment* : Pre stroke in letter 't', which jabs the base line sentences shows this trait.



- *Physical frustration*: Incomplete looping in the letters 'g' and 'y' shows this trait

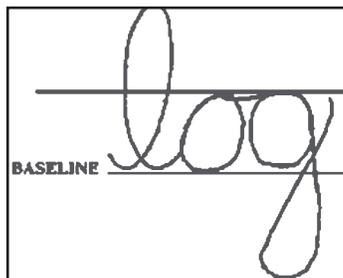


- *Low self esteem* : The horizontal bar of 't' placed at a lower level shows this trait



Baseline

When a sentence is written on a paper, the base line slope can elicit the following characteristics



Handwriting which does not vary, which goes across the sheet in a straight base line, shows a person who is not quickly upset by every little thought expressed by another person. The mind functions carefully and moods are held up.

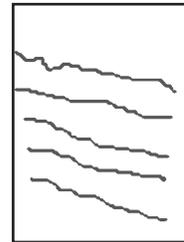
Optimism is expressed in uphill handwriting. The writer is not easily discouraged, maintains a hopeful attitude and is ambitious to go ahead.

The handwriting which runs downhill shows pessimism, and lack of enthusiasm to new ideas. If the downhill slant is not too marked, the pessimism may just be a mix of caution and critical nature and can be managed.

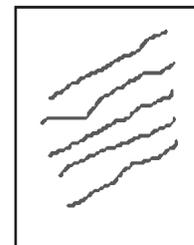
If the baseline of the handwriting changes with each word or each line, that person's moods blow hot and cold according to time place and companions. It is not easy for such people to get adjusted to any work or careful routine.

Abnormal baselines

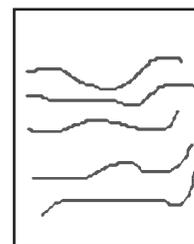
- (a) Descends excessively: Depression, fatigue



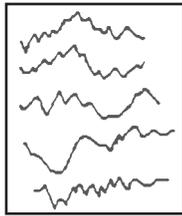
- (b) Ascends excessively: Possible faking or pretending Optimism



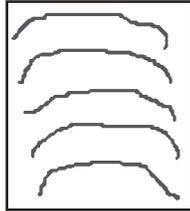
- (c) Vary: Doubts or questions about decisions



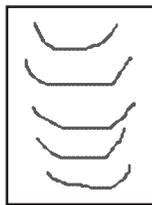
(d) Is irregular (erratic): Emotional instability, confusion



(e) Convex: Moody

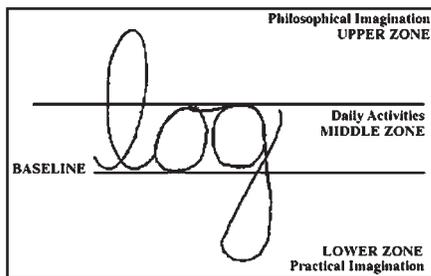


(f) Concave: Moody, depression, or Sadness



The three zones of handwriting :

There are three zones to examine in handwriting. These zones reflect imagination and desires. The upper zone reveals intellectual thought, abstract thinking, daydreaming, psychic abilities, and imagination. The upper zone indicates philosophical imagination. The middle zone deals with the day to day aspects of life, like home, family, social concerns. The middle zone points to our approach to daily life. The lower zone emphasizes physical and material drives such as physical abilities, appetite, and the desire for material wealth. The lower zone reveals activities essential to survival.



A larger loop in the letter l signifies creativity and open mind, thinner loop of this letter signifies a quick thinker. The “o” is in the mid zone which concerns daily activities. If the “o” was written thin (not round but skinny), the writer would be narrow minded. If mid

zone letters are very fat the writer worries too much. Lower loop letters concern desires for material wealth, appetite, and physical drives. This works the same as upper loops— the fatter the loop, the more the desire. The thinner the loop, the less the desire. Lower loop letters (y g p f) indicate desires in different areas. The “y” represents money. The “g” (gregarious), socializing.

Tall narrow loop is an indication of cautious thinker who curbs enthusiasm, regards new ideas with skepticism. Tall wide loops shows writer has high aspirations. If the lower loop is too small to the rest of the handwriting it signifies a person whose mind often wavers between independence and caution.

Strokes of letter ‘t’

When a short blunt stroke which points downwards is used, it reveals a mind which is very critical and has a tendency to cling to own opinions.

The long crossing stroke is written by the person who likes to assert his own personality and is enthusiastic in his ideas and activities.

The ‘t’s with hooks and knots are signs of a person who is hesitant about an idea until it is ripe or until he has seen its prognosis.

In view of the evident capability of graphoanalysis to explore the personality, the present study was designed.

Objectives : the objectives of the study were to

- a) find out the personality trait of the individuals using interview method
- b) find out the personality trait through graphoanalysis
- c) to compare and find out the congruence of the traits revealed from interview and that revealed from graphoanalysis.

Methodology

Ten patients requiring denture were randomly selected by a group of three evaluators. After initial interview and observations, patients were grouped according to House classification.

- F Philosophical
- F Exacting
- F Hysterical
- F Indifferent

The observations of the evaluators were not revealed at this stage.

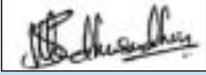
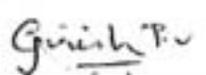
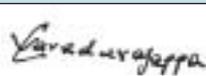
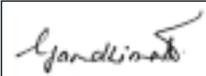
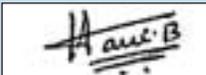
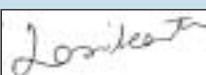
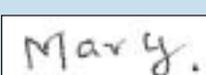
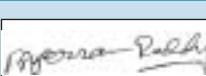
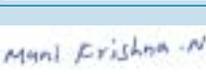
Handwriting sample of each patient was obtained and we got it analyzed by the handwriting analyst. Based on the strokes, slants and loops in the handwriting (letters), the dominant emotional make up of each patient was identified.

The personality traits matching graphoanalysis traits are given in table below

Personality (House)	Characteristics	Graphoanalyst's traits
Philosophical	<ul style="list-style-type: none"> • Anticipate need for treatment • Willing to rely on dentist for treatment. • Follows advice of dentist 	<p>Optimistic baseline</p>  <p>Philosophical mind</p>  <p>High self esteem</p>  <p>Slant : CD (Fig. 1)</p>
Exacting	<ul style="list-style-type: none"> • Poor health • Need treatment but un willing to accommodate suggestions • Doubt's the dentists ability 	<p>Physical frustration</p>  <p>Close minded</p>  <p>Defiance</p>  <p>Slant : AB / BC (Fig.1)</p>

Personality (House)	Characteristics	Graphoanalyst's traits
Hysterical	<ul style="list-style-type: none"> • Neglectful of oral health • Unwilling to try and adapt to new dentures • Even if they use it is less often. • Resentful of treatment 	<p>Stubborn</p>  <p>Resentment</p>  <p>Physical frustration</p>  <p>Slant : DE (Fig. 1)</p>
Indifferent	<ul style="list-style-type: none"> • Do not care about self image • Not motivated to enjoy • Manage to survive without dentures 	<p>Low self esteem</p>  <p>Fear of ridicule</p>  <p>Slant ; AB (Fig. 1)</p>

Results

Sl. No.	Samples	Evaluator's report	Graphoanalyst's report
1		Exacting	Exacting
2		Exacting	Exacting
3		Philosophical	Indifferent
4		Hysterical	Hysterical
5		Indifferent	Indifferent
6		Hysterical	Exacting
7		Indifferent	Indifferent
8		Hysterical	Hysterical
9		Philosophical	Philosophical
10		Indifferent	Indifferent

Out of the 10 patients whose handwriting were studied, in eight of the handwritings the observation done by the evaluators was the same as that done by the graphoanalyst.

Conclusion

Graphoanalysis silently and efficiently explores the personality of the patient, and can be used successfully on patients to decipher their personality by studying their handwriting.

Clinical implications

Use of graphoanalysis can help us predict how the

patient's emotional set up affect the outcome of the treatment and can help the clinician to be guarded against an exacting or hysterical type of patient.

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Research

A comparative study on the marginal fit of multi unit single piece castings using over refractory technique and conventional technique

Sushma Y*, Chandrika L*, Srividya S* ; Chandrasekharan Nair K** ; Jayakar Shetty***; Vishwanath G****

Abstract:

Objectives: To evaluate the marginal discrepancies of single piece casting FPD framework fabricated with over refractory casting technique and the conventional casting technique. **Methodology:** A metal model consisting of three full crown preparations was created to simulate a five unit fixed partial denture situation. The metal model was duplicated in dental stone and in phosphate bonded refractory investment material using poly vinyl silixane impression. The stone cast was used for the conventional casting technique and the refractory cast was used for the over refractory technique. In conventional technique wax pattern was invested where as in over refractory cast technique wax pattern was invested along with refractory cast. Castings were seated on the metal die and the marginal gap was measured under microscope. **Results:** In conventional technique the marginal gap measured was 49.9646 μm whereas in over refractory cast technique the gap was 24.6602 μm

Multiple unit long span castings have become a necessity in the recent times because of the overwhelming popularity of implant treatment. Casting an extensive framework consisting of more than three units connecting teeth or implants can be a challenge because it involves greater possibilities of distortion due to shrinkage of the alloy and defects attributable to laboratory processes. Errors may occur during the process of fabricating patterns, material manipulation or casting. Soldering is traditionally used for uniting long span fixed partial denture components to obtain an acceptable fit. Removal of the wax pattern from the final cast prior to investing, as followed in conventional casting technique, is considered to be the primary cause of distortion manifested by poor marginal fit. In an attempt to reduce the discrepancy of marginal fit, wax pattern can be made directly over a refractory cast obtained by duplicating the final cast and be invested with the cast (over refractory casting technique). Comparative evaluation of both the techniques is rarely documented in the Indian context.

Hence the present study is designed to evaluate the marginal discrepancies of single piece casting FPD framework fabricated with over refractory casting technique and the conventional casting technique. This is expected to generate data useful for laboratory processing of multiple unit castings necessitated by implant therapy.

In an attempt to improve accuracy of fixed partial dentures Fusayama T et al¹ have compared various soldering techniques and one piece cast techniques. Fewer errors were produced with the fewer soldering spots

and the accuracy of one piece cast fixed partial dentures made by the improved thermal expansion technique was the greatest. The soldered fixed partial dentures were generally under sized in the mesio distal dimension and the one piece cast partial dentures were generally slightly over sized.

In order to evaluate the accuracy of multiple unit castings for fixed denture prosthesis Bruce R W² has made a study on castings using an expandable die. He tested different sizes and methods of spruing the one unit castings. A series of one unit castings was made for a metal fixed partial denture die. Different sizes and methods of spruing the one unit castings were tested. It was found that, with proper fabrication and spruing of patterns, one unit fixed partial prostheses castings can be made accurately.

Hinman R W et al³ has made a study to know the variables that affect the accuracy of one piece FPD castings. The most consistent predictable results in fit were obtained with the bench setting technique with wax running bars. Investment mold expansion and pattern distortion affect the accuracy of multi unit castings but pattern distortion had the greater influence. The bench-set technique and wax sprue system with modification for reducing expansion to obtain a less oversize casting should produce consistently accurate dental castings.

Accuracy of one-piece casting of fixed partial dentures consisting of three, four, and five units was compared by Schiffleger B E et al⁴ fit of the castings improved approximately 50% after sectioning, which indicates that the castings were distorted. The distortion



Fig. 1 Metal master cast



Fig. 2 Polyvinyl siloxane impression



Fig 3 Wax pattern on stone cast



Fig 4 Casting on metal model



Fig 5 Wax pattern on refractory cast



Fig 6 Casting on metal model

was least for the three unit FPDs and greatest for the five unit FPDs.. The distortion was a three dimensional phenomenon, with the greatest discrepancy on the mesio gingival surface of the anterior retainer and on the distolingual surface of the posterior retainer. The lingual-facial diameter of the castings at the gingival axial line angle was significantly larger than the dies in most cases. The discrepancy in the fit of casts was primarily due to warpage.

Correa G O et al⁵. evaluated the marginal fit of one piece FPD frame work castings obtained by two casting techniques: conventional technique (CT) and over refractory technique (ORT). Castings were made from commercially pure titanium, Titanium aluminium vanadium and Nickel Chromium alloys. For both techniques the marginal discrepancies were significantly different for the alloys evaluated, presenting the following order from greatest to least marginal discrepancy; CP Ti, Ni Cr alloy and Ti 6Al – 4V. The over refractory technique for multiunit FPD frame works demonstrated significantly lower marginal discrepancies than the conventional technique.

Objective

A pilot study was done to compare the marginal fit of multi unit single piece castings using over refractory technique and conventional technique.

Methodology

A metal model consisting of three full crown preparations was created to simulate a five unit fixed partial denture situation. The crown preparation was given 1.5 mm wide shoulder and the axial surfaces were formed at 16 degree total occlusal convergence. The cervico-occlusal height was 5 mm. The metal model was duplicated in dental stone and in phosphate bonded refractory investment material using poly vinyl siloxane impression. The stone cast was used for the conventional casting technique and the refractory cast was used for

the over refractory technique. (Fig 1,2)

Conventional Technique: Working cast made of dental stone was immersed in water for three minutes and a layer of die spacer was used to cover occlusal and axial regions. 1 mm thick wax pattern was made using an electrical dipping unit. The three wax patterns were connected with 4 mm thick wax cylinders and 5mm thick wax cylinder was used as major sprue. The waxed framework was then invested with phosphate bonded investment material. Ni-Cr castings were made in induction casting machine. The frame work was divested using air borne particle. Sprues are cut and air borne particle abrasion was repeated externally and internally. (Fig.3, 4)

Over refractory Technique: The working cast was made of phosphate bonded refractory material (wirovest) and was dry heated at 70 degree C for 40 minutes and then immersed for 10 seconds in liquid surface hardener and then heated for an additional 10 minutes. Wax patterns were made similar to that in conventional method but the cast with the sprued pattern was invested and castings were obtained. (Fig.5,6).

Marginal Fit Measurement: The marginal discrepancies were measured as the linear distance between the marginal edge of the coping and the cervical edge of the metal cast preparation. Marginal gap measurements were recorded at 6 places for each coping, to the nearest 0.5µm using a stereo microscope at 10x magnification in conventional technique: (Fig 7, 8,9) and in over refractory technique (Fig 10, 11,12)

The 18 marginal gap measurements are averaged for each cast frame work considered as single experimental unit for statistical analysis.

Results

The mean values of the marginal gap measured in conventional technique and over refractory technique are given in table I and table II

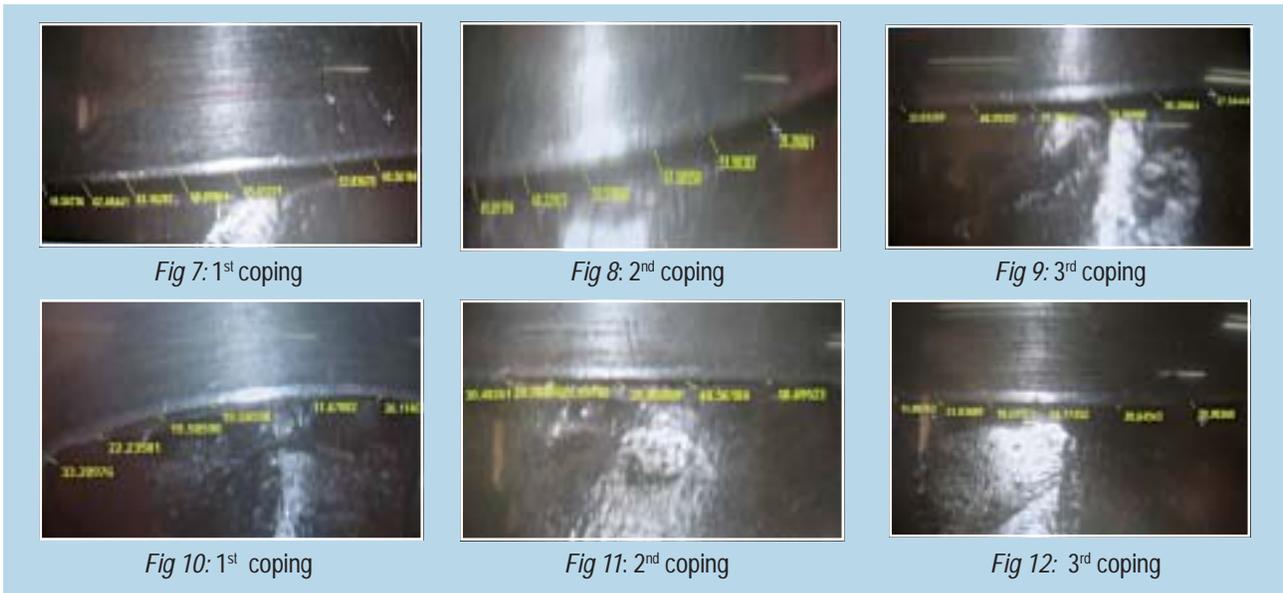


Table I :Marginal gap measured in conventional technique: (µm)

Observations	1 st coping (µm)	2 nd coping (µm)	3 rd coping (µm)
1	33.03269	44.56736	49.89194
2	48.59357	62.48441	48.32972
3	37.39047	63.16287	53.59866
4	55.08888	68.09864	57.58558
5	39.28061	65.61221	51.98378
6	27.54444	53.83670	39.28061
Mean value	40.155	59.52	50.11
Standard deviation	10.1231	8.8156	6.1977

Average of Mean values = 49.96462 (µm) ± 8.3788

Table II Marginal gap measured in over refractory technique: (µm)

Observations	1 st coping (µm)	2 nd coping (µm)	3 rd coping (µm)
1	33.28976	31.03689	14.88763
2	22.23581	32.64329	31.03689
3	19.58598	29.19705	18.69523
4	19.67882	33.03269	24.77452
5	11.67882	28.90360	20.64543
6	26.11463	17.54444	28.90366
Mean value	22.097	28.726	23.157
Standard deviation	7.2405	5.7360	6.2021

Average of Mean values= 24.66029(µm) ± 6.39286

Table III Comparison of mean marginal gap measurement (µm)

Technique	Mean value with standard deviation
Conventional technique	49.96462 ± 8.3788
Over refractory technique	24.66029) ± 6.39286

Calculated student t test is : t=8.08 (at 34 degrees of freedom)

Tabulated t value is 2.04 (p= 0.01). The calculated t value exceeds this, so the difference between the means is very highly significant. Clearly, castings obtained from overrefractory technique shows better marginal fit than, castings obtained from conventional technique

Conclusion: Castings obtained with over refractory technique showed better marginal fit.

References:

- 1 Fusayama T, Wakumoto S, Hosoda S; Accuracy of Fixed Partial Dentures made by Various Soldering Techniques and One Piece Casting; 1964 J Prosthet Dent; 14 (2) 334 – 342
- 2 Bruce R W; Evaluation of multiple unit castings for Fixed Partial Dentures; 1964 J Prosthet Dent; 14 (5) 939-943
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- 5 Correa G O, Henriques G E P, Mesquita M F et al; Over Refractory Casting Technique as an Alternative to One Piece Multiunit Fixed Partial Denture Frame Works; 2006 J Prosthet Dent; 95 (3) 243-249

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Peripheral osteomas of jaws - A study of six cases

* Akhilanand Chaurasia, ** Anita Balan

Abstract

The purpose of this article is to present 6 new cases of peripheral osteoma and evaluate diagnosis with review of literature. The 6 patients who reported to outpatient section of Department of Oral Medicine and Radiology, Government Dental College, Trivandrum having diagnosis of peripheral osteomas are included in the study. Demographic data, location, presenting symptoms, radiographic findings were analysed. The criteria for diagnosis of peripheral osteomas was radiological and histopathological features. 6 patients ranging in age from 10 to 45 years of age with mean age of 23.5 years. 83% lesions were located in mandible and 17% were in maxilla. Peripheral osteomas are rare tumors of jaws. Whenever bony swellings will be encountered in jaws of young and adult ones Osteoma should be included in differential diagnosis.

Introduction

Osteoma is a benign osteogenic tumor arising from proliferation of cancellous or compact bone increasing in size by continuous bone formation.^{1,2} It is a usually slow growing, asymptomatic solitary lesion which mainly affects young adults.^{3,4} The pathogenesis of Peripheral osteoma is unclear some investigators consider it is a true neoplasm while others classify it as developmental anomaly.³ Osteomas are thought to occur reactively after trauma or as a result of muscle traction on periosteum.⁵ Osteomas are essentially restricted to craniofacial skeleton and are rarely if ever diagnosed in other bones.^{6,7} Osteomas are found mainly in craniofacial bones. They occur most frequently in paranasal sinuses⁸ followed by external ear canal, orbital wall, temporal bone and pterygoid processes and rarely in mandible.⁵ Mandibular osteomas originate mainly from lingual aspect of body of mandible and lower border in region of angle being the most common site.^{2,3} The incidence is similar between genders and can present across all age group.³ However in a recent serial study of 35 new cases of peripheral osteomas of the oral and maxillofacial region males were twice as commonly affected as females with age of presentation ranging from 14 to 58 years with a mean age of 29.4 years. Three different type of osteomas have been described in literature, Central type of osteomas are characterized by their origin from the endosteum, Peripheral type osteomas originate from periosteum and Extraskelatal osteomas generally develop within muscle.^{9,10}

Case report

The data collected on the basis of age at diagnosis, sex, location, size, presenting complain, duration of

lesion, radiographic features, soft tissue involvement based on CT, Histopathological diagnosis, recurrence and complication postoperatively are tabulated as follows. (Table - 1)

Results

The 6 patients with diagnosed cases of peripheral osteoma were evaluated statistically on the basis of above mentioned criterias. Of the total 6 patients, 3 were male and 3 were female ranging in age from 10 to 45 years of age with a mean age of 23.5 years. 83% of peripheral osteomas were found in mandible while 17% lesions were in maxilla. On the basis of histological features 83% osteomas were cancellous type and 17% were compact type. The size of osteomas in there greatest diameter ranged from 1 cm to 2.6 cm with a mean of 1.75 cm. The duration of lesions were known in all cases and ranging from 1 year to 14 year with a mean of 4.1 years. The presenting symptoms in this case series included facial asymmetry and local sensitivity. The typical radiographic seen on occlusal radiograph, panoramic radiograph and CT with 3D reconstruction in our patients were that of well circumscribed radiopaque mass attached to affected bone. No soft tissue involvement is noted in any of 6 cases. The surgical resection was treatment of choice and the histological picture in our cases were both compact and cancellous type with cancellous variety predominance. There was no recorded complication as result of surgical resection. The post-surgical follow up for 3 month had been done by clinical and radiographic evaluation of each patient but no recurrence or complication noted post-operatively.

Patient no	Age/sex	Location	Size(cm)	Presenting Symptoms	Duration of lesion	Radiographic feature	Soft tissue involvement based on CT	Histopathologic diagnosis	Complications
1.	45/F	Neck of mandibular condyle	1.5	Facial asymmetry	14 years	Radiopaque	-No-	Cancellous osteoma	-No-
2.	19/F	Maxilla buccal to 14.15 region	2	Swelling causing local sensitivity	3 years	Radiopaque	-No-	Compact osteoma	-No-
3.	10/M	Mandibular angle buccal aspect	1.5	Facial disfigurement	2 years	Radiopaque	-No-	Cancellous osteoma	-No-
4.	15/M	Mandible Lower border in mental region	1	Local sensitivity and facial asymmetry	1 year	Radiopaque	-No-	Cancellous osteoma	-No-
5.	17/M	Mandible Lower border buccally in body region	2.5	Facial asymmetry	1.5 years	Radiopaque	No	Cancellous osteoma	-No-
6.	35/F	Mandibular angle region buccally	2	Local sensitivity and facial asymmetry	3 years	Radiopaque	No	Cancellous osteoma	-No-

Discussion

Osteomas of jaw bones are rare tumors. These lesions appear as unilateral, pedunculated or sessile mushroom like masses, well marginated and varying in diameter from 10 to 40 mm. Although osteomas are generally asymptomatic, osteomas of mandible may cause facial asymmetry.³ Osteoma of condyle may cause a slow, progressive shift in patient's occlusion with deviation of the midline of the chin toward unaffected side. This results in facial asymmetry and TMJ dysfunction. The most common clinical manifestation involving condyle are malocclusion and facial asymmetry.⁴ Osteomas can arise from surface of bone (Periosteal osteoma) as a polypoidal or sessile mass Or may be located within medullary bone (Endosteal osteoma).⁶ According to meta-analysis of osteomas of mandible, 63 cases were reported in English literature from 1927 to 2003 and 30.5% of these osteomas arose from posterior body, 28.5% from the condyle, 14.2% from the angle region, 11.1% from ascending ramus, 7.9% from coronoid process, 6.3% from anterior body and 1.5% from sigmoid notch.¹¹ In a study by Sayan et al, 35 new cases of peripheral osteomas of oral and

maxillofacial region were reported. Of these cases 8 occurred in mandible and 5 in maxilla and most of them appeared as unilateral, mushroom like masses.³ The first case of peripheral osteoma involving condylar process was reported by Ivy in 1927.¹² Since then only 13 cases of osteoma arising in condylar process have been reported in literature.^{4,13} Accordingly osteomas can be classified into 2 types. First type of osteomas are those that proliferate and cause replacement of condyle by osteoma and second type of osteomas are those that form a pedunculated or osseous mass on the condyle or neck of mandible.⁴ However a combination of above 2 types has been reported by Chong-Huat Siar et al in a case report in which condyle having bilobed structure, one lobe presenting as a pedunculated mass and other lobe seen as replacement of condyle. They classified it as a third type of osteoma in classification of osteomas occurring in condylar process.¹⁴ Though exact etiology and pathogenesis of peripheral osteoma is still unclear, Traumatic, Congenital, Inflammatory and endocrine causes have been considered as possible etiologic factors.¹ However regarding pathogenesis a combination of trauma and muscle traction which may initiate an osteogenic reaction has been suggested as



Fig 1 Mandibular Occlusal radiograph showing osteoma of lower border of mandible radiopaque mass adjacent to left symphysis menti region



Fig 2 Panoramic radiograph showing Osteoma of condylar neck as a radiopaque mass of 1.5x1.5 cm superimposing on neck of left side condyle.

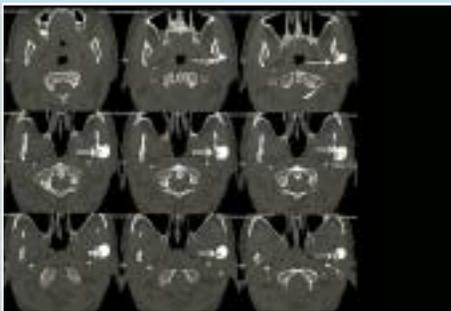


Fig 4 Axial CT scan showing hyperdense radiopaque mass attached to outer cortex of mandible in condyle region.

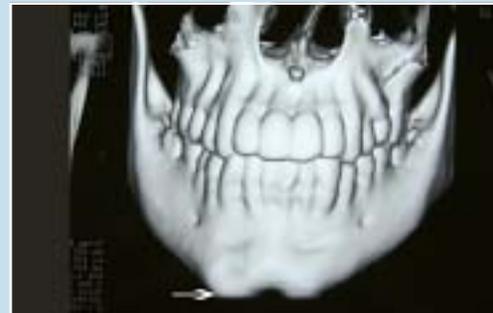


Fig 5 3-D CT Reconstruction picture showing extent and size of osteoma involving lower border in area adjacent to symphysis menti region

Fig 3- Reverse towne's view showing osteoma of condylar neck as a radiopaque mass attached to outer cortical plate.

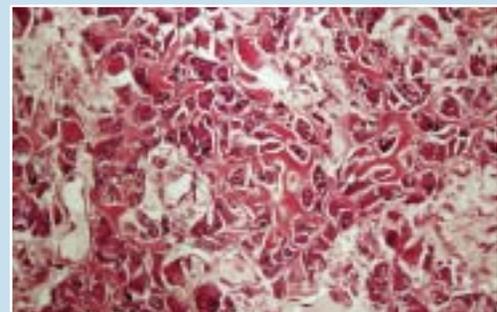


Fig 6 Histological picture of Cancellous type of osteoma showing trabeculae of mature lamellar bone with intervening fatty marrow.

underlying mechanism.³ However we have no information as to the possible cause in our case. Histologically Osteomas are composed of mature bone tissue with dense lamellae and organized haversian channel. Although they contain osteoblasts, fibroblasts and giant cells in intertrabecular stroma. Haemopoietic cells are rarely observed and osteomas present variable osteoblastic and osteoclastic activity.¹⁵

Histologically an osteoma consists of either normal appearing dense mass of lamellar bone with minimal marrow tissue (Compact type osteoma) or of trabeculae of mature lamellar bone with intervening fatty or fibrous

marrow (Cancellous osteoma).¹

Differential diagnosis of osteomas include Osteosarcoma, Osteoblastic metastasis, Paget's disease, Osteoid osteoma and Monostotic fibrous dysplasia. The radiological margin of these lesions are less evident than that of osteomas.¹⁶ Imaging of Peripheral osteomas can be achieved by different imaging modalities including panoramic radiograph, Reverse towne's view or Water view or CT scan. The use of CT scanning with 3D construction makes it possible to achieve better resolution and more precise localization.¹⁷ Radiographically Osteomas are seen as circumscribed, oval, radiopaque,

well demarcated masses similar in density to normal bone attached to cortex by a broad base or a pedicle.³ In our case a well demarcated, hyperdense and large pedunculated mass located on lateral surface of condylar neck was demonstrated by CT and 3D reconstruction. These findings were highly suggestive of a peripheral osteoma of condyle of mandible. Bone scan is not routinely performed for diagnosis of osteomas but when used it will be able to disclose the physiological activity of peripheral osteomas enabling to determine whether it is long standing, mature lesion with no further growth or relatively young lesion that is actively growing.¹⁸ Smaller endosteal osteomas are difficult to differentiate from foci of condensing osteitis or focal chronic sclerosing osteomyelitis or idiopathic osteosclerosis.⁶ Removal of peripheral osteoma is not necessary. Osteomas causing pain, facial asymmetry, malocclusion and actively growing lesions are indicated for surgical excisions whereas for small, asymptomatic lesions periodic observation is needed. Recurrence after surgical excision is extremely rare.³ To date there is only one reported case of recurrence of a peripheral osteoma of mandible following surgical excision.¹⁹ Further there are no reports of malignant transformation of peripheral osteoma in literature.¹⁹

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IDA Kerala State has bagged the ISP Trophy for the Best Oral Hygiene Day Celebrations



Indian Society of Periodontology observes Oral Hygiene Day to commemorate the birthdate of eminent Periodontist and Accademician Late Dr.

G.B.Shankwalkar. The day is celebrated to bring awareness and stress the importance of Oral Hygiene to the public. ISP is celebrating Oral Hygiene Day for the past 7 years and awards for the best celebration is instituted from this year. President IDA Kerala State Dr. C.K.Ashokan and Programme Co-ordinator Dr. Santhosh Sreedhar received the awards and trophy from the chief guest Dr. Anil Kohli (President, Dental Council of India) during the inaugural function of the 33rd Annual Conference of Indian Society of Periodontology which was held on 17th November 2008 at Chandigarh. Congratulations to the CDH wing of IDA Kerala State.

The C shaped canal- an anatomical variant

* Saumyakanta Mohanty, ** Jolly Mary Varughese, *** N.O. Varghese

Abstract

Dental anomalies are the formation defects due to genetic disturbances during the morphogenesis or histogenesis of tooth. Root anatomy is highly complex & un-predictable. Recognition of unusual variations in the canal configuration is critical. The C configuration, which is an important anatomic variation, presents a thin fin connecting the mesial and distal individual canal which makes the canal cross-section C shaped and presents much difficulty in its through cleaning and shaping and subsequent obturation. Recognition of a C shaped canal configuration before treatment will surely facilitate of more effective management. Because of the importance of its true diagnosis and treatment, a comprehensive review of its normal morphology and its different varieties are discussed in this article.

Introduction

Variations of root canal morphology are always been a constant challenge for diagnosis & successful endodontic therapy, so a thorough knowledge of most common anatomic characteristics & their possible variation is essential. One of the most important anatomic variation is the C configuration of the canal system. The C shaped canal was first described by Cooke and Cox.1979, most commonly found in mandibular second molar, a ribbon shaped canal that includes the mesiobuccal and distal canals and sometimes the mesiolingual canal. Sometimes instead of having several discrete orifices, the pulp chamber of C shaped canal is a single ribbon shaped orifice with a 180 arc, which in mandibular molars starts at the mesiolingual line angle and sweeps around the buccal to the end at the distal aspect of the pulp chamber.

The complexity of the C shaped canal prevents these canals from being cleaned, shaped and obturated effectively during the root canal therapy. Very little dentin separates the external surface from the C shaped canal system, there by increasing the possibility of stripping perforation during endodontic or restorative treatment. So a proper identification of this abnormal root pattern will help in successful management.

Etiology

Failure of the Hertwig's epithelial root sheath to fuse on the lingual or buccal root surface is the main cause of C shaped roots, which always contain a C shaped canal. The C shaped root is also formed by coalescence because of the deposition of the cementum with time.

Anatomical features

The C shaped canal appears when fusion of either the buccal or lingual aspect of the mesial and distal root

occurs. This fusion remains irregular, and the two roots stays connected by inter radicular ribbon of dentin. The floor of the pulp chamber is deep and has an unusual anatomic appearance. Two or three canals may be found in the C shaped groove or the C shape may be continuous through out the root length.

Classification

1) Melton's classification

Based on the cross sectional shape

Category 1-continuous C shaped canal running from the pulp chamber to the apex defines a C shaped outline without any separation. (Figure 1)

Category 2- the semicolon (;)shaped orifice in which dentine separates a main C shaped canal from one mesial distinct canal. (Figure 2)

Category 3- refers to those with two or more discrete and separate canals.(Figure 3)

2) Fans classifications

Category 1 (C1) - the shape was an interrupted C with no separation or division.

Category 2 (C2) - the canal shape resembled a semicolon resulting from a discontinuation of the C outline, but either angle alpha or beta angle should be no less than 60 degree. (Figure 4)

Category 3- 2 or 3 separate canals and both angle, alpha and beta were less than 60 degree. (Figure 5)

3) Fans classification (Radiographic classification)

Type 1- conical or square root with a vague, radiolucent longitudinal line separating the root into distal and mesial parts. There was a mesial and distal canal that merged into one before exiting at the apical foramen.

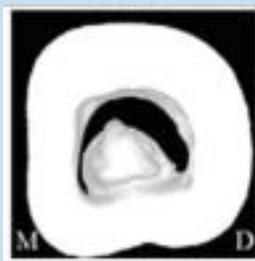


Fig. 1

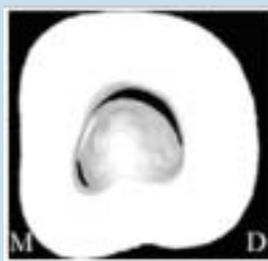


Fig. 2

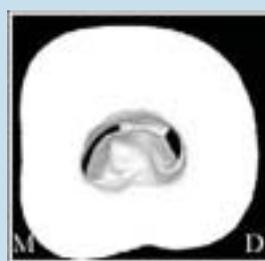


Fig. 3

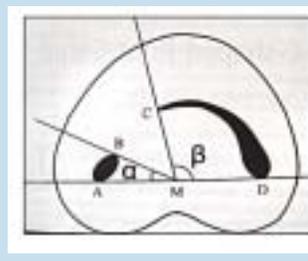


Fig. 4

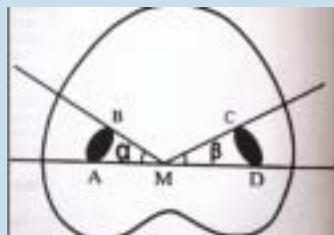


Fig. 5

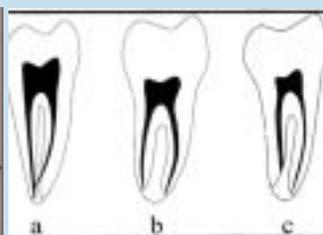


Fig. 6

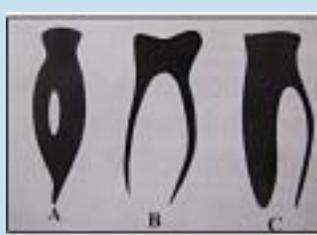


Fig. 7



Fig. 8

Type 2 - conical or square root with a vague, radiolucent longitudinal line separating the root into distal and mesial parts. There was a mesial and distal canal and the two canals appeared to continue on their own pathway to the apex.

Type 3 - conical or square root with a vague, radiolucent longitudinal line separating the root into distal and mesial parts. There was a mesial and distal canal, one canal curved to and superimposed on this radiolucent line when running towards the apex, and the other canal appeared to continue on its own pathway to the apex. (Figure 6)

4) Classification based on DSR images and micro CT reconstruction

Digital subtraction radiography (DSR), which eliminates the identical image regions in a series of radiographs obtained in the same exposures position and at different time intervals. Radiographic contrast medium is often used in clinic to change the radio opacity of some anatomic structures before the DSR. Micro CT scans have been applied not only to evaluate canal shapes or cross-section of teeth.

All the DSR images and buccolingual reconstructed canal images based on micro CT scanning were classified

Type1-(Merging type) - canal images merged into one major canal before exiting from the apical foramen.

Type2 (Symmetrical type) -There were separate mesial and distal canal appeared to be symmetrical in their size and continued on their own pathway to the apex.

Type3 (Asymmetrical type)-There were separate mesial and distal canals and mesial and the distal canals

appeared to be symmetrical in their size and continued on their own pathway to the apex, the distal canal seems much wider than the mesial canal. (Figure 7)

Diagnosis

All the teeth that qualified as having a C shaped canal system had to exhibit all the following 3 features;

- 1) Fused roots.
- 2) A longitudinal groove on the lingual and buccal surface of the root.
- 3) At least one cross-sectional of the canal belongs to the C1, C2 or C3 configuration.

Radiographic diagnoses

A preoperative radiograph and additional radiographs from 20 degree mesial or distal projection may be the only noninvasive means clinically to provide clues about the canal morphology. In fact most radiographs revealed radicular fusion or proximity, a large distal canal, a narrow mesial canal and a blurred image of a third canal in between. (Figure 8)

Radiographic interpretation is overall effective when based on film combinations e.g. preoperative and working length radiographs) or preoperative and final radiographs and or all 3 radiographs. The radiographs taken while negotiating the canals may reveal two characteristics for such canal configuration-instruments tend to converge at the apex (Figure 9) and/or may exit at the furcation. (Figure 10).

The latter sometimes resembles a perforation of the furcation. Micro CT has been used not only to assess cross-section of teeth, but also for three dimensional reconstructions of canals at high resolution.

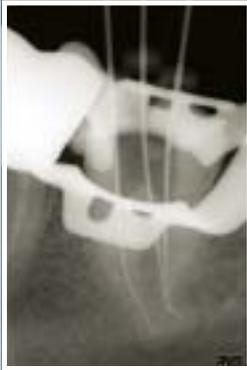


Fig. 9



Fig. 10



Fig. 11



Fig. 12



Fig. 13



Fig. 14

Clinical diagnosis

- 1) Anatomical outline of the floor of the pulp chamber
- 2) Persistence of hemorrhage
- 3) Pain when separate canal orifice were found

Fused roots and C shaped roots may present with narrow root grooves that predispose to localized periodontal disease, which may be the first diagnostic indication of such anatomic variation. When a deep groove is present on the lingual and buccal surface of a root a C shaped canal is expected. Under operating microscopic view one can not assume such a shape continues through out its length.

Management

Importance of preoperative radiograph

Preoperative radiography shows limited information. Apically tapering roots and roots that appear to be continuous or square at the apex can be suspected as C shaped canal configuration. Some C shaped canals are difficult to interpret because of the thickness of the bony trabeculae.

The C shaped must be suspected when the roots are fused or close to each other. It should be noted that bilateral occurrence is possible, so review of dental history is important.

Access cavity preparation

Initial canal system recognition occurs after achievement of routine endodontic access and removal of tissue from the pulp chamber. Fiber optic Tran illumination can enhance the variant canal anatomy identification. Placing the fiber optic tip under the rubber dam on the buccal surface illuminates the pulp chamber. The canal system appears as a dark line in an illuminated area. Deep orifice preparation and careful probing with small files will help in assessing the types of C shaped canal. (Figure 11 & Figure 12)

Cleaning and shaping

In all categories mesiobuccal and distal canal are prepared normally. Isthmus should not be prepared larger than 25 size files, otherwise strip perforation can occur. Extravagant use of small sized file and 5.25% sodium hypochlorite is the key to through debridement in the narrow canal isthmus. An increased volume of irrigant and deeper penetration of with small instruments using sonic and ultrasonic may allow for cleansability in fan shaped areas of the C shaped canal. Aggressive instrumentation may sometimes cause perforation.

The ribbon canal space is frequently eccentric to the lingual side of the C shaped radicular dentin. An anticurvature filing method in the coronal third of the canal is needed to prevent perforation.

Obturation

The mesiolingual canal and the distal canal can be prepared and obturated as standard canals. Application of thermoplasticized gutta percha is more appropriate technique of obturation. Gutta-percha can be thermo plasticized with a heated spreader in an open flame, electric spreader or injectible (Obtura) systems. Proper placement of the sealer with ultrasonic endodontic files is critical. Endotech 2 can also be used with a zap and tap maneuver; i.e., preheating the Endotech plugger for 4-5 sec before insertion (zap) and then moving the hot instrument in and out in short continuous strokes (taps) 10 to 15 times. The plugger was removed while still hot, followed by a cold spreader with insertion of additional accessory points. Touch n heat system can also be used. (Figure 13 & Figure 14)

Endodontic surgery

The intracanal communications or fins visualized on serial sections reinforce the difficulty the clinician would encounter after apicectomy with retropreparation and eventual retrofilling.

If endodontic surgical intervention is indicated for a molar with a C shaped root canal anatomy, strong consideration should be given to extraction, retrofilling and intensional replantation.

Restoration and prognosis

If post placement for a crown core is desired use of only distal canal (if present independently) should be considered. When sound principle of biomechanical preparation and obturation and restoration are followed, the long term prognosis of C shaped canal root retention equals that of other molars.

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In appreciation of Research in the field of Dentistry Dr. K. Nandakumar has been awarded Fellowship by Indian Society of Dental Research (ISDR) during the function held at Chennai. Dr. Ammbumani Ramdas, Minister for health, Govt. of India handing over the fellowship certificate.

Elected



Dr. V. Ipe Varghese, elected as President of the Indian Association

of Oral and Maxillofacial Pathologists at the annual meeting of the association held at Kolkata in 29th December 2008. He is the Principal of Govt. Dental College, Calicut, Kerala.

Prevention of periodontal diseases

* Riyas Seinullabdeen ** Tintu Sara Chandy, *** Seba Abraham, **** Prakash P, **** Ambili R. ***** Nisha K.J.

Abstract

Periodontal disease is the most common cause for tooth loss in our country. The high prevalence of this disease prevails in our society due to lack of knowledge and improper oral hygiene practices. The fact that this disease is preventable is often overlooked. The dentist as well as the patient has an active role to play in the prevention of this disease. The dentist has an important role in motivating, educating and instructing the patient about proper oral hygiene practices. This article is a review of the different means by which periodontal disease can be prevented or can be curtailed from recurring after treatment.

Introduction

In our country periodontal disease is the largest cause for tooth loss. A disease of such high prevalence has often eluded importance due to the lack of general awareness that the disease is preventable and the misconception of tooth loss being an age-associated disease.

Plaque and plaque retentive factors are the major causes for periodontal diseases. Preventive measures involves aids that facilitate it's removal and decreases its formation.

Methods for prevention of periodontal diseases

- **Mechanical aids** - Mechanical plaque control methods include tooth brushing and inter dental cleaning using oral hygiene aids and professional prophylaxis. Mechanical plaque control is the most dependable form of plaque control.

- **Chemical aids** - Chemical plaque control is only used as an adjunct to mechanical means to increase their efficiency and not a substitute.

Mechanical aids

1. Toothbrush

It is the principal method employed in oral hygiene and is the most widely used oral hygiene aid. The main aim of a toothbrush is to remove plaque without damaging the soft tissues. The selection of a proper toothbrush is confusion for many. It is not the brand of the toothbrush that matters but its size, shape of the head, type of bristle and frequency of replacement. For most patients a short-headed toothbrush with round-ended soft to medium nylon bristles is recommended. A soft-bristled brush is more effective in removing

plaque as it causes less harm to soft and hard tissues than a brush with hard bristles because soft bristles are more flexible and thus can reach subgingival and proximal areas. A brush with a smaller head can be easily moved around all the surfaces of the tooth. Round-ended bristles are recommended because they cause less soft tissue trauma than course-cut bristles. A toothbrush is to be replaced as soon as the bristles begin to fray, which is usually around 3 months. If all the bristles are flattened after 1 week, brushing is probably too vigorous. If the bristles are still straight after 6 months, either brushing is done very gently or the brush has not been used everyday.

Brushing technique

The ideal tooth brushing technique is the one that removes plaque, food debris and stain, and stimulates the gingival tissues with the least time and effort, and does not damage oral tissues. Since these criteria cannot be met with any specific tooth brushing technique, it is necessary to evaluate each individual condition in order to select the proper brushing method.

The method most commonly suggested is the Modified Bass technique. Here the bristles are placed at the gingival margin establishing a 45° angle to the long axis of the teeth and moved in a vibratory, back-and-forth motion while simultaneously moving it coronally along the tooth surface. Strokes are repeated around 20 times, 3 teeth at a time. On the lingual aspect of anterior teeth the brush is inserted vertically and the heel of the brush is pressed into the gingival sulcus and proximal surface at a 45° angle. The bristles are then activated. Occlusal surface are cleaned by pressing the bristles firmly against the pit and fissure and then activating the bristle. Patients finish the procedure by brushing their tongue to help remove bacteria.

The chosen tooth brushing method should be



Figure 1 - Modified Bass Brushing technique

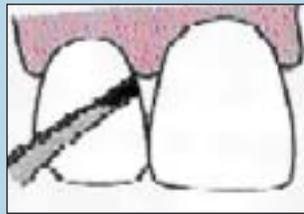


Figure 2 - Type 1 No gingival recession - Dental Floss

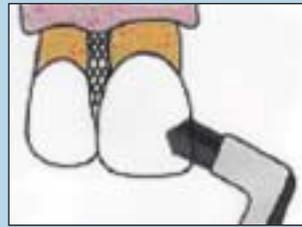


Figure 4 - Type 3 Complete loss of papillae - Unitufted brush

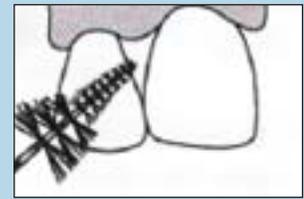


Figure 3 - Type 2 Moderate papillary recession - Interdental Brush



demonstrated for the patient and the patient has to practice it in the office until he or she develops a reasonable efficiency in using it. Clinical assessment of a patient's toothbrush and tooth brushing technique is also to be done. This will help the clinician to detect any sign of abrasion or gingival recession that may have resulted from improper brushing method.

Powered toothbrush

They are a valuable alternative to manual brushes. These brushes mimic the action manual tooth brushes and also make the brushing faster and efficient. The head of the tooth brushes oscillate in a side to side motion or in a rotary motion. The frequency of the oscillations is around 40Hz in an ordinary powered tooth brush.

Advantages

- Increases patient motivation resulting in better patient compliance.
- Increased accessibility in interproximal and lingual tooth surface.
- No specific brushing technique required.
- Uses less force than manual tooth brushes.

Use of powered toothbrush is not superior to using manual toothbrushes in removing plaque and there is no evidence that powered toothbrush will cause more harm to the soft tissues than manual toothbrushes.

2. Interdental cleansing aids

The interdental areas are usually not accessible by toothbrush. Plaque removal from these areas is facilitated by using interdental cleansing aids. The interdental cleansing aid chosen will depend on the type of gingival embrasure.

Dental floss

These type of inter dental cleaning aids are indicated to remove plaque from inter proximal surface with Type I gingival embrasures.

Methods of use of dental floss

1. **Spool method** – 18 inch length of floss is taken and wound around the middle finger of both hands leaving about one inch of floss which is held between the thumbs and forefingers. Using a gentle and sawing motion, the floss is guided between the teeth. When the floss reaches the gumline, it is then curved into a C-shape against one tooth and is gently slid between the gum and tooth until resistance is felt. While holding the floss tightly against the tooth, the side of the tooth is scraped gently six times. Without removing the floss, the proximal side of the other tooth is scraped too. This procedure is repeated on the remaining teeth.

2. **Loop method** - The ends of a 12-inch piece of floss is tied to form a loop or a circle. All fingers except the thumbs are placed within the loop, so that fingers or thumbs tips used to place floss between teeth will be 1 inch apart. The flossing procedure is the same as with the spool method.

Incorrect flossing can traumatize both hard and soft tissues, and may also result in inadequate plaque removal. Laceration of inter-dental papilla and cervical wear on proximal root surfaces are signs of improper flossing.

3. Gingival massage

Massaging the gingiva produces epithelial thickening, increased keratinization and increased mitotic activity in the epithelium & connective tissue making the gingiva more resistant to inflammation. Tooth brushes, interdental cleaning devices and rubber tip stimulator can be used.

4. Oral irrigation devices

These devices clean nonadherent bacteria and debris from the oral cavity more effectively than do toothbrushes and mouth rinses, especially from inaccessible areas around the orthodontic appliances and fixed prosthesis. It helps to remove subgingival plaque and is helpful in delivering antimicrobial agents into periodontal pockets. These devices are of 2 types:-

Supraperiapical irrigation devices

They work by directing a high pressure, steady or pulsating stream of water through a nozzle to tooth surfaces. The device has a built-in pump to generate the pressure.

Subgingival irrigation devices

They disrupt and detoxify subgingival plaque by delivering antimicrobial agents into periodontal pocket. It can be performed both in dental office or by the patient at home

Irrigation tip is inserted atleast 3 mm into the periodontal pocket

Chemical plaque control aids

1. Chlorhexidine

Chlorhexidine is a cationic bisbiguanide with pronounced antiseptic properties. It is effective against gram positive, gram negative bacteria and yeast. It has mainly 2 actions:-

Anti plaque action - Due to its property of sustained availability – *substantivity* it forms a reservoir of chlorhexidine, slowly dissolving from all oral surfaces, resulting in the bacteriostatic milieu in the oral cavity.

Anti bacterial action - It is bacteriostatic at low concentrations and bactericidal at high concentrations

Disadvantages

- Extrinsic staining of teeth
- Painful, desquamative lesions on the oral mucosa may be associated with burning sensation
- Impaired taste sensation
- Rarely, parotid swelling – due to mechanical obstruction of parotid duct

Essential oil mouthrinses

Essential oil mouth rinses contain thymol, eucalyptol, menthol and methyl salicylate.

A fixed combination of essential oils kills germs that can cause plaque & gingivitis

Mechanism of Action

Essential oils disrupt the bacterial cell wall to kill plaque and gingivitis causing organisms nonselectively.

Frequency of plaque removal

Cleaning once a day with a toothbrush and toothpaste

along with flossing is sufficient if it is performed meticulously. Emphasis is not on the frequency of brushing but on the efficiency of complete plaque removal. Poor performance of plaque removal can be improved by brushing twice a day and flossing. Cleaning 3 or 4 times per day does not appear to further improve periodontal conditions.

Conclusion

- The major cause for periodontal disease is plaque and plaque retentive factors.
- Plaque control measures have 2 purposes – to minimize gingival inflammation and to prevent the recurrence of progression of periodontal disease in a treated mouth.
- Plaque control is mainly achieved by mechanical means and chemical aids act as adjuvant that helps to enhance the efficacy of mechanical aids.
- Tooth brushing and flossing once a day is adequate if done efficiently.
- The proper oral hygiene method for each patient has to be evaluated by the dentist and the patient is to be trained until he or she is proficient. Improper oral hygiene techniques can cause more harm than good.

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Obituary



Dr. N. Sulochana Devi

Former Professor of Prosthodontics of Calicut and Trivandrum Dental Colleges and Rajas Dental College, Nagercoil expired on 30th January 2009. After retirement Prof. Devi took sanyasa at the Santhigiri Ashram, Pothencode, Trivandrum. As a sanyasin she was known as Janani Dharmishta Jnana Tapaswini. Prof. Devi was a beloved teacher adored both by her undergraduate and postgraduate students.

Diagnose

Diagnose the following case

* Akhilanand Chaurasia, ** Anita Balan



Fig. 1



Fig. 2



Fig. 3



Fig. 4



Fig. 5

A 38 year old male patient (Fig1) reported with presenting complaint of a swelling in right side of face since 2 years. Previously the swelling was small but since last 6 months it was slowly increasing in size. On extra-oral examination a swelling of 2x1 cm was noted in Premolar region in right side (Fig 2). It was soft to firm in consistency, nonfluctuant, noncompressible having well defined borders. There was no associated pain. On intra-oral examination mild obliteration of buccal sulcus was noted in right premolar region (Fig 3). Panoramic

radiograph of patient showed an enlarged mental foramen (Fig 4,5). While doing excision of swelling it was found to attached to mental nerve through it deep surface.

- a. What this lesion could be?
- b. What is differential diagnosis?

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From clinical and radiographic features it was thought to be neurofibroma but while doing biopsy multiple yellowish fat globules were seen and histopathology was also compatible with diagnosis of lipoma of buccal mucosa. Very few cases had been reported in literature in which lipoma of buccal mucosa was found to be associated with mental nerve.

- a. Lipoma associated with right mental nerve.
- b. Differential diagnosis include-
 1. Fibroma
 2. Neurofibroma

Answers

Case Report

Hemisection - A better option in furcation management

Preeja.C*, Presanthila Janam**, Haeigin Tom Varghese***, T. Sreelal****, K.Harshakumar*****

Introduction

Modern advances in dentistry as well as the increased awareness among patients have led to the development of many treatment modalities which provides opportunity for patients to maintain a functional dentition for life time. Periodontal disease that extends into the furcation areas can pose significant difficulty during treatment, as can extensive caries or root fractures that involve the furcation areas. Treating any of these problems is particularly difficult with regard to the interproximal furcation areas; as the disease process and subsequent treatment could affect the periodontal attachment apparatus of the adjacent teeth. Root amputation procedures can be used when attachment loss, caries, other endodontic problems or a fracture involves furcation area of a molar.

Root amputation procedures are a logical way to eliminate a weak, diseased root to allow the stronger to survive, whereas if retained together, they would collectively fail. The treatment may involve a multidisciplinary approach so that the teeth are retained in whole or in part. There are various root amputation procedures and it includes root resection, hemisection, and bicuspidization or root separation. Root amputation procedure on mandibular molars is usually referred to as hemisection. Hemisection denotes removal or separation of root with its accompanying crown portion. Selected root removal allows improved access for home care and plaque control with resultant bone formation and reduced pocket depth.

This article reviews hemisection of a mandibular molar and the concomitant prosthetic management as a treatment option for furcation involvement of mandibular molars.

Indications

Periodontal Indications:

1. Severe vertical bone loss involving only one root of multi-rooted teeth.
2. Through and through furcation destruction.
3. Unfavourable proximity of roots of adjacent teeth, preventing adequate hygiene maintenance in proximal areas.
4. Severe root exposure due to dehiscence.

Endodontic and Restorative Indications:

1. Prosthetic failure of abutments within a splint:

If a single or multirooted tooth is periodontally involved within a fixed bridge, instead of removing the entire bridge, if the remaining abutment support is sufficient, the root of the involved tooth is extracted.

2. Endodontic failure:

Hemisection is useful in cases in which there is perforation through the floor of the pulp chamber, or pulp canal of one of the roots of an endodontically involved tooth which cannot be instrumented.

3. Vertical fracture of one root:

The prognosis of vertical fracture is hopeless. If vertical fracture traverses one root while the other roots are unaffected, the offending root may be amputated.

4. Severe destructive process:

This may occur as a result of furcation or sub gingival caries, traumatic injury, and large root perforation during endodontic therapy.

Contraindications:

- a. Inoperable canals in root to be retained.
- b. Fused roots making separation impossible.
- c. Strong adjacent teeth available for bridge abutments as alternatives to hemisection.



Fig. 1, 2, 3, 4 Clinical, radiographic and surgical management stages



Fig. 5, 6, 7, 8 Clinical, radiographic and surgical management stages

Case report

A 48 year old female reported to Dept. of Periodontics, Govt. Dental College, Trivandrum complaining of a long standing swelling and pus discharge in relation to lower right back tooth for the past one year. On clinical examination chronic periodontal abscess was present in relation to buccal aspect of 46 (Fig.1). On periodontal probing deep periodontal pocket of 7mm was present in relation to mesial root of the tooth. Patient also gave a history of endodontic treatment of 46 due to caries 2 years back. Patient did not give any history of pain or associated symptoms.

On radiographic examination, an inappropriately filled root canal with filling material perforating through the furcation area was seen. Severe bone loss was evident surrounding the mesial root and involving the furcation area of 46. The bony support of distal root was completely intact (Fig. 2). So the best treatment option for this case was removal of the diseased portion of the tooth by hemisection.

Under local anesthesia, full thickness mucoperiosteal flap was reflected after giving a crevicular incision from distal aspect of second premolar to mesial aspect of second molar. Upon reflection of the flap, the bony defect along the mesial root became quite evident. All chronic inflammatory tissue was removed to expose the bone. The vertical cut method was used to resect the crown. A long shank tapered fissure carbide bur on a highspeed handpiece is placed along the long axis of the tooth in the area of the buccal furcation and a cut is made (Fig. 3). This cut is channeled toward the center of the tooth. Similarly a cut is made in the lingual furcation which is also directed towards the centre. These cuts are then joined so that the mesial and distal halves are completely separated (Fig. 4). A fine probe was passed through the cut to ensure complete separation of the two halves of the tooth. Once the separation was complete the mesial root along with crown portion was extracted with a small extraction forceps (Fig 5 & 6). The empty socket was thoroughly curetted and irrigated adequately with sterile saline to remove bony chips and amalgam debris.

The furcation area was trimmed to ensure that no spicules or filling material were present to cause further periodontal irritation. Scaling and root planing of the root surfaces was done. The extraction site was irrigated,

debrided and the flap was then repositioned and sutured with 3/0 black silk sutures (Fig. 7 & 8).

At the end of first week sutures were removed. After 3 months the prosthetic rehabilitation was done. The treatment plan for the prosthodontic management phase was to fabricate a fixed partial denture using 47, distal half of 46, 45 and 43 as abutments to replace the mesial half of 46 and the 44. The idea was to develop an occlusion with canine protected articulation, decreased vertical overlap and flattened posterior cusps. This occlusal pattern will protect the weakened posterior abutment against excessive loading during excursive movements and during mastication. The occlusal surface area of the prosthesis over the distal root of 46 was kept as minimum as possible to decrease the stresses that may act on it. Due to aesthetic reason, metal with ceramic facing was the restoration of choice except for 47 which received a full metal restoration to preserve maximum tooth structure in the non appearance zone. Modified ridge lap was the pontic design used in fabricating the restoration. (Fig 9, 10 & 11).

Discussion

Root amputation is a useful alternative procedure for saving those multirooted teeth which have been indicated for extraction. But success of root amputation procedures depends, to a large extent, on proper case selection. It is important to consider the following factors before deciding to undertake any of the resection procedures.

- Advanced bone loss around one root with acceptable level of bone around the remaining roots.
- Angulation and position of the tooth in the arch: A molar that is buccally, lingually, mesially or distally tilted, cannot be resected.
- Divergence of the roots : Teeth with divergent roots are easier to resect; closely approximated or fused roots are poor candidates.
- Length and curvature of roots : Long and straight roots are more favourable for resection than short, conical roots.
- Feasibility of endodontics and restorative dentistry in the root/roots to be retained.
- Patient's oral hygiene status, caries index, and medical status should be considered.

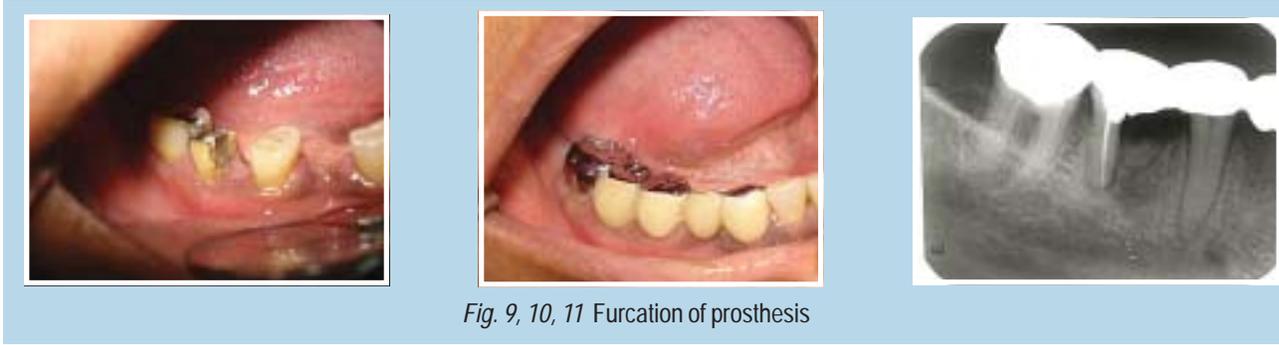


Fig. 9, 10, 11 Furcation of prosthesis

In the present case report on hemisection, mesial root along with crown portion is removed which has many advantages than removing the distal root. The mesial root has an hour-glass-shaped cross section which may be difficult for plaque control and restorative procedure. Also, root canals are closer to external root surface which can complicate the subsequent restorative treatment. But the distal root has an oval cross section with only one, wide root canal. Distal root is comparatively large, providing a greater mass of dentin to resist fracture. Further, when the resected mandibular molar is a terminal abutment for a bridge, the retention of the distal root will result in a longer dental arch than would be the case had the mesial root been retained.

The removal of a root alters the distribution of occlusal forces on the remaining roots. Therefore, it is wise to evaluate the occlusion of teeth from which roots have been resected and, if necessary, adjust the occlusion. Centric holds should be maintained and eccentric forces should be eliminated from the area over the root that was removed.

Teeth that have been resected can be used as abutment teeth for fixed partial dentures, splints, or vertical support for cantilever fixed partial dentures. The retention of a strategic tooth by root resection may preclude the need for a removable partial denture. However their load bearing ability will be lessened due to diminished attachment area as a result of periodontal attachment loss. The mesial root of mandibular first molar provides 37% of the attachment surface area and the distal provides 32%. If the furcation is uncovered, 31% of the attachment area which is provided by the root trunk has been lost. The mesiofacial, distofacial and palatal roots of a maxillary first molar furnish 25%, 19%, and 24% of the attachment area respectively. The root trunk supplies 32% of the attachment for the tooth. Removal of a corresponding root on a second molar will probably result in a similar percentage loss of support. The total root surface area of the first and second molars differs by only 0.5% to 1.2%.

In case of mandibular hemisection, saving the mesial segment would be desirable if the molar in question were the last tooth in the arch and the opposing teeth did not extend very far distal to the mandibular first molar. The distal root could be used as an abutment for a short span fixed partial denture replacing the mesial

root. Occasionally the one root may be used as the distal abutment for a long span fixed partial denture, replacing an entire molar. But this must be viewed as high risk prosthesis as the remaining single root will usually have slightly less than one third of the alveolar support of the intact tooth with normal bone anchorage.

Conclusion

The prognosis for hemisection is good provided that case selection has been correct, the procedure has been performed adequately, and the restoration is of an acceptable design relative to the occlusal and periodontal needs of the patient. Root amputation therapies are used to preserve as much tooth structure as possible rather than sacrificing the whole tooth.

Investigations of root resected or hemisected teeth have shown that such teeth can function successfully for long periods. The keys to long term success are thorough diagnosis, selection of patients with good oral hygiene, and careful surgical and restorative management.

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Case Report

Eagle's Syndrome

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Abstract

Eagle syndrome is a constellation of symptoms and signs resulting from abnormal stylohyoid chain ossification. The styloid chain consists of the styloid process, the stylohyoid ligament, and the lesser cornu of the hyoid bone. Eagle Syndrome is a rare entity which is not commonly suspected in clinical practice, and only a small percentage of the 4% of population believed to have an elongated styloid process and a calcified stylohyoid ligament manifest the symptoms. The signs and symptoms mentioned in various sources for Eagle's syndrome includes Pain on turning head, Pain on extending tongue, Voice changes, Cough, Sinusitis, Dizziness, Bloodshot eyes, Throat pain, Facial pain, Foreign body sensation in throat, Dysphagia, Disturbed sense of taste, Asymptomatic, Headache, Sensation of excessive salivation, Throat discomfort, Vertigo, Swallowing difficulty, Pain on opening mouth. The diagnosis is often first made radiologically and once made this prompts clinical confirmation by palpation of the tonsillar fossa.

Introduction

Eagle syndrome derives its name from Watt Weems Eagle an American Otolaryngologist. He first published his data in 1937 with a series of 200 patients presenting with symptoms related to a calcified stylohyoid ligament or elongated styloid process. These symptoms include a pharyngeal foreign body sensation, dysphagia, pain on head rotation, otalgia, dizziness and headaches. The symptoms are attributed to impingement of the glossopharyngeal nerve as it runs close to the styloid process and calcified ligament. An elongated or calcified stylohyoid ligament does not necessarily indicate Eagle syndrome. The diagnosis is made on the basis of history and exacerbation of pain on palpation of the tonsillar fossa. Another test of diagnostic, and also therapeutic benefit, is that of injecting local anaesthetic into the tonsillar fossa, which should result in diminished symptoms.

Case Report

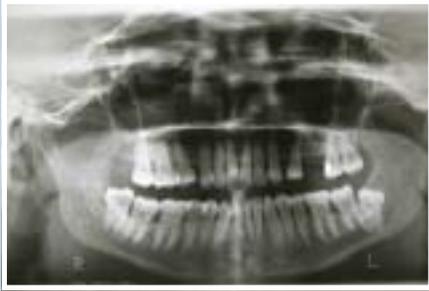
A 42 year old female presented to our college with history of pain on the right side of neck and dysphagia of 2 year duration. She had consulted Physician & ENT specialist before, and was referred to Dept of Oral & Maxillofacial Surgery of our college. She presented with unilateral pain on the right side occasionally on yawning and swallowing. Her general examination did not reveal any relevant findings. Cervical lymphnodes were not palpable. Right cervical area below styloid process was tender to palpate. Intraoral examination revealed no significant dental pathology. An OPG was taken, and a diagnosis of calcified and elongated stylohyoid ligament was made.

Discussion

Eagle syndrome is a group of symptoms caused by calcification of the stylohyoid ligament and an abnormally long styloid process. The styloid process is a bone at the base of the skull which is attached to muscles and ligaments connected to the throat and tongue. The styloid process and ligament are embryological remnants of the second branchial arch and persists as a structure running from the base of the skull to the lesser horn of the hyoid, passing between the internal and external carotid arteries. In 1937, Watt Weems Eagle was the first to present two cases of pharyngeal discomfort associated with elongated styloid process. Eagle originally described two distinct syndromes: the classic styloid and carotid artery syndromes. Mineralisation of the stylohyoid ligament is a well recognised radiographic finding and an incidence of 18.2% has been reported on panoramic radiographs. The majority of patients are asymptomatic. Eagle's syndrome now describes a syndrome in which there is elongation of the stylohyoid process with associated symptoms which may include pain in the throat, dysphagia, dysphasia, otalgia, sensation of a foreign body in the throat and facial pain which may be vague and ill defined or an acute neuralgic type of pain radiating to the ear or along the mandible.

Eagle Syndrome can be unilateral or bilateral. In normal adults, the styloid process is approximately 25mm long, and its tip is located between the external and internal carotid arteries, just lateral to the tonsillar fossa. The mineralized section of the styloid process or stylohyoid ligament is rigid and more subjected to fracture secondary to traumatic injury.

The actual cause of the elongation is a poorly



understood process. Several theories have been proposed: 1) congenital elongation of the styloid process due to persistence of a cartilaginous analog of the stylohyal (one of the embryologic precursors of the styloid), 2) calcification of the stylohyoid ligament by an unknown process, and 3) growth of osseous tissue at the insertion of the stylohyoid ligament

The pathophysiological mechanism of symptoms is debated as well. Theories include the following:

1) traumatic fracture of the styloid process causing proliferation of granulation tissue, which places pressure on the surrounding structures 2) compression of adjacent nerves, the glossopharyngeal, lower branch of the trigeminal, or chorda tympani; 3) degenerative and inflammatory changes in the tendinous portion of the stylohyoid insertion, called insertion tendonitis; 4) irritation of the pharyngeal mucosa by direct compression or post-tonsillectomy scarring (involves cranial nerves V, VII, IX, and X); and 5) impingement of the carotid vessels, producing irritation of the sympathetic nerves in the arterial sheath

The signs and symptoms mentioned in various sources for Eagle's syndrome includes

- Pain on turning head, Pain on extending tongue, Voice changes, Cough, Sinusitis, Dizziness, Bloodshot eyes, Throat pain, Facial pain, Foreign body sensation in throat, Dysphagia, Disturbed sense of taste, Asymptomatic, Headache, Sensation of excessive salivation, Throat discomfort, Vertigo, Swallowing difficulty, Pain on opening mouth

Treatment of Eagle syndrome can be both surgical and nonsurgical. Nonsurgical treatments involves assurance, nonsteroidal anti-inflammatory medications, and steroid injections. Conventional medical treatments may help alleviate the symptoms of Eagle syndrome, but they do not address the core of the problem. But, Eagle's syndrome can be successfully treated by surgery. Several transoral and extraoral-cervical ways to styloidectomy have been described. Transoral resection of the styloid process is perfectly easy to perform, it can be done with local anesthesia, it involves no extensive fascial dissection. Transoral resection causes no outside scars; also, the length of both the operation and the

recovery period is short. The risks of the transoral approach, which are low, involve the chance of a deep cervical infection and the possibility of a neurovascular injury during an attempt to leave as little remnant of the styloid process as possible.

Conclusion

Eagle's syndrome develops due to an elongation or deformation of the styloid process and "ossification" of the stylohyoid ligament. The development of this pathology is influenced by cervical osteochondrosis, frequent tonsillitis, tonsillectomy and purulent facial and cervical inflammations.

The clinical presentation of Eagle's syndrome depends on the localization of disturbance. The analysis of clinical symptoms allows not only to diagnose the syndrome, but also to foresee a possible disturbance of the styloid process or the stylohyoid ligaments. Radiological analysis is the basic method for the localization of the stylohyoid complex disturbance and the diagnostics of its nature.

Best results of treatment are achieved when a surgical method of treatment is applied.

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Case Report

Herpes zoster infection of the maxillary nerve

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Abstract

Herpes zoster is a viral infection caused by *Herpesvirus varicellae*. It can cause severe morbidity if early diagnosis and treatment of the condition is not provided. A thorough knowledge of this condition will prevent unnecessary and delayed treatment for the patient. A case is presented of an elderly lady who presented with the classical signs and symptoms of herpes zoster. The condition was then treated with a newer antiviral drug (valacyclovir) which resulted in complete resolution of the condition. The presence of herpes zoster infections as a part of the spectrum of manifestation of HIV infection only highlights the urgent need for every dental clinician to be able to diagnose and effectively manage this condition.

Introduction

Infections have afflicted mankind since times immemorial. Viruses were found to be the causative agents of self limiting infections. However, though mostly self limiting, the morbidity caused by these infections is no less a concern to the dental clinician faced with a patient suffering from them. Herpes zoster is a secondary infection caused by *Herpesvirus varicellae*, commonly referred to as the varicella-zoster virus (VZV). It has been estimated that upto half of all people who live upto the age of 85 years may be affected by herpes zoster.¹

The presenting signs and symptoms may vary at times and in the prodromal stage of this disease, odontalgia may be the only symptom. This may prove to be quite a diagnostic dilemma for the unwary clinician. We present a case of herpes zoster infection involving the maxillary division of the right trigeminal nerve. The characteristic features of this case should help the busy practitioner to firmly etch in mind the appearance of the condition and the treatment that needs to be accorded to such cases.

Case report

A 64 year-old female patient reported to our institute with a complaint of pain in the right upper jaw on eating food since 4 days. The pain was severe, continuous and radiated to the right cheek region. It started suddenly when she had woken up in the morning 4 days prior to reporting to us. There had been intense burning sensation on the right side of the face since the previous evening that was at the time of examination. The patient had fever for the preceding 5 days. She also had difficulty in eating and drinking.

The patient's past medical and family histories were unremarkable. She had undergone uneventful extraction

of all her teeth 12 years ago due to mobility and since then had been wearing complete dentures. She did not report any oral habits related to tobacco or areca nut.

The patient on physical examination, appeared emaciated and had pyrexia of 101°F. The patient also exhibited pallor of the palpebral conjunctiva. Her blood pressure was within normal limits for her age and gender – 142/ 96 mm of Hg. Extra oral examination revealed erythema and vesicular lesions in the middle third of the face on the right side that ended abruptly in the midline (fig 1). The vesicles were present as clusters lateral to and below the right ala of the nose extending upto the right angle of the mouth. Crusting was noticed on a ruptured vesicle immediately lateral to the right ala of the nose. Crusted lesions were also present on the vermilion border of the right side of the upper lip ending in the midline (fig 2). The left side of the face upto the midline did not show any abnormality. The area was tender on palpation and produced stinging sensation. The vesicles could be ruptured by application of pressure. Nikolsky's sign was negative. Right submandibular lymphadenopathy was detected.

Intraorally, curdled-appearing, multiple, clusters of vesicles and erosions on an erythematous base were present on the palatal mucosa on the right side (fig 3). These lesions also stopped sharply at the midline without any extension to the opposite side. On palpation, the mucosa was tender and severe stinging sensation was felt by the patient, from the midline upto the right maxillary vestibule. The vesicles could be deroofed with some light pressure, however Nikolsky's sign was absent. The scrapping produced a raw bleeding base. The other soft tissues did not exhibit any abnormality. All the maxillary and mandibular teeth were clinically absent.

Based on the history reported by the patient and the findings of the clinical examination a diagnosis of Herpes



Fig. 1 Erythema and vesicles ending abruptly in the midline of the right middle third of the face



Fig. 2 Crusted lesions on the lip seen only on the right half of the upper lip

zoster infection of the maxillary division of the right trigeminal nerve was arrived at.

The patient's emaciated and dehydrated condition prompted hospital admission and institution of IV fluids immediately – Dextrose Normal Saline (DNS) – 100 ml/ hour infusion. Investigations such as complete hemogram and anti HIV ELISA were performed. The blood picture showed lymphocytosis, a decreased hemoglobin level of 8.3 gm % (normal: 12-16 gm %) and an ESR of 39 mm/hour (normal: 0-15 mm/hour). The Anti HIV ELISA was negative, and since the history was not suggestive it was not repeated.

The specific pharmacotherapy instituted consisted of the following:

- Systemic Antiviral therapy – Valacyclovir, 1000 mg – 1 t.i.d. x 7 days
- Topical Antiviral therapy – 5% Acyclovir cream – t.i.d. x 7 days
- Anti-inflammatory therapy – Diclofenac, 50 mg – 1 b.i.d x 5 days

When reviewed after 2 days of therapy, a new cutaneous bulla lateral to the right ala of the nose was noted (fig 4). There was crusting of the cutaneous lesions with hemorrhagic ulcers on the vermilion border of the lip (fig 5). The erythematous skin surface appeared to be reducing in intensity as compared to that at presentation.

On the fourth and fifth days the lesions showed changes consistent with healing. When the patient was reviewed after completion of the antiviral therapy (on the 8th day), the lesions, both cutaneous and oral, had healed completely. The patient was then discharged from the hospital and recalled for review after a week

The patient was then reviewed after a week of the completion of the antiviral therapy. The patient reported no problems in swallowing and reported consuming regular solid and fluid diet without any burning sensation of the oral mucosa. Intraorally, no abnormalities of the soft tissues were noted.

The patient has been asymptomatic for the past three years and is on continuous follow-up.

Discussion

The varicella zoster virus (VZV) is responsible for two common infectious diseases, chicken pox (varicella) and shingles (zoster). Herpes zoster infection is caused by subsequent reactivation of latent varicella zoster virus from dorsal root or cranial nerve ganglia, present since primary infection with varicella (chicken pox).² This reactivation may occur even decades later. The most favored ganglia are those of the T3 – L2 segments, but in the head and neck region the virus favors the trigeminal ganglion to remain dormant. The commonest cause of viral reactivation is decline in cell mediated immunity related to age. After the primary infection the virus is probably often reactivated, but competent cell mediated immunity prevents clinical disease.¹ It is a contagious condition and spreads via direct contact with an infected person or through inhalation of air-borne respiratory secretions. Children in contact with a zoster patient can develop varicella and hence zoster patients may need to be isolated during the course of the disease from those who have not suffered from varicella. The lesions remain contagious from 2 days before the rash appears until all the lesions are crusted with no drainage.

Herpes zoster infections progresses through 3 stages: prodromal, active (acute) and the chronic stages.³ However each patient may not develop all the three stages. Some patients do not develop the classic vesicular eruptions and may manifest only dermatomal pain, causing difficulty in diagnosis, called as *zoster sine herpette*.⁴ The patients presenting in the prodromal stage describe their condition as a burning, tingling, itching, boring, pricking or knife-like sensation on the skin. These sensory changes are thought to be a result of the degeneration of nerve fibrils from viral infection activity.³ The active phase is the emergence of the rash accompanied by malaise, low grade fever and at times nausea. The rash goes through maturation stages of an erythematous



Fig. 3 Curdled appearing vesicles and erosions on the lips and palatal mucosa stopping sharply at the midline without extension to the opposite side

Fig. 4 Crusted ulcers on a fading erythematous base with new bullae lateral to the ala of the nose as seen 2 days after antiviral therapy



papule followed by vesicles that eventually form pustules. These pustules undergo crusting which then fall off in approximately 2 weeks, leaving behind erythematous macular areas. The oral mucosa also manifests similar lesions. The chronic stage is termed as the Post herpetic neuralgia (PHN), which is defined as pain lasting beyond the period of healing of the active lesions. This may last for 1-3 months and sometimes even for years or decades.

The differential diagnoses that need to be considered are acute vesiculobullous conditions herpes simplex infections and erythema multiforme. However the characteristic involvement of a region supplied by a specific nerve with an abrupt stop of the lesions at the midline, as seen in the case presented is very characteristic of herpes zoster. Herpes simplex infections are usually recurrent and erythema multiforme may have generalized manifestations. However when herpes zoster occurs as a component of the AIDS manifestation, it may also be generalized and prove to be fatal if not treated aggressively.

The mainstay of contemporary zoster management is the use of antiviral drugs like acyclovir, valacyclovir and famciclovir.^{1,2} Acyclovir is used in the dose of 800 mg, 5 times daily for atleast 7 days. Valacyclovir is converted to the active form of acyclovir, but patient compliance for this drug is better due to the dosage schedule of 1000 mg, t.i.d for 7 days. Famciclovir is used as 500 mg, t.i.d. for 7 days. Most cases respond to therapy if it is initiated within 72 hours of the development of the lesions. In the case described the vesicles went through stages of desquamation and finally healing. However the institution of pharmacotherapy with antiviral agents aided considerably in the healing and pain management. It has been found that antiviral therapy definitely reduces the viral load and viral shedding in the vesicles and hastens healing. Additional pain management can be performed using analgesics and anti inflammatory drugs like paracetamol, ibuprofen, etc, though these drugs are not helpful in treating post herpetic neuralgia.

A live attenuated vaccine against varicella is now commonly available. Because the vaccine virus may be less likely to establish latency and reactivate, it has been thought that vaccination may ultimately reduce the



Fig. 5 Hemorrhagic confluent ulcers on the lips on the 3rd day of antiviral therapy

incidence of zoster.⁵ Vaccination of older adults who have had varicella may also prevent or attenuate zoster.

In conclusion, it can be safely stated that the early diagnosis and prompt management of herpes zoster infections can go a long way in reducing the discomfort of the patient. The emergence of these infectious states in the AIDS spectrum must make the clinician more vigilant to look for any underlying causes and accordingly proceed with the management strategies. A rigid follow-up schedule is also an essential requisite to avoid long term morbidities.

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Case Report

Scleroderma

* Gayathri Krishnan, ** Vishnu Mohan

Abstract

Scleroderma is a systemic connective tissue disease characterized by vasomotor disturbances, fibrosis, subsequent atrophy of the skin, subcutaneous tissue, muscles and internal organs with associated immunological disturbances. Limitation of mouth opening and fixation of the jaw as a result of involvement of peri-temporomandibular joint tissues have been reported. Bone resorption of the angle of the mandible has been reported in some cases. In this case report, the patient is a 35 year old male who came to our college with difficulty in opening and closing the mouth. The patient earlier had a subluxation of the TMJ where the surgeons (in another hospital) had tried to push back the condylar head back into the glenoid fossa. This resulted in fracture of the mandibular angle. Radiographic examination revealed that the fracture was as a result of a cystic lesion in the region of the angle. The cystic lesion was curetted and the fracture was reduced and fixed with Titanium plates and screws. In a scleroderma patient, there is chance for resorption of the angle of the mandible. So when there is subluxation, it should be reduced only under skeletal muscle relaxants to avoid mandibular angle fracture.

Introduction

Scleroderma or systemic sclerosis is a systemic connective tissue disease, characterized by vasomotor disturbances, fibrosis, subsequent atrophy of the skin, subcutaneous tissue, muscles and internal organs (eg: alimentary tract, lungs, heart, kidney, CNS) with associated immunological disturbances. Progressive systemic sclerosis is characterized by ultimate induration of the skin and fixation of the epidermis to the deeper subcutaneous tissues. Greatest incidence is between 30 and 50 years of age. The tongue, soft palate and larynx are the intra-oral structures commonly involved. Limitation of mouth opening is seen in many cases. Reduced opening of the mouth and fixation of the jaw are a result of involvement of the peri-temporomandibular joint tissues. Bone resorption of the angle of the mandible, usually bilaterally, has been reported. Rarely, there has been partial or complete resorption of condyles and/or coronoid process of the mandible.

Case report

A 35 year old male patient came to the Department of Oral and Maxillofacial Surgery of Azeezia college of Dental Sciences and Research with the complaint of difficulty in opening and closing the mouth. On history taking, we came to know that the patient earlier had a subluxation of the TMJ and was referred to another hospital. The surgeons had tried to push back the condylar head back into the glenoid fossa which resulted in fracture of the angle of the mandible. Radiographic examination shows that the fracture of the angle of the mandible was as a result of a cystic lesion in the region of the angle. (Pathological fracture)

Surgical Procedure

Sub-mandibular or Risdon's incision was done to access the angle of the mandible. The skin and subcutaneous tissue were incised with a scalpel down to the level of the platysma and the skin was undermined. The platysma was then sharply divided



Pre-operative photograph



Pre-operative radiographs



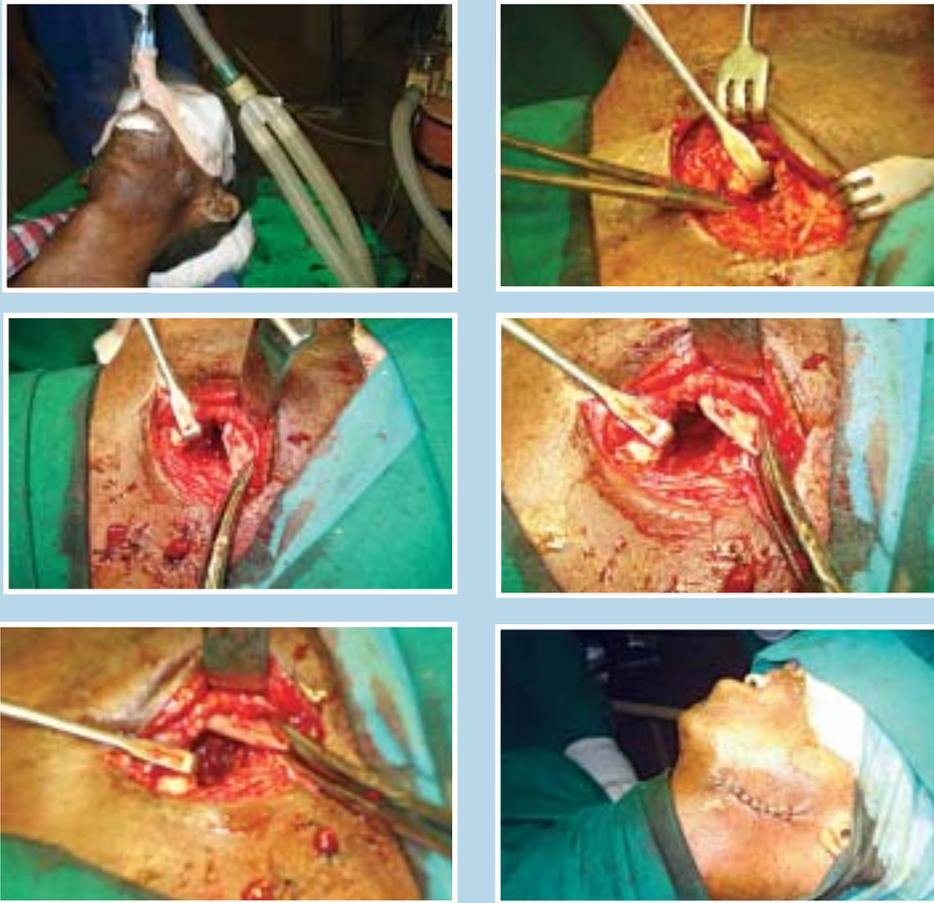


Fig. 1-6 Surgical procedure



Fig. 7 Post-operative radiograph



Fig. 8 Post-operative photographs



Fig. 9 Post-operative occlusion

exposing the superficial layer of the deep cervical fascia. The facial artery and vein were clamped, divided and ligated. The dissection was continued towards the mandible exposing the pterygomasseteric sling posteriorly. Division of this layer was done to expose the inferior border of the mandible after cutting through the final periosteal layer. When the angle of the mandible was accessed, curettage of the cystic lesion was done and the fracture was reduced and fixed with Titanium plates and screws. Then closure of the incision was done in layers.

Discussion:

There is a chance for resorption of the angle of the mandible in scleroderma patients. So when there is a subluxation, it should be reduced only under skeletal muscle relaxants to avoid mandibular angle fracture.

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Management of fractured edentulous mandible with gunning splint

* Harshakumar, ** Anitha Gopinathan ** Ajith Kumar P.K.

Abstract

Maxillofacial surgical procedures and prosthodontic interventions are most often complimentary. This becomes particularly significant in the management of fractured edentulous jaws. An exclusive surgical management by means of plate fixation may not be feasible always especially because of underlying diseases the patient is suffering from. In such cases the oral surgeon, after assessing the exact nature and extent of fracture should communicate with the prosthodontist regarding the type of splint that would help in the management of fracture.

A completely edentulous elderly female patient reported with fractured mandible was managed by a combined prosthetic – oral surgical intervention.

Introduction

Management of fractured edentulous mandible has always been a challenging task for dental practitioner. Such mandibles usually have reduced cross sectional dimension with limited contact areas of the fractured ends. In addition the poorly vascularized dense and sclerotic bone exhibits low regenerative potential. Severely atrophic edentulous mandible, especially those having a radiographic height or 10 mm or less, are poor candidates for plate fixation under General Anesthesia. In addition the older patient who may be malnourished and in poor general health may preclude prolonged GA. Many patients are females with osteoporotic bones making screw fixation difficult and unreliable.

In the above circumstances Gunning splints could be the only option for the stabilization of the fractured mandible. The component of the splint that is fitted to the maxillary arch is fitted by means of per alveolar wiring. Additional wires may be passed through pyriform rim or around the zygomatic arch. In the mandibular arch, the component of the splint is fixed by circummandibular wiring. Screws can also be used to fix the splints. The jaws are immobilized for 4-6 weeks.

Case Report

A 65 year old female patient was referred to the Department of Prosthodontics, Govt. Dental College, Trivandrum from the Department of Oral & Maxillofacial Surgery for the fabrication of a splint to immobilize the fractured segments of bone. She had a fracture on the (Rt) body of the mandible, following

RTA one week prior to the day of reporting.

Medical history revealed myocardial infarction four months back, contraindicating plate fixation under GA. Moreover the patient was suffering from Diabetes Mellitus and Hypertension. She has been under medication for the past 10 years.

On examination the patient was asymptomatic with a minimally displaced fracture extending upto the base of the mandible. TMJ was palpable, mouth opening and mandibular movements were within normal limits. Intra oral examination revealed healing sockets in the lower anterior region from where the teeth were extracted. The mucosa was intact over the fractured segments on the body of the mandible. Panoramic radiograph was taken to confirm the diagnosis. (Fig. 1).

After examination, preliminary impression of the maxillary and mandibular arch were made with alginate impression material. Special trays were fabricated on diagnostic casts for final impression and border moulding was accomplished with low fusing impression compound. Final impression was made and master cast fabricated on permanent denture base.

The patient was recalled on the next day for jaw relation procedure. The vertical dimension and the centric relation were registered and transferred to an articulator.

In order to prevent any kind of movement between the maxillary and mandibular components of the splint a locking mechanism was incorporated. The anteroposterior movement was prevented by preparing a vertical rectangular keyway having a dimension of 3cm x 5cm on the maxillary occlusal rims and a

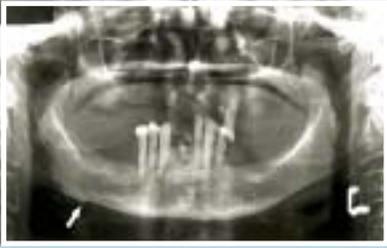


Fig. 1 Panoramic view showing fracture mandible before extraction



Fig. 2 Finished splint



Fig.3 Cases surfaces of the splint



Fig. 4 Tissue surface of the splint



Fig. 5 Intra oral view



Fig. 6 After insertion

corresponding key was fabricated on the mandibular occlusal rims that exactly fits into the keyway. A longitudinal 'step-like' preparation on the occlusal rims was incorporated so as to prevent any lateral movement. (Fig. 2, 3).

Stainless steel wire hooks were attached on each quadrant of wax occlusal rim on the buccal aspect approximately 5 mm above the occlusal plane. These hooks were used for passing ligature wire during immobilization.

A rectangular window was made on the anterior segment (4 cm x 4 cm) in dimension from canine to canine region for feeding purpose. The wax rim was finished, polished and processed in acrylic.

The patient was recalled on the third day for the insertion of gunning splint. The extensions, centric relation position, key-key way relationship were evaluated. The splint was finished and polished and fixed to the jaws in the Department of Oral & Maxillofacial Surgery. (Fig. 4,5 & 6).

Discussion

Gunning splints are indicated for the reduction, fixation and immobilization of unilateral and bilateral fractures of the edentulous mandible, where the fractures lying proximal to these areas can be controlled by intermaxillary fixation. These splints provide a form of indirect control on the bone fragments, transmitted through the mucoperiosteum.

Gunning splints are contra indicated in unfavourably displaced fractures lying outside the denture bearing areas, in projectile injuries involving grossly comminuted

soft tissue and bone loss, and in severe posterior displacement of fractures of the anterior part of the mandible. Extreme atrophy of the maxilla or mandible also complicates this technique.

Gunning splints can also be constructed from

- The patient's existing dentures suitably modified.
- Impressions made from patient's mouth.
- Models cast from the fitting surface of the patient's dentures.
- Prefabricated Gunning type splints.
- Disposable, edentulous impression trays without their handles.

Conclusion

Gunning splints offer control and support for the fractured segments of mandible. The easiness of fabrication and fixation of Gunning splint make them acceptable for practitioner as well as a compromised patient.

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Case Report

Osteogenesis imperfecta type IV

* Roopashri Rajesh Kashyap, ** Gopakumar R., *** Gogineni Subhas Babu, **** Sreejan C.K.

Abstract

Osteogenesis imperfecta is a heritable systemic disorder of the connective tissue.

Dentinogenesis imperfecta, which is sometimes an accompanying symptom of OI, belongs to a group of genetically conditioned dentin dysplasias and is characterized clinically by an opalescent amber appearance of the dentin. A case of DI associated with OI with a positive family history is presented in this paper. The purpose of this paper is to present the dental and skeletal characteristics of OI associated with DI and an insight into the genetic perspectives. Patients with OI and opalescent teeth should be evaluated as soon as the deciduous teeth erupt; immediate dental treatment and oral hygiene instructions can be of great help in reducing the need for extensive dental care.

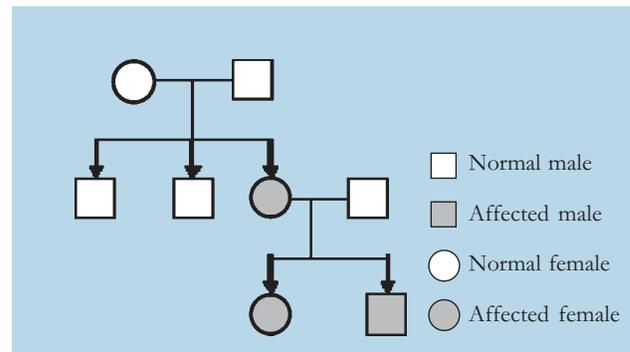
Introduction

Osteogenesis imperfecta (OI), is a clinically and genetically heterogeneous group of autosomal dominant inherited disorders characterized by bone fragility and fractures.¹ The clinical features commonly observed in patients with OI include abnormal bone formation, growth deficiency, bone fragility, blue sclerae, hearing loss, skin thinness, joint laxity, hypermobility and dentinogenesis imperfecta (DI). This disease causes either a decrease in collagen synthesis or the production of structurally defective collagen. Hence all tissues rich in type I collagen may be affected.² Diagnosis of mild OI is challenging due to its variable phenotypic expression and inconstant course. This article presents a case of moderately involved OI associated with DI with a brief review of clinical characteristics of OI.

Case report

A 32yrs old lady reported to Department of Oral Medicine and Radiology with the complaint of discoloured teeth. History revealed discoloured deciduous predecessors. Full coverage crown placement was done for upper and lower anteriors 10yrs back. (Few crowns dislodged 2yrs back). She also reported that she was diagnosed to have less dense bones when she was admitted to hospital 2yrs back for treatment of shoulder and hip dislocation. Also reported about the discoloured teeth of her both children.

She had short stature (141cm), barrel shaped chest, deformed shoulder, hyperextensible joints, absence of body hairs & brachycephalic skull. Facial features included triangular face, broad forehead, hypertelorism, white sclera, absence of malar eminence, prognathic mandible (Fig.1, Fig.2). Intra oral examination revealed multiple yellowish to brown coloured teeth with



generalized attrition, generalized spacing & antero-posterior cross bite (Fig.3). Dental examination of kids revealed opalescent teeth (fig4).

On carrying out further radiological investigations (Fig.5-6), Intra oral periapical radiograph showed normal thickness and density of enamel, complete obliteration of pulp chamber, thin slender roots and interdental bone loss. Panoramic radiograph showed that the intact teeth had bulbous crowns and marked cervical constriction & obliteration of pulp chamber of all teeth. Lateral cephalogram revealed hypoplastic maxilla, midfacial hypoplasia & prognathic mandible. Chest radiograph showed healing fractures with callus formation (patient was not aware of fractures) & dislocated left shoulder joint with maldeveloped scapula and superiorly placed glenoid articulating surface.

Ground section of extracted tooth showed absence of pulp space. Outer most layer of coronal dentin showed tubular structure; however radicular dentin and inner layers of coronal dentin showed altered tubular structure. Enamel and cementum appeared to be normal. Features were compatible with clinical diagnosis of dentinogenesis imperfecta (Fig.7, Fig.8). The patient was diagnosed to be suffering from OI type IV B.

TABLE I

TYPE OF OI	FEATURES	INHERITANCE
IA	Bone fragility Blue sclerae +/- Presenile hearing loss Normal teeth	Autosomal dominant
IB	Bone fragility Blue sclerae Dentinogenesis imperfecta +/- Presenile hearing loss	Autosomal dominant
II	Extreme bone fragility Crumpled bones Perinatal death	Autosomal recessive
III	Severe bone fragility Normal sclerae Severe growth retardation Skeletal deformity +/- Dentinogenesis imperfecta.	Autosomal recessive
IV A	Bone fragility Normal sclerae Normal teeth +/-Growth retardation +/- Skeletal deformity	Autosomal dominant
IV B	Bone fragility Normal sclerae +/-Growth retardation +/-Skeletal deformity Dentinogenesis imperfecta	Autosomal dominant

Extraction of teeth with poor prognosis followed by full mouth rehabilitation with full coverage crown was done.

Discussion

OI is one of the commonest of the genetic disorders of the bone, with an estimated incidence of 1 in 20,000.² Amongst the patients with OI, 10 -50% have been reported to have dentinogenesis imperfecta. Sillence (1981) proposed classification of OI⁵ (Table1) taking into account heterogeneity arising from variable dental findings in dominant pedigrees. Incidence of type IV OI is comparatively less, about 5% while that of type I is about 70%.⁴ Three scenarios that occur to cause a child to be born with OI

(1) Direct Inheritance from a Parent:-50% chance of passing on the disorder to next generation.

(2) A New Dominant Mutation:-The gene spontaneously mutated in either the sperm or the egg before the child's conception.

(3) Mosaicism:-Clinically unaffected parents with more than one affected child. The mutation occurred during the parent's fetal development.

Most forms of OI are the result of mutations in the genes, COL1A1 (17q21.3-q22) and COL1A2 (7q22.1)

that encode the pro- α 1 and pro- α 2 polypeptide chains of type I collagen. Tissues in which the principal matrix protein is type I collagen (mainly bone, dentin, sclera and ligaments) can be affected. Molecular genetic studies have identified more than 150 mutations of the genes, the possible cause for extreme phenotypic variations within the OI population.³

The most common defect observed is glycine substitution in the helical domain of the COL1A1 chain. Glycine is a critical component that must fit in a sterically restricted space where the three chains of the triple helix come together, with a correct ratio of α 1 and α 2 chains. However, if this ratio is disturbed, abnormal homotrimeric molecules with impaired mechanical properties will be formed.⁶ Mutations result in insufficient normal molecules, unstable molecules or molecules that will not form helices. Biochemical findings confirm genetic linkage of OI type IV to the pro α 2 (I) locus.

The clinical distinction between OI type I and OI type IV is the result of different mutations in the genes of type I collagen. In OI type I, there is a decrease in the amount of type I collagen produced by dermal fibroblasts whereas in OI type IV there is a subpopulation of type I collagen molecules with altered triple helical structure and increased posttranslational modification⁷.

People with OI type IV are usually short statured, with mild bowing of legs. Facies is triangular and frequently temporal bulging is noted. The maxilla may be hypoplastic with a relative mandibular prognathism, thus a high incidence of class III malocclusion, consistent with the features of our case. Sclerae are white in colour in contradiction to that of OI type I, where it is blue coloured. This is the main distinguishing feature between type I & type IV⁸. Muscle weakness, ligamentous laxity, joint hypermobility, joint dislocations, smooth thin skin, tendency for fracture are common due to defective collagen formation.⁹

Teeth affected, present with an opalescent grayish-brown hue. The enamel may be of normal thickness, but frequently is dislodged exposing the softer dentin which may be attributed to the smooth dentinoenamel junction. Teeth show complete obliteration of pulp chamber with altered dentin.¹⁰ Poor quality of dentin attributes for decreased crown retention in them. Dental treatment for children with OI with DI should be aimed to ensure favorable conditions for eruption of the permanent teeth and normal growth of the facial bones and temporomandibular joints.

In conclusion, OI consists of heritable systemic disorders of the connective tissue. DI is a possible accompanying symptom of OI and belongs to the group of genetically conditioned dentin dysplasias. Patients with OI and opalescent teeth should be evaluated as soon as the deciduous teeth erupt, so that an attempt can be made to prevent loss of tooth structure.



Fig.1 Short stature



Fig.2 White sclera



Fig.3 Generalized discoloured teeth with antero-posterior cross bite



Fig.4 Opalescent teeth of daughter (7yrs old)



Fig.5 Panoramic radiograph shows marked cervical constriction & obliteration of pulp chamber



Fig.6 Chest radiograph showing fractured ribs, dislocated left shoulder joint with maldeveloped scapula and superiorly placed glenoid articulating surface.



Fig.7 Scanner view of ground section of tooth shows obliteration of pulpal space.

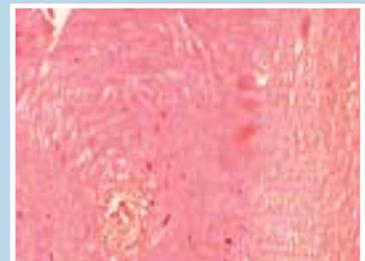


Fig.8 Photomicrograph of decalcified section shows irregular dentin tubules.

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Information

Dental Jewellery

* Shibu Thomas Mathew

Abstract

Dentists of today are finding that expertise and more people who consult them are no longer really patients. They are individuals who desire perfectly aligned sparkling white teeth, and who may even ask for tooth jewellery. Patients want a sparkling smile, dentists want teeth to be healthy. Dentists are committed to maintaining the health of teeth at all costs. The dental jewellery does not need to be pre-treated and is bonded onto the tooth in the same way as an orthodontic bracket. The purpose of this article is to create awareness about tooth jewellery and its implications.

Introduction

“Beauty lies in the eye of the beholder”. Teeth jewellery is a brilliant way to add sparkles to your smile and stand out of the crowd. Tooth jewellery is the latest thing in cosmetic dentistry - and it's popular with people of all ages. These tiny little designs are great fun, and because there's no drilling involved, they won't harm your teeth. Dental jewel is a **special decoration**, for example **diamond or another stone**, which can be attached to your teeth without consequences

Are you a suitable candidate for application of a dental jewel?

If you desire to endow your **smile with a jewel** and the teeth to which the jewel should be attached are healthy, you can be a suitable candidate for this treatment.

It is necessary to consider your **expectations** and realize that the dental jewel will be a new, **significant part of your look**. Be prepared that people can stare at you, most of them will appreciate the beauty of your decorated smile, but some of them can consider it too extravagant.

Dental skyce

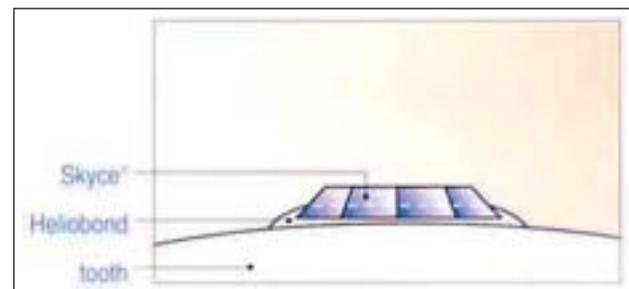


Skyce are clear and sapphire –white or blue crystals ... high-quality tooth jewels. Skyce can improve the appearance of your teeth far and away and emphasize whiteness of your smile.

Sticking of Skyce is absolutely harmless procedure for your teeth. It can be stuck on a surface of your tooth without deflection of an integrity of enamel what means without any preparation. It can be fixed on a place of an injured enamel, pigmented spot, mixture of a photopolymeric fillings and so on. The procedure is absolutely painless and takes only 10-20 minutes. As it has no sharp edges, it does not hurt your lips. If you wants to take it off in the future, it can be done very quickly, without pain and a disturbance of integrity of your tooth. Taking care of Skyce is nothing else than a regular brushing. It is your chance to combine between beauty and health in one harmless process!

Placement

1. Apply rubber dam
2. Carefully clean the contact surface using rotary brushes and cups and a polishing agent.
3. Etch the area with 37% phosphoric acid on the contact surface for 60 seconds, and carefully spray and clean the surface
4. Apply bonding agent and light cure
5. Place the bonding material on the contact surface and place the skyce on to the tooth, remove excess from the area, and then cure.





Dental crystals



These are applied same as for skyce.

Dazzlers, Twinkles

Twinkles are specially designed to be bonded to the tooth. Our patented backside similar to an orthodontic bracket makes Twinkles stay on as long as you choose. Twinkles are pure gold and precious stones like diamonds, sapphires and rubies. Dental crystals are glass mounted on a thin foil of aluminum to create the attractive spark. The bonding is not as durable but can easily last for more than 6 months.

Is it possible to remove the jewel?

The dental jewel is attached to the tooth with a substance, which does not damage the enamel, it is therefore **possible** to **remove** it or change it without consequences.

How long does the dental jewel last?

The dental jewel can last a relatively **long time**, it is however limited by the stress put on the decorated tooth

and dental care. If the jewel gets loose unexpectedly, it is possible to reattach it without consequences.

Conclusion

Apart from a temporary sensitivity of the teeth, triggered by the acid, nothing wrong can happen during this treatment. But the opposite is true in case of insufficient oral hygiene. Every piece of dental jewellery creates an ideal niche for caries bacteria. No dentist, no matter how perfect, can prevent that. If you don't brush your teeth carefully enough, your entire "Dazzling" tooth can fall victim to caries.

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Quiz

Rani Mol*, Anita Balan**

Q1. A young female patient presented with the facial features, in the photograph, which was of recent onset. The characteristic feature depicted in this picture is

- a) Marcus Gunn phenomenon
- b) Mobius syndrome
- c) Bell's sign
- d) Inverted Marcus Gunn phenomenon



Q2. What is the condition depicted in the radiograph?

- a) Globulomaxillary cyst
- b) Palatal Abscess
- c) # Maxilla with the missing fractured segment
- d) Cleft Palate



Q3. Routine radiographic examination revealed a radiopaque lesion involving the apex of 34. What is the inference?

- a) Hypercementosis
- b) Fixer splash
- c) Condensing osteitis
- d) Cementoma



Q4. Radiograph of a 38 year old male patient presented with pain of 48 revealed a unilocular radiolucency in the ramus region of the mandible. The most likely diagnosis is:

- a) Ameloblastoma
- b) Odontogenic Keratocyst
- c) Dentigerous cyst
- d) Residual cyst



Q5. A reddish discoloration of the right buccal mucosa was noted in a 67 year old patient of 3 year duration. She was asymptomatic but noticed an increase in size of the lesion recently. What is the condition?

- a) Haemangioma
- b) Erythroplakia
- c) Squamous cell carcinoma
- d) Purpuric macule



Q6. A 54 year old female patient presented to the OPD with a painless swelling of the palate of 6 months duration. The swelling increased slowly to the present size. The surface was nodular, the consistency was firm. Routine radiographic examination revealed no abnormalities. The probable diagnosis is:

- a) Squamous cell carcinoma
- b) Periapical cyst
- c) Pleomorphic adenoma
- d) Lipoma

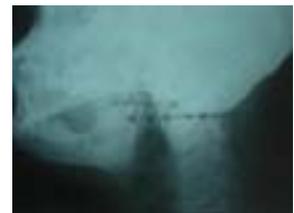


Q7. The radiographic feature depicted in this region indicated?

- a) Fracture
- b) Due to movement unsharpness
- c) Developmental anomaly
- d) Periapical pathology

Q8. The artifact in this radiograph is:

- a) Scratches
- b) Developer splash
- c) Staining
- d) Static electricity



Q9. A 28 day old child was brought to the OPD with the complaint of mobile lower front teeth present from birth. This condition is called:

- a) Microdontia
- b) Natal teeth
- c) Neo Natal teeth
- d) Eruption Sequestrum



Q10. What is the radiolucency associated with the central incisor in this photograph of a radiograph?

- a) External resorption
- b) Internal resorption
- c) Developer splash
- d) Lateral periodontal cyst



ANSWERS : 1.c; 2.d; 3.c; 4.c; 5.b; 6.c; 7.b; 8.d; 9.b; 10.a

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Secretary's Report and Association News



Secretary's Message

My Dear Fellow Members,

Wishing you all a Happy and Prosperous New Year-2009.

First of all let me express my sincere gratitude to each and every one of you for the confidence shown to us during the last IDA year. As the Hon State secretary I have entered the final lap of my office and I am extending my gratitude from the bottom of my heart to all of you for the confidence shown on me. This year we can expect new mantras from our versatile President Dr. K.N. Pratap Kumar. We are very much fortunate to have the most trusted and dedicated member Dr. K. Nandakumar who have shown his mettle to various capacities as our New Editor.

This year we were able to start our activities with a well organized office bearers workshop on 11th Jan at Kottayam. We are pipelining a few innovative programmes and hopefully we will be able to full fill them all successfully. Far sighting the vision for a good financial foundation to IDA Kerala State, this year State is directly hosting the Kerala State Dental Conference on 20,21&22nd Nov 09 at Calicut. I appeal to all of you to register at the earliest so that the COC can approach the conference with great confidence. All the members are requested to contact the local branch secretaries for the application forms for 42nd Kerala State Dental Conference, IDA HOPE, IDA IMAGE, DRS etc..

Once again expecting your whole hearted co-operation, let me conclude.

DR ANTONY THOMAS
Hon State Secretary

REPORT OF ACTIVITIES

Installation of new office bearers for the year 2008-09

Installation meeting was held on 23-11-08 at Hotel Cochin Durbar Nedumbassery.

1st State Executive Committee Meeting

Held on 23-11-08 at Hotel Cochin Durbar Nedumbassery

DRS Registration

The State office sent a representation to the Hon'ble Minister for Health and Family Welfare, Govt. of Kerala regarding the registration of Dental Clinics in Directorate of Radiation Safety. The State President and CDH convenor has met the minister and the minister has assured to take further actions regarding this after seeking reference from the concerned department.

Presidents' and Secretaries' Seminar-TUNE 2009

Held on 11-01-09 at Hotel Arcadia Kottayam. The seminar registration commenced at 9-30 am. The inaugural proceedings commenced with welcome speech by Dr Praveen J Thayil president IDA Central Kerala Kottayam Branch. He welcomed the dignitaries and office bearers. The chief guest Mr Mohammed Hanish IAS (Director Public Relations, Govt.of Kerala) inaugurated the seminar by lighting the traditional lamp and enlightened the crowd with a glistering speech. State President Dr Pratap Kumar, Guest of Honour Kerala Dental Council President Dr Mathew Joseph, President Elect Dr Samuel K Ninan, Vice presidents Dr. Jaibeen George, Dr. Sony Thomas and Dr Santhosh Sreedhar spoke on the occasion. State Secretary Dr Antony Thomas delivered the vote of thanks and the inaugural session was adjourned for the training session.

The opening of the training session started with the presidential priorities by Dr Pratap Kumar.

"Learn to Excel" training session was conducted by Mr Benny Kurian (JCI International Trainer).

The next to speak was Dr. Antony Thomas Hon Secretary. He presented the Calendar of Activities of IDA Kerala State



for the year 2008-09. The interactive session was very fruitful and the members were able to clarify their apprehensions regarding the constitution amendments.

The presentation on IDA HOPE by HOPE Secretary Dr Nizaro Siyo created an awareness of the same.

The post lunch session commenced with the training in Public Speaking and Quality leadership by Prof; Tomy Cherian (JCI international Trainer).

State CDE Convenor. Dr OV Sanal and State CDH Convenor Dr Anil G outlined about their projects and guide lines respectively. Website chairman Dr Madhavankutty detailed about the renovated IDA web site. Conference Secretary Dr Oommen George appealed all the branch officials for their active involvement in the forthcoming Kerala State Dental Conference at Calicut. Hon editor Dr K Nandakumar spoke about the plans of the new editorial team. The final session "Relax", stress management through Yoga and Meditation was enthralled by Mr EMG Nair (Chairman International Health and Peace Foundation). A total number of 97 members attended. The event was hosted by IDA Central Kerala Kottayam Branch. The chief Co-ordinators of the programme were Dr Eapen Thomas and Dr Anukesh.P. The programme was well organized by the host branch and congratulations and

appreciation to the Co-ordinators for making this programme a grand success.

New Year Celebration

President Dr Pratap Kumar cut the New Year cake during the inaugural ceremony of Presidents' and Secretaries' Seminar and shared the happiness of the occasion with the office bearers.

IDA Slogan

The slogan of the year "Learn to Excel in Life and in Profession" was released by chief guest Mr Mohammed Hanish IAS.

State level Advocacy workshop on Tobacco Control Laws

State president Dr KN Pratap Kumar attended the one day workshop organized by RCC Trivandrum on January 15th -09.

IDA HOPE

The bereaved family of Dr Raju K.S of Attingal Branch was the first beneficiary of the new scheme. The State President handed over a cheque for Rs 2,65000/- to the family of late Dr Raju KS on 18-01-09.

President's Visit

President Dr Pratap Kumar visited the following branches in connection with the installation ceremony and family get together.

26-10-08	Coastal Malabar
30-11-08	North Malabar
06-12-08	Malanadu
07-12-08	Thiruvalla
14-12-08	Malappuram
20-12-08	Kodungallur
21-12-08	Central Kerala Kottayam



21-12-08	Kollam
27-12-08	Kunnamkulam
28-12-08	Mavelikara
04-01-08	Tellicherry
03-01-09	Wayanad
04-01-08	Malabar
18-01-09	Attingal
25-01-09	Greenvalley

Secretary's Visit

Hon Secretary Dr Antony Thomas visited the following branches in connection with the installation ceremony and family get together.

07-12-08	Thiruvalla
14-12-08	Malappuram
20-12-08	Kodungallur
28-12-08	Mavelikkara
27-12-08	Nedumbasserry
21-12-08	Central Kerala Kottayam
21-12-08	Kollam
03-01-09	Wayanad
04-01-09	Malabar
04-01-09	Tellicherry

WINNERS OF I D A KERALA STATE AWARDS - 2008

1. Dr. K.G Nair Trophy for the Best Local Branch I D A Central Kerala Kottayam
 2. First Runner up - Best Local Branch I D A Malabar
 3. Second Runner up - Best Local Branch I D A North Malabar
 4. Dr. Samuel. K. Ninan Award for Best Local Branch President
Dr. Sherry. M. Joseph
 5. Runner up - Best Local Branch President Dr. Joseph CC
 6. Best Secretary - Local Branch Dr. Anukesh. P
 7. Runner up - Best Local Branch Secretary Dr. Anil Thunoli
 8. Best CDH Activities IDA Central Kerala Kottayam
 9. Runner up - Best CDH Activities IDA North Malabar
 10. Best - Scientific Activities IDA Central Kerala Kottayam
 11. Runner up - Best Scientific Activities IDA North Malabar
 12. Best Journal / Bulletin IDA Central Kerala Kottayam
 13. Membership Growth % up to 31st Oct. IDA Trivandrum
 14. IDA HOPE Award IDA Malabar
 15. Website Award IDA Central Kerala Kottayam
 16. Student Activity Award IDA Malappuram
 17. Dr. K.L. Baby Award for Best Scientific Paper in Kerala Dental Journal
Dr Sreeja. J (P.G Student Dept. of Conservative Dentistry & Endodontics Govt. Dental college Trivandrum)
 18. Other KDJ Awards for Best scientific Papers
(I) Under Graduate Student Category: Dr. Miss. Sreekala P. C
(II) Private Practitioner Category: Dr. Sha Menon. KC
(III) Academician Category: Dr. Anand Induchoodan
- Special Appreciation Awards:-**
1. Tele film Agnisakshiyayai...- I D A Malabar
 2. Free Dental Clinic Project- I D A Coastal Malabar Branch
 3. Tribal Project - Trident- I D A Chalakkudy
 4. Student Activities - I D A Malanadu
 5. Smile 2008- I D A Malappuram
 6. I D A- HOPE Membership Growth Award- I D A Malabar Branch
- Presidential Awards:-**
1. Dr. Viswanath. V
 2. Dr. Pratap Kumar. KN
 3. Dr. Anil Mathew
 4. Dr. Venugopal
 5. Adv. Shyam Padman
 6. Dr. Antony Thomas
- Best Performance Awards:-**
1. Dr. CK Ashokan (President IDA Kerala)
 2. Dr. Oommen George (IPP & I D A HOPE Ad-hoc committee chairman)
 3. Dr. V. Viswanath Chairman (I D A HOPE & Legal Cell)
 4. Dr. Pratap Kumar. KN. (For SRRADHA-Hapatitis immunization programme)
 5. Dr. Samuel. K. Ninan (1st Vice President)
 6. Dr. Habeeb Mohammad (2nd Vice President & Chairman I D A IMAGE)
 7. Dr. Shibu Rajagopal (3rd Vice President)
 8. Dr. Santhosh Sreedhar (Co-ordinator Oral Hygiene Day, Editor of KDJ)
 9. Dr. Mohammad Sameer. PT (CDH- Convener)
 10. Dr. Sanal. OV (CDE- Convener)
 11. Dr. Nizaro Siyo (I D A -HOPE Secretary)
 12. Dr. Joseph. CC (Co-ordinator No Tobacco Day)
 13. Dr. Ravindran Nair KS (Co-ordinator Presidents' & Secretaries' Seminar)
 14. Dr. Narayanan S. (Asst. Secretary)

15. Dr. Baby. K. Antony (Chairman - Awards Committee)
16. Dr. Ranjith. CK (Chairman - Students Committee)
17. Dr. Raveendranath.M (Chairman - Screening & Scruitnizing)
18. Dr. Madhavankutty. B (Chairman - Website)
19. Dr. Lalappan. K. Joseph (Co-ordinator - Dentists Day)
20. Dr. Sandeep Rajagopal (Co-ordinator - No Tobacco Day)
21. Dr. Sudheer. KT (Chairman Sports Committee)
22. Dr. Siby. T. Chenankara (For IDA Kochi Journal BIDA)

Trophy for Student Conference-08

1st Amrita College of Dental Sciences
 1st Runner up Mar Baselious Dental College Kothamangalam
 2nd Runner up Pushpagiri College of Dental Sciences

Student Award for the Year -2007-08

(For the Student of Calicut Dental College)
 Top Mark Award (I BDS) Sulakshana. K
 Top Mark Award (II BDS) Aby Abraham
 Top Mark Award (III BDS) Poornima Chandran. KR
 Top Mark Award (IV BDS) Miss. Neethu. L
 Top Mark Award (Final BDS) Ranjith. R

Dr. Jacob Zachariah Memorial Award for the Top Mark Scorer in Oral Pathology Anu K

II-Best Out Going Student Award
 Dr. K.K Pathrose Award - Vincia Paul

1. Dr. NS Rajeevan Memorial Award for Top Mark Scorer in Oral Surgery Vincia Paul

2. Dr Abu Mathew Memorial Award for the Best Student in Prosthodontics Jezanta D' Costa

3. Dr. Robin Titus Memorial Award for Top Mark Scorer in Orthodontics Neethu. L

Priya Saju Manavalan Endowment Award - For the first rank holder in the final BDS of all the universities in Kerala - Tintu Sara Chandy - P M S Dental College (Kerala University)

University Top Mark Awards - 2008

Top Mark Award Final BDS- Tintu Sara Chandy (Kerala University)
 Top Mark Award IInd BDS - Gayathri Krishnan (Kerala University)
 Top Mark Award Ist BDS - Litu Mary Thamby (M G University)
 Top Mark Award Ist BDS - Shamna Ibrahimkutty (M G University)
 Top Mark Award IInd BDS - Anju Treasa Andrews (M G University)
 Top Mark Award IIIrd BDS - Beenu. V (M G University)
 Top Mark Award Final BDS - Smitha Jose (M G University)
 Top Mark Award Ist BDS - Anjana Ramanathan (Amrita Vishwa Vidya Peetham University)
 Top Mark Award IInd BDS -Minu Mathew (A V V P U)
 Top Mark Award IIIrd BDS -Dhanya. S. Kumar (A V V P U)
 Top Mark Award Final BDS -Mahitha Mohan (A V V P U)

IDA MALAPPURAM BRANCH

1st CDE Programme was conducted on 16th of November, 2009 at Hotel Grand, Valanchery by Dr. Vishwanathan at 12pm. The subject was "How to Be a Good Standing Dentist". It was a short lecture and was attended by 58 members.



1st CDH Programme was conducted on the 4th of December, 2008 at Garden Valley English Medium School, Kuttipala at 1:30pm. 250 students attended the programme. Dr. Mohammed Sameer.P.T, President of IDA Malappuram Branch, conducted classes on Oral Hygiene methods and dental caries. Dr. Sameer.K.P, CDH Convenor, conducted a class on Tobacco and Oral cancer. The classes were well appreciated. Oral hygiene kits were distributed to the students. Mr. Hamza Master was the student co-ordinator of the programme.

2nd CDE Programme was conducted by the eminent British faculty, Dr. Sursh.V.Nair, on 14th of December, 2008 at 2pm at Hotel Food 'n' Fun, Kottakkal. He spoke on "Contemporary Endodontics and General Dentistry: A UK Perspective". 30 members attended the seminar. The president of IDA Malappuram, Dr. Sameer.P.T, and the Hon. Secretary of IDA Malappuram, Dr. Rajesh Raveendranathan, the IPP, Dr. Suresh.P.N and the CDE Convenor, Dr. Sasikumar.T.P were present. Certificates of attendance were distributed among the registered present members. It was a 2 hour session with a very

advanced powerpoint presentation. The seminar was very useful for the participants especially the deeper insights into bone grafting, newer obturation techniques, root resections and prosthetic appliances.

Installation General Body Meeting was held at Hotel Food 'n' Fun, Kottakkal on 14th of December, 2008 at 11am. The meeting was honoured by the presence of the Chief Guest Dr.K.T.Jaleel M.L.A. His speech on National Integration and Secularism was inspiring. Dr. Pratakumar.K, President Kerala State IDA, and Dr. Anthony Thomas, Hon. Secretary of Kerala State IDA, were among the dignitaries. The function was first presided by Dr. Suresh.P.N, the outgoing president of IDA Malappuram, and after the installation ceremony, by Dr. Sameer.P.T, the incoming president of IDA Malappuram. The new executive committee members of IDA Malappuram were installed during the function. Dr. Rajesh Raveendranathan, Hon. Secretary of IDA Malappuram, delivered the vote of thanks. The entertainment programmes consisted of a sumptuous lunch, games for kids and a "Kolkkali" programme.

DR. SHINY FRANCIS MEMORIAL ESSAY CPMPTITION

As part of the Indian Dental Association's Kerala State Anti-Tobacco Day celebration, MIDA has conceptualized Dr. Shiny Francis Memorial Trophy as a memoir to the late Dr. Shiny Francis, who had been an active member of MIDA. The trophy will be presented to the best Essay written by a female dentist/student of the Kerala dental fraternity. The subject is "Tobacco Related Oral Lesions". The essay should be presented as a Word document printed on an A4 size paper in not more than 1500 words. Entries should reach the Honorary Secretary, Dr. Rajesh Raveendranathan's, office on or before the 1st of May, 2009. *The address is as follows:*

Dr. Rajesh Raveendranathan, Indra Dental and TMJ-Care Centre, Manjeri Road, Uphill, Malappuram - 676 509, Kerala

For further details please contact the President, the Secretary or the CDE convenor of IDA, Malappuram Branch

IDA NEDUMBASSERY BRANCH

Activities for the period from 10th Nov 2008 to 10th Jan 2009

1. 41st Kerala State Dental Conference: 21st, 22nd, and 23rd Nov, 2008

Venue: Cochin Durbar Nedumbassery.

2. Executive meeting: 2nd December 2008

Venue: G B Palace Ankamaly.

3. Combined Executive meeting: At Ezhatumugham on 7th Dec 2008.

4. Installation and Christmas/ New Year Celebrations:

The Ninth Installation ceremony of the branch was held at Hotel Saj Earth- Nedumbassery on 27th Dec 2008.

Dr Samuel K Ninan (President Elect IDA Kerala State) was the chief guest and Dr Antony Thomas (Hon Sec IDA Kerala State), the guest of honour.

Dr Vinu PR was sworn in and installed as the President and Dr (Major) Jude John, the Hon sec. Dr Vinu then installed his team of executive members and also welcomed 7 new members who joined the branch on the auspicious day.

Dr Samuel K Ninan congratulated the branch for a



wonderful conference it put up. Dr Antony Thomas encouraged the members under the leadership of Dr Vinu, to bring more laurels to the branch.

After the official function was over it was time for merry making and joy. Santa Claus distributed gifts to all children present. It was followed by a musical extravaganza and games for adults and children.

5. 1st Executive for the year 2009 on 9th Jan 2009 at Periyar Club Aluva.

IDA KOCHI BRANCH



AGM and Installation Ceremony

IDA Kochi Branch had its Annual General Body Meeting and Installation Ceremony on 9th November 2008 at Whyte Fort Hotel, Maradu, Cochin. During the AGM, Dr. Rajesh Kottooran presented the Annual report and Dr. Anajana G presented the audited accounts, both of which were appreciated by the general body. Dr. Jose Julian gave his presidential address and thanked the office bearers and all the members for their kind support during his term.

The new address and telephone number of I.D.A Kochi Branch is as follows:

Dr. Vinod Mathew BDS DSS; Hon. Secretary IDA Kochi
Kattukaran's Multi-Speciality Dental Clinic
Varappan's Building, Banerji Road, Cochin 682 018
Tel: 0484 2355597; Mob: 94470 55598
E-mail: drkattookaran@yahoo.co.uk

Please be kind enough to make further correspondences to this address.

IDA Memberships

The new Calendar year started with the campaign to get maximum membership renewals before December 15th 2008. IDA Kochi is proud to have renewed memberships of over 150 members within this short period. In addition, ten new members have joined the association.

Executive Committee Meetings

IDA Kochi had its first executive committee meeting under Dr. V. A Afzal on the 11th of December 2008 at Hotel Gokulam Park Inn, Kaloor.

Membership renewal efforts, sponsorships for meetings, Planning for the Christmas and New Year program to be held on the 24th of January 2009, HOPE, IMAGE, DRS details etc were addressed by the secretary Dr. Vinod Mathew. Secretary thanked all the members who took part in the NOH program.

Later, Dr. Anjana.G briefed the ECM with the proposed budget. Efforts of Dr. Siby Chennankkara for getting the best Magazine award for Kochi IDA Journal – BIDA was appreciated and applauded.

IDA MAVELIKARA BRANCH

Report of activities November-December 2008

1. Dental Health Check up camp in association with IMA & the Diabetes Control Society.

A dental check up camp was organised by ida mavelikara branch in association with indian medical association and the diabetes control society, at st. Mary's cathedral auditorium on 6th November, 2008.

More than 300 patients were examined and free health care samples were distributed to the needy patients.

2. 1st Executive and General Body meeting on 6th December at Rotary Club of Mavelikara.

The first executive meeting and general body meeting of IDA Mavelikara was held on 6th December at the rotary club of mavelikara. The agenda was to decide about the installation ceremony and about the future activities of the branch. The official date of installation was decided as 28th December. The branch congratulated Dr. Anil. G for being selected as state CDH chairman. the members observed a moment of silent prayer for the demise of Mrs. Omana Ninan, mother of Dr. Sonia Susan and also the victims of Mumbai blasts.

3. Installation ceremony- December 28th at Hotel Bhagavath Gardens, Chengannur.



Dental check up

The installation of Dr. Renjith.R as the new president of the branch was held on the 28th of December at hotel bhagavath gardens, Chengannur, with the state president Dr. K.N. Prathap Kumar as the chief guest, Sri. Saji Cheriyan, Sports Council president as the guest of honour.

The other dignitaries on the dais were, Dr. Anthony Thomas, state secretary, Adv. Anil Panachooran (Poet & Lyricist), Dr. Samuel.K. Ninan, president elect ida kerala state and Dr. Anil. G state CDH chairman.

The meeting was followed by a nostalgic musical evening, dinner and fellowship.

DENTIST DAY CELEBRATIONS

IDA Kerala State (Hosted By IDA Mavelikara Branch)
Date: March 6, 2009 - Venue: Cooperative Bank Auditorium Mavelikara.
Celebrity Guest: Sri Jagathy Sreekumar
All IDA Members Are Invited To Attend The Programme.

Programme Schedule

1. Public Function- Importance Of Oral Hygiene Prevention Of Oral Cancer, 2. Students Cultural Programme, 3. Inauguration Of IDA Major Projects, 4. Awards Ceremony

Dr. Prathap Kumar K.N
President IDA Kerala State

Dr. Anthony Thomas
Hon. Secretary IDA Kerala State
Dr. Anil.G, CDH Convenor, IDA Kerala State

IDA MALANADU BRANCH



INSTALLATION CEREMONY 2008-09

The installation ceremony of IDA Malanadu Branch was on 06.12.08 at Brooke Side Club, Kolenchery. Master of Ceremony invited dignitaries to the dais. Dr. Jaymon K. Alias collared the president and the meeting was called to order at 8.30 p.m. by the president Dr. Sankar Vinod. After the prayer song by Miss. Anjana Alias. Dr. Giju George welcomed the gathering. Secretary Dr. Jaymon K. Alias presented the annual report for the year 2007-08 and was duly passed. In his presidential address Dr. Sankar Vinod thanked each and every member for their support and co-operation during the last year. Then Dr. Siju V. Jose introduced the incoming president. Dr. K.N. Pratap Kumar installed the new president Dr. Jose Paul and in

his acceptance speech he mentioned about his dreams for the coming IDA year. Dr. Jose Paul installed the Office Bearers for the year 2008 – 09. Dr. Babu John introduced our chief guest Dr. K. N. Pratap Kumar – IDA Kerala State President and in his address he offered all the support from the state branch for the coming year. Dr. Benny Augustine introduced the guest of honour Prof. Dr. George Paul and the new projects for the year was inaugurated by him. Dr. Jaibin George first vice president IDA Kerala State felicitated the new team. 18 new members were inducted to our IDA Malanadu Family. Invited guest and other club members felicitated the new team. Dr. Sankar Vinod, Dr. P.I. Kochukunju and Dr. Reeja Baby were the winners of the package tour to Ooty Sponsored by Fortune Retreats, Cochin. Dr. Byju Paul Kurian proposed the vote of thanks. After the National Anthem the meeting was adjourned for variety entertainments, fellowship and dinner.

1st EXECUTIVE MEETING

The First Executive meeting was on 23.12.08 at Paray Hotel Muvattupuzha hosted by Dr. Jose Paul, Dr. Jaymon K. Alias and Dr. Giju George. After the discussion the meeting is adjourned for fellowship and dinner.

IDA THRISSUR BRANCH



Installation Ceremony 2008-2009

The office bearer of IDA Thrissur has taken charge on 13-12-08, under the leadership of President Dr. Anil Das and Hon. Secretary Dr. Ajmel Habeeb.

Activities in December 2008

1. Combined executive meeting of Office bearers of 2008 & 2009 held on 29-11-08 at Aquatics. 15 Members attend the meeting.

2. First general body and installation of office bearers of 2008-2009 held at Hotel Joys Palace on 13-12-08. Dr. Antony J. Maliakal delivered pledge to all office bearers. This was followed by CDE programme - Distraction Osteogenesis by Dr. Vinay V. Kumar. 63 members attended the meeting.



Golden Jubilee Celebrations of GOVT. DENTAL COLLEGE THIRUVANANTHAPURAM (1959-2009)

Government Dental College (GDC), Thiruvananthapuram is one of the premier Institutions in India, dedicated to Dental Education. It was started in the year 1959 and presently offers both undergraduate and postgraduate courses. GDC produced several outstanding professionals who made the country proud in the last 50 years. A good number of students who have graduated from this Institution are today occupying prestigious positions in the profession and in the administration. Many of the students from this college have made name abroad, both in profession and in other walks of life.



GDC attracts a large number of patients from all over the state because of the high professional standards and provides excellent clinical material for training and research. The college has an excellent teaching faculty of senior experienced and young enthusiastic academicians. Institution is marching ahead with a determination to achieve greater professional standards.

Highlights of Golden Jubilee Celebrations

Inaugural Function : 8th Feb 2009

Family Get together : 11th and 12th July

**CDE Programmes : 2nd Saturdays /
2nd Sunday**

Valedictory Function : 20th December '09

Marching towards Greater Heights.....

Govt. Dental College, Medical College Campus,
Thiruvananthapuram - 695 011. Tel: 0471-2444092, www.gdctvm.net



IDA KCON 09



42nd Kerala State Dental Conference
Conducted under the flagship of IDA Kerala State

20,21,22 -November -09

HOTEL GATEWAY - (TAJ)
PT Usha Road, Calicut

Team Work - Treatment Possibilities

Download the Registration form on - www.idakerala.org



Kerala Dental Journal

GUIDELINES

Manuscripts: Articles should be type written on one side of A4 size (21x28cm) White paper in double spacing with a sufficient margin. One Original and two high quality xerox copies should be submitted. The author's name is to be written only on the original copy and not on the two xerox copies. **In addition to the printed version, a CD containing the article file also should be submitted compulsorily.** Use a clear and concise reporting style. KDJ reserves the right to edit manuscript, to accommodate space and style requirements. Authors are advised to retain a copy for the reference.

Title Page: Title page should include the title of the article and the name, degrees, positions, professional affiliations of each author. The corresponding authors, telephone, e-mail address, fax and complete mailing address must be given.

Abstract: An abstract of the article not exceeding 200 words should be included with abbreviated title for the page head use. Abstract should state the objectives, methodology, results and conclusions.

Tables: Tables should be self explanatory, numbered in roman numbers, according to the order in the text and type on separate sheets of paper. Number and legend should be typed on top of the table.

Illustrations: Illustrations should be clearly numbered and legends should be typed on a separate sheet of paper, while each figure should be referred to the text. Good black and white glossy photographs or drawings drawn in black Indian ink on drawing paper should be provided.

Colour photographs will be published as per availability of funds. It will incur printing cost. Otherwise the cost of printing will be at the expense of authors. Photographs of X-rays should be sent and not the original X-rays. Prints should be clear and glossy. On the back of each print in the upper right corner, write lightly the figure number and author's name; indicate top of the photograph with an arrow of word 'Top' Slides

and X-ray photographs should be identified similarly.

Reference: Reference should be selective and keyed in numerical order to the text in Vancouver Style. Type them double spaced on a separate sheet of paper. Journal references must include author's names, article title, journal name, volume number, page number and year. Book reference must include author's or editor's names, chapter title, book title, edition number, publisher, year and page numbers.

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