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President's Message

Dr. Samuel K. Ninan

Theme - "Caring For You Sincerely"

I pen this message for the last time as the President of IDA Kerala State 2010. The time has come to hand over the baton to my successor. I am extremely happy to step down as I could fulfill the dreams and could stand by the members in their hours of need. I took Charge in November 2009 as one of the youngest Presidents of the State. Definitely the tremendous support expressed by the members gave me courage to take firm steps. I was lucky to have a dedicated team of office bearers who worked with single mind and caring for each other. Thanks to our State Secretary Dr. Shibu Rajagopal, CDH chairman Dr. Joseph. C.C., CDE Chairman Dr. Jaibin George, Editor Dr. K. Nandakumar, website in charge Dr. Rajiv Simon, subcommittee chairmen and local branches who were in the active front and all the other state office bearers who supported us from behind. National leaders, State executive committee members, local branch office bearers, past office bearers, members and sponsors constantly supported my tenure. My personal friends are my assets and I owe them for criticizing and guiding. I am proud to present few achievements of our team in the last twelve months.

1. Implementation of Hospital Protection Bill in Kerala to protect our institutions, doctors and staff - participated in Hunger strike at the Secretariat, along with IMA and created a new relationship with many other medical associations.
2. Inauguration of the first permanent study centre in India at IMA House Kochi and hosted Central Council meeting and a well participated national CDE in Kerala.
3. Considerable increase in IDA membership and two local branches reporting 100 % membership Growth. More representation from our state to Head office.
4. A total shift in the conduct of CDE Programmes with free/ minimum registration charges, clinical topics, reputed faculties, exotic locations, over night sessions, banquets etc. Conducted the largest ever attended CDE in India at Thiruvalla.
5. Initiated the clinical research study on Xerostomia and other disorders in association with Pain and Palliative care institute, Kozhikkodu which is first of its kind. Initiated a long term project to manufacture and supply Patient drapes and towels for Dental clinics in association with pain and palliative care centres. Supported many of these centres through IDA local Branches as a part of our social commitments and public relations.
6. Inaugurated www.idakerala.com with exciting features- became the largest dental portal in Kerala. Initiated Electronic reporting and communications by local branches and members and SMS facilities to update all our members instantly.
7. Conducted the Dental Students conference as a two day programme for the first time with a participation of over 90% of Dental Colleges in Kerala. Dental college principal's summit was also conducted in the presence of national leaders.
8. For the first time, Dentists day was celebrated as a national event. Smile Kerala dental camps were organized throughout the state. Initiated women's Dental council & past presidents' council.
9. Initiated "Chilamboli -10" a separate cultural day for IDA families. Released a theme song for IDA. Sports day was conducted as a two days event and added many more events.
10. Re-launched NOHP and could release a uniform power point presentation on various dental diseases and treatments. Conducted "Prathyasa" Free Denture delivery project for poor.
11. For the first time Kerala State Dental Conference will be conducted as a four days event and all the past Presidents of IDA Kerala state will be the invited guests.
12. Enhanced our relationship with the traders and laboratories. Achieved good support from the head office in all the state activities. Created many new additional financial resources for the smooth conduct of the activities.

These are in addition to our regular activities like Presidents and Secretaries seminar, anti-tobacco day, oral hygiene day, executive committee meetings, school dental health programmes, International quality Journals, local branch activities etc.

Once again I thank you all for your support. I will always be sincere to the profession and caring for each one of you in all possible ways. I love to be cared by you even in future.

Thank you, Jai IDA…….

Dr. Samuel K. Ninan.

Pathanamthitta,
25-09-10.

Our social responsibilities

Dr. K. Nandakumar

Indian Dental Association has been functioning in this country as a very responsible professional organization for quite a long time. In the initial phases we got organized ourselves, identified our own professional potential, improved the academic standards and professional competencies by organizing educational programmes and made an opportunity to meet each other in large numbers to exchange all kinds of ideas. IDA has matured enough to give back to the society what it needs from us. In early sixties dentists could never receive glowing tributes rather it received scathing attack from our own professionals for the insensitivity. Now the trend is changed. Our members show great concern to the economically weaker sections of the society by offering free treatment. The association of IDA in palliative care and oral cancer prevention initiatives is laudable. IDA has been successful in channelizing 'profession – industry' participation to improve oral health status of our children and it has become a successful programme conducted annually.

We should educate our members and the public about the health hazards attributed to tobacco product use and should make use of both electronic and print media to pass the message. We should make all our meetings smoke-free and actively urge members, other speciality societies, dental colleges and others to adopt anti-smoking policies for their offices and meetings. The disposables and stationary produced along with our sponsored schemes should contain a message to prevent cancer.

Now we should have, target oriented programmes which should not be limited to geographical barriers. We should aim to boost international knowledge exchange, improve the quality of health care worldwide and link dental professionals to events, organizations, professional activities and volunteer opportunities around the world.

IDA should institute a Humanitarian Award to honor individual members who have distinguished themselves by providing outstanding, unselfish leadership and contributions to their fellow human beings in the field of dentistry through the dedication of extraordinary time and professional skills to improve the oral health of under privileged populations. This will bring many of our members to the mainstream of social service.

Let us all remember one fact: service is the rent we pay for our room on earth.

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Laminate veneer

In dentistry, a veneer is a thin layer of restorative material placed over a tooth surface, either to improve the aesthetics of a tooth, or to protect a damaged tooth surface. There are two main types of material used to fabricate a veneer, composite and dental porcelain. A composite veneer may be directly placed (built-up in the mouth), or indirectly fabricated by a dental technician in a dental laboratory, and later bonded to the tooth, typically using a resin cement. In contrast, a porcelain veneer may only be indirectly fabricated.

Veneers were invented by a California dentist named Charles Pincus. At the time, they fell off in a very short time as they were held on by denture adhesive. They were, however, useful for temporarily changing the appearance of actors' teeth.

Veneers are an important tool for the cosmetic dentist. A dentist may use one veneer to restore a single tooth that may have been fractured or discolored, or multiple teeth to create a "Hollywood" type of makeover. Many people have small teeth resulting in spaces that may not be easily closed by orthodontics. Some people have worn away the edges of their teeth resulting in a prematurely aged appearance, while others may have malpositioned teeth that appear crooked. Multiple veneers can close these spaces, lengthen teeth that have been shortened by wear, provide a uniform color, shape, and symmetry, and make the teeth appear straight.

In the past, the only way to correct dental imperfections was to cover the tooth with a crown. Today, in most cases there are several alternatives: crown, composite resin bonding or porcelain veneer or even cosmetic contouring or orthodontics

Non-permanent dental veneers are available. These dental veneers are molded to existing teeth and are removable and reusable and are made from a flexible resin material. Do it yourself at home kits are also available for the impression-taking process. Actual veneers are made in the lab and sent to the wearer through the mail.

Cover case: Arun Kumar G., Lin C. Kovoor, Department of Prosthodontics, Rajas Dental College, Tirunelveli

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A comparative evaluation of flexural properties of flexible denture base material and compression molded heat polymerized denture base material - an in vitro study

* Sheeba Gladstone, ** Arun Kumar G.

Abstract

Two denture base materials namely flexible denture base material (Lucitone FRS) and compression molded heat polymerized denture base material (Trevalon) were studied for their mechanical properties. The study confirmed that compression molded heat polymerized denture base material showed better values than flexible denture base material in terms of flexural strength and flexural modulus.

Introduction

Compression molded heat polymerized resins and thermoplastic resins have been used in dentistry for over two centuries. The first denture base material to be used was Vulcanite (vulcanized rubber or ebonite) in the year 1851. It was patented by Nelson Goodyear. Compression molded heat polymerized poly (methyl methacrylate) or PMMA was for the first time used as a denture base material in the early 1930s.This was followed by the invention of thermoplastic resin-Fluropolymer (Teflon type plastic) in the year 1962.

Of all the available denture base resins in the past PMMA became instantly successful. For a long time PMMA had no challengers as compatible denture base material. Later on, it was found that polymerization shrinkage and allergy to the residual monomer were the most common causes of failure in fabricating denture bases with PMMA. The recent developments in the field of Science of Dental Materials and polymer technology enabled us to overcome some of the drawbacks of PAMMA by improvisation and development of newer and more novel forms of denture base resins. Flexible denture resin is one such invention.

Aims and objectives of the study

To study the flexural strength and flexural modulus of two different denture base materials namely, compression molded heat polymerized denture base material (Trevalon) and flexible denture base material (Lucitone FRS).

Sample Preparation

A total of 24 specimens were prepared from the two different types of denture base materials namely, Trevalon and Lucitone FRS to test two mechanical properties.

Specimen preparation

The specimen preparations were carried out in accordance with the conditions laid down in the ISO Specification no.1567, for denture base polymers. The master moulds were made of Perspex of dimension 68 x 50 x 4 mm with a slight convergence to one end. The master Perspex moulds were invested in gypsum in their respective dental flasks. After the dental stone was set, the mould plates were removed to create space for packing or injecting denture base resin.

Compression molded heat polymerized denture base material:

In the compression molding technique metal flasks were employed to prepare Trevalon specimens. Mould separation, packing, clamping and curing followed standard practice. All specimens were polymerized in thermostatically controlled water bath (Model: samit, India) according to the manufacturer's instructions. Once the curing was over the flasks were allowed to bench cool before being deflasked. The samples were obtained from the flasks.

Flexible denture base material:

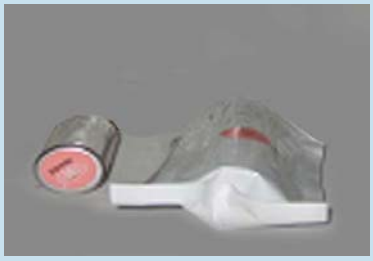
The flexible denture base material was supplied as a single component in the cartridge form. The flask system used for the study was success injection system, Dentsply. Here also mould separation, sprue preparation, packing, clamping and curing followed standard practice. The injection molding pressure was maintained at 5 bars for1minute on injection of the resin. Immediately after the injection process, the assembly was removed and disengaged. The dental flask was bench – cooled for 5 minutes before being deflasked. After divesting, the blanks were removed from the mold and the sprues were separated from the sample with a cut – off disc.

Final specimen preparation:

From each sample plate three specimen strips were prepared by using computerized cutting machine (Model no. 2104).The specimen strips were wet ground using 600 grit silica paper. The final dimensions of the specimen were 64 x 10 x 2.5 mm. Each specimen was individually measured by a vernier caliper (Mitutoyo Digmatic caliper). All the specimens were stored in distilled water at 37 $\pm$ 1^{0}C in an incubator for 7 days.

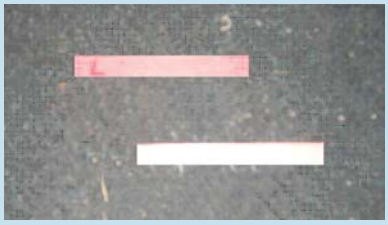
Materials used in this study

Compression molded heat polymerized denture base material (Trevalon)



Flexible denture base material (Lucitone FRS)

Master mould and test samples



Master Perspex blank

Final test samples

Sample Mounted for Testing

Instron 3365 for testing flexural propertie

Measurement of properties:

The samples were taken out from the incubator 5 minutes before the test and transferred to room temperature at 18^0C.The tests for mechanical properties were carried out in accordance with the conditions laid down in the ISO specification no. 1567 for denture base polymers.

(a)Flexural Strength (FS)

The testing of the flexural strength was performed with the universal testing machine (Instron no.3365) with a cross head speed set at 5mm min^{-1}. Each specimen was placed with its flat surface symmetrically on the supports. The ring length measured 50 mm. The force of loading plunger was increased from zero until the specimen broke as in the case of Trevalon. In the case of Lucitone FRS the specimen rolled off from the jig.

Flexural strength was calculated from the formula, $FS = 3\ fl\ /2\ b\ h^2$ (Where FS-Flexural strength, *f* - maximum load exerted (N), *l* - distance between the supports (mm), *b* - width of the samples (mm), *h* - depth of the samples (mm))

(a) Flexural Modulus (E)

The testing of the flexural modulus was performed with the universal testing machine (Instron no.3365) with a cross head speed set at 5 mm min^{-1}. Each specimen was placed with its flat surface symmetrically on the supports. The ring length measured 50 mm. The force of loading plunger was increased from zero until the specimen broke as in the case of Trevalon. In the case of Lucitone FRS the specimen rolled off from the jig.

Flexural Modulus was calculated from the formula, $E = l^3 f/\ 4\ bh^3 d$

(Where E-flexural modulus, *f*-maximum load exerted (N), *l*-distance between the supports (mm), *b*-width of the samples (mm), *d*-deflection corresponding to load *f* at a point in the straight line portion of trace, *h*-depth of the samples (mm))

Discussion

The denture base is the part of the denture which rests on the soft tissues and does not include the artificial teeth. The denture bases should be made of materials which are strong, rigid and biocompatible in order to serve successfully for a reasonable length of time.

Vulcanite was the first material used for fabrication of denture bases. The Vulcanite was both hard and flexible. It could be molded into required shapes by pre-heating and special instruments. However its chief disadvantages were poor esthetics and dimensional instability. This limited Vulcanite's use as a successful denture base material.

In 1930 acrylic resin PMMA replaced Vulcanite as denture base material. It became popular instantly. Later on it was found that it had the disadvantage of polymerization shrinkage and allergic reaction (in some patients).

The twenty first century marked the resurrection of Vulcanite as a successful denture base material. The old Vulcanite was reinforced with nylon, glass-fibers etc. to render it strong, dimensionally accurate and unbreakable. This new product was also more esthetic in appearance. It had the added advantage of being monomer free and hence no allergic potential.

The new generation Vulcanites were collectively called as flexible resins. The flexible resin- Lucitone FRS is chemically nylon based plastic polyamide. It had long term performance. Polymer unzipping was negligible and hence highly stable. It also had high creep resistance and fatigue endurance. It had good wear characteristics and solvent resistance. It had no porosity, no biological material build up, odor or staining from external source. It could be relined and repaired easily. It also had good dimensional and color stability.

Result

Table I Table showing basic data for flexural strength in (MPa)

Materials	Test Number					
	1	2	3	4	5	6
Trevalon	95.16	101.35	105.78	87.44	96.41	98.48
Lucitone FRS	58.93	57.92	55.01	59.00	57.00	55.30

Table II Table showing basic data for flexural modulus in (MPa)

Materials	Test Number					
	1	2	3	4	5	6
Trevalon	2966.50	2877.84	2810.26	2817.59	2787.50	2786.30
Lucitone FRS	1338.47	1314.72	1422.73	1416.45	1349.01	1250.31

(a) Specimen preparation and the test for analyzing the mechanical properties of denture bases were carried out according to ISO Specification for denture base polymers (1567).

(b) Flexural Strength

In the evaluation of denture base resins, flexural strength measurements were used to a great extend because it more closely represented the type of loading applied to a denture in the mouth. Also flexural strength was mandatory to avoid distortion of the prosthesis on loading. Table I shows the basic data of flexural strength in MPa for the two denture base materials. Their values ranged from 105.78 MPa to 87.44 MPa for Trevalon and 59.00 MPa to 55.30 MPa for Lucitone FRS. The highest value for flexural strength was obtained for Trevalon.

Flexural strength was compared using student's t test parametric analysis. There was statistically significant difference of ($P < 0.01$) for flexural strength between Lucitone FRS and Trevalon. In the study Trevalon was found to have more flexural strength than Lucitone. The higher flexural strength of Trevalon can be attributed to its medium to high molecular weight linear polymer molecules with mono functional groups. On the other hand the reduced flexural strength of Lucitone FRS might be due to its low molecular weight, linear poly – amide chains which exhibited decreased strength and rigidity.

(c) Flexural Modulus

The strength of a material was crucial for the selection of a particular denture base material. Strong denture base materials resist deformation, fracture and hence offered increased possibility of clinical success. Table II shows the basic data of flexural modulus in MPa for the two denture base materials. Their values ranged from 2966.50 MPa to 2786.30 MPa for Trevalon and 1422.73 MPa to 1250.31 MPa for Lucitone FRS. The highest value for flexural modulus was obtained for Trevalon.

Statistical analysis confirmed that there is statistically significant difference of ($P<0.01$) for flexural modulus between Lucitone FRS and Trevalon. Hence among the two denture base materials tested, Trevalon offered more flexural modulus.

Summary and Conclusion

Denture bases are critical component of Prosthodontics. They play key role in the denture acceptance and satisfaction by the patient. They act as foundation from where denture teeth could be constructed.

The present study highlights the mechanical properties of two different denture base materials namely Trevalon and Lucitone FRS. In the study Trevalon showed higher values of flexural strength and flexural modulus than Lucitone FRS. From the study it can be concluded that Trevalon can be successfully used in cases where cross arch stabilization is required and also in cases where surface area of dental arch was large. On the other hand Lucitone FRS could be successfully used in cases of small arch complete dentures, removable partial dentures and in cases where aesthetics was given prime importance. It could also be used in cases were patient was allergic to monomer and also in cases with severe undercuts were surgery was contraindicated.

A thorough knowledge of the handling characteristics, properties and techniques in the fabrication of denture base materials is necessary for the success of denture construction. The information presented in the study will aid the Dentist in selection of denture base materials for specific cases.

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Innovation

A technique to locate implant using indigenous device

* Kurien Varghese

Abstract

Many factors contribute to the success of implants ,out of these accurate placement of implant is one of them . Despite tremendous advances in the field of implant dentistry over the recent years, some of the key core principles in this complex discipline remain unchanged. Long term success of an endosseous dental implant has significant correlation to its ideal positioning for function. The correct implant position is so important that this factor alone may outweigh the advent of complex surface technology, advances in surgical techniques, or the intricacies of occlusal load factors in many clinical situations. Planning of each case is very important , a novice should plan each case with utmost care .Here a step by step procedure for fabrication of cost effective surgical guide made from motor bike nibble for effective placement of implant is presented

Introduction

Implant supported crowns and bridges is now slowly and steadily replacing tooth supported fixed partial dentures .Five years from now 90% of the tooth supported FPD will be replaced by implant supported one. Several companies are now offering implants at affordable rates, patients are willing to do implants. The optimal placement of osseointegerated dental implants is extremely important in order that the final restorative results satisfies the patient's need for comfort, function, esthetics and ease of maintainance. This is particulary important with crown and bridge implant supported applications in the partially edentulous patient .During the initial surgical phase, it is often difficult for the specialist to accurately identify the ideal implant positions without the aid of a surgical stent or guide. The problem in treatment planning and design of any implant-retained or -supported prosthesis is the ability to achieve parallelism and optimal placement of the implants. For attachments to engage and seat properly, we must consider placement in relation to the path of insertion, tooth arrangement, and occlusal scheme. There are various techniques that can be employed to design and create a surgical guide, including computer guided and designed. Most of the implant treatment plans involved with are not computer guided. For these, a surgical guide must be designed that meets the surgeon's objectives and restorative dentist's expectations.

The Implant Positioning Guide

A surgical guide is "a guide, derived from the diagnostic wax-up, used to assist in the preparation for and placement of dental implants. It dictates drilling position and angulation." A number of types of guides and templates have been described in the literature. The surgical guide should accurately translate diagnostic information from pre-surgical diagnostic workup to direct implant placement in three dimentions, (1) bucco-linulally, (2) mesio-distally, and (3) apicocoronally. In clinical situations where surgical guides were not used, and operators relied on "eyeballing" for implant positioning ,may result in improper positioning of the implants resulting in prosthetic inefficiency .There are many instances in which poor planning resulting in accidental perforation of the lingual cortex and and buccal cortex which can later result in failure of implants.

Ideally, the surgical guide should be

1. simple and cost-effective to fabricate
2. stable retention in surgical field
3. easy access of drills / guide pins / osteotomes intra-operatively
4. ability to translate pre-surgical work-up information accurately to operating field
5. should provide enough space for reflection of mucoperiosteal flap

Analysis

The most critical and least used technique in the dental laboratory is a model analysis. I hope we are past the days when dental laboratory technicians are handed a fixture-level impression with prescription that states, Make a prostheses . When receiving a prescription like this, always think: to what, why, and where? If we are to exceed the patient's desired expectations, then there must be collaboration and communication before the analysis and design

Design

Once the technical prosthetic variables\ involved are understood and discussed by the dental team (surgeon, dental technician, and restorative dentist) with a thorough model and radiograph analysis, the treatment planning and design phase can begin. After communicating the


Fig 1


Fig 2


Fig 3


Fig 4


Fig 5


Fig 6


Fig 7


Fig 8

patient's expectations, existing prosthesis problems, angulations of residual ridge, width of residual ridge, optimal placement of teeth, and occlusal scheme, we now can intelligently design the case

Fabrication

The case presented here is a partially edentulous patient and replacement of missing 36 46and47 teeth with implant supported crown . . Because we have completed the previous treatment planning steps of collaboration, communication, and analysis through our extended prosthetic services, actual fabrication is quite straightforward and simple. A surgical guide must be retentive and stable when inserted while providing adequate access for surgical procedures according to the surgeon's prescription.

1. to start with a well made impression with alginate[vival nf ivoclair] and using type 4 die stone or dental stone, a cast is made (fig 1)

2. Mount master cast on an articulator and set denture teeth in edentulous areas in exact occlusion with the opposite model

3. clear arylic is used to make an intial surgical guide following the exact contour of the denture teeth Using an #8 round bur, drill a slight 1-mm-diameter reference hole with a hand piece. This will prevent the drill bit from slipping during the drilling of the guide post site in the master model. Drill a 2-mm-diameter site into the model with either a drill press (small tabletop model) or a milling machine. This will ensure the parallelism of the guide sleeves (fig 2)

4. Seat the guide posts into the implant sites. use an old straight hand piece bur shank and cut them to size (fig 3)

5. Motor bike nibble of different size available are used as guiding sleeves [here a 2mm and 4 mm are used for placement of 3.75 x 13 size implants] (fig 4)

6,The 4mm nibble is adjusted inside so that the 2mm nibble easily passes through it[fig5]

7,A glass inomer scoop is taken and the scoop end is cut off ,at the rear end a hole is placed and 2mm sleeve which is well trimmed and polished is luted to it by using super glue adhesive and reinforced with self cure acrylic (fig 6,7,8)

8, The 2mm sleeve is now tried in 4mm sleeve so that it easily slides through it without any difficulty, this 2mm will act as a drilling guide for the 2mm implant drill [fig 9,9a]

9, Now the 4mm sleeve is trimmed and polished and placed exactly at the centre of the guide post (fig 10,11)

11 The acrylic template is trimmed at the centre to accommodate the sleeve and self cure acrylic is added polished and finished (fig 12, fig 13, fig 14)

12, The guide post is removed and the whole surgical guide is trimmed and polished and now ready for use

13, The pilot drill guide with the handle helps in perfect placement of the pilot hole and sequential drill is done with the surgical acrylic guide with the sleeve which makes placement of implant accurately (fig 15)

14, The opg shows perfect parallel placement of implants (fig 16)

another radiograph showing accurate parallel placement of implant replacing first premolar

Discussion

Palnning of cases for implant is very important .With the prosthetic end result driving many parameters of dental implant treatment, it is imperative to treatment plan with the final prosthesis in mind. Planning can be done by several methods .Traditional diagnostic information via articulated cast, periapical and panoramic radiographs are two dimensional and offer


Fig 9


Fig 9a


Fig 10


Fig 11


Fig 12


Fig 13


Fig 14


Fig 15


Fig 16

only limited information., still it is used for planning of cases as it is cost effective method. Dental implant treatment is multidisciplinary and based on the prosthetic end result. Treatment planning for an ideal dental implant prosthetic end result involves gathering as much information as possible. A key tool to successful treatment planning is Computerized Tomography (CT), allowing visualization of a surgical site in a three dimensional aspect. Interactive CT is now available that in conjunction with a surgical guide stent, can help guide dental implant placement into the ideal position with respect to function and esthetics. A further benefit of this process is the information on the CT translates the prosthetic end result for the patient. Through utilizing an interactive Computerized Tomography (CT) program (Sim/Plant, Noble guide etc), the clinician can plan on a computer, correct placement of dental implants with respect to position and esthetics in a three dimensional view. With the information from the interactive program, a computer milled surgical guide stent can be made which is based on the desired prosthetic end result for the patient. Through following this protocol a surgeon can place dental implants while taking into account such factors as: reducing iatrogenic damage to vital structures, choosing the correct implant size ,shape and surface, hard tissue density and volume, the relationship of implants to the final prosthesis, and assessment of pre existing pathology .Different methods can be utilized depending upon the economical factors but the end result should be the accurate placement of implant without compromise There are different methods to fabricate a surgical guide for implant placement ,the author has tried out one which include a pilot surgical guide for making intial drill accurately as the first drill if placed accurately the job is half done

Conclusion

The future of dentistry is bright as implants are now being familiar among people ,with so much information available today via internet the patients are willing to accept the treatments suggested by the dental surgeon .Since many companies are now coming out with quality and cost effective implants the patients can now select the type of implant. On comparing with the tooth supported FPD , patients choose implants supported FPD as, they don't have to sacrifice the adjacent teeth . As a dental surgeon our duty is to place the implants accurately so that it helps in both esthetics and mastication

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Peripheral ossifying fibroma

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Abstract

Pyogenic granuloma and peripheral ossifying fibroma belong to reactive focal lesions occurring on the gingiva; altogether having a different histopathologic picture. The pathogenesis of peripheral ossifying fibroma or the maturation of pyogenic granuloma towards peripheral ossifying fibroma continues to be a debated topic for the clinician and the pathologist. The present case report deals with one such controversy in a patient who had recurrence of the lesion. The primary lesion was diagnosed as pyogenic granuloma and the recurrent lesion as peripheral ossifying fibroma. This case report throws light on the pathogenesis of peripheral ossifying fibroma and the concept of progression of pyogenic granuloma towards peripheral ossifying fibroma.

Introduction

Reactive lesions of the gingiva are very common. Pyogenic Granuloma (PG) and peripheral ossifying fibroma belong to the spectrum of reactive gingival hyperplasias.

The term "pyogenic" granuloma should best be ignored as it does not contain pus.[1] Females are far more susceptible compared to their male counterparts because of the hormonal changes that occur in women during puberty, pregnancy, and menopause. The pyogenic granuloma has been called a "pregnancy tumor" and does occur in 5% of pregnant women.[2]

A history of trauma is attributed to the occurrence of pyogenic granuloma in extra gingival sites, whereas most lesions of the gingiva are a response to irritation. Individuals with poor oral hygiene and chronic oral irritants (e.g., overhanging restorations, calculus) are most frequently affected.[3]

Peripheral ossifying fibroma is a localized gingival enlargement, considered to be a reactive in nature rather than a neoplasm.[4] POF occurs 2 to 4 times more frequently in females compared to males and predominantly between 25 to 40 years of age, with the average age around 28 years.[5] POF is thought to originate from the odontogenic epithelial rests in the periodontal ligament.[6, 7, 8] POF has a predilection for the anterior maxilla and preferably 50% of the lesions tend to occur in the incisor-cuspid region.[9]

Case report

A 25-year-old female patient reported to the Department of Periodontics, Sri Sai College of Dental surgery, Vikarabad with a chief complaint of gingival enlargement in the upper front region that had been present for the past 2 years. On further questioning, the patient revealed that she developed a similar enlargement 4 years back in the same region during first trimester of her pregnancy. The patient underwent conservative excision of the lesion in the Department of Oral Medicine in the same college 4 months post delivery and the excisional biopsy revealed a pyogenic granuloma on histopathological examination. She noticed a recurrence of the lesion again in the same region 8 months post excision. It had gradually increased in size for almost 2 years and attained the present size.

Clinical examination revealed a 2cm × 2 cm lesion that was solitary, pedunculated, pink in color, firm in consistency and was localized predominantly in the interdental & palatal gingiva of the maxillary central incisors. There was pathologic migration of the teeth associated with the lesion and a midline diastema could be observed between the central incisors (Fig 1 & 2). Radiographic examination revealed crestal bone loss resembling cupping like defect between both the incisors (Fig 3). The patient's medical history did not reveal any pathological condition. Therefore, surgical excision of the lesion was proposed to the patient.

Management

The surgical intervention was carried out in the Department of Periodontics. Extensive deep excision down to the PDL and the periosteum (Fig 4 & 5) and thorough root planing of the adjacent teeth was carried out under local anesthesia (Fig 6) and a periodontal pack was placed. Chlorhexidine 0.12% was recommended twice a day for 2 weeks and the patient was given a prescription for an antibiotic and an analgesic to control postoperative pain and swelling. The excised lesion was sent for histopathological examination. Histopathological examination of the gingival lesion showed parakeratinized stratified squamous epithelium and highly cellular fibroblastic component with focal areas of calcifications, suggestive of a peripheral cemento-ossifying fibroma (POF) (Fig 7).

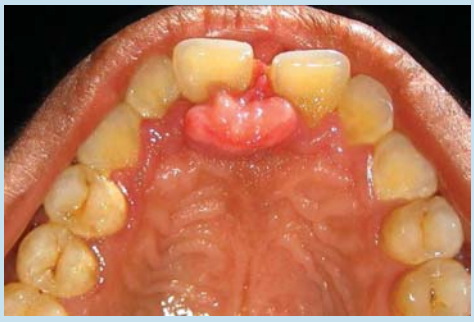

Fig.1&2 2cm × 2 cm lesion in the interdental & palatal gingiva of the maxillary central incisors. Pathologic migration of the teeth and a midline diastema could be observed between the central incisors.

Fig. 3 Crestal bone loss resembling cupping like defect between both the incisors.

Fig. 4 Extensive deep excision down to the PDL and the periosteum.

Fig. 5 Excised lesion.

Fig. 6 After thorough root planing.

The clinical, radiographic and histologic findings were consistent with peripheral cemento-ossifying fibroma. The postoperative course was uncomplicated and there was no lesion recurrence up to one year of follow-up (Fig 8 & 9).

Discussion

PG constitutes 80 % and Peripheral Ossifying Fibroma (POF) constitutes 10 % of all reactive swellings of the gingiva respectively. Both PG and POF share similar sex and site predilection, as well as similar clinical and histological features. Hence these lesions may simply be considered as variable histological responses to irritation.[10]

In this present case report, the initial lesion was found to be a pyogenic granuloma. The associated etiology might be attributed to the chronic irritation from local subgingival plaque and calculus deposits exacerbated by hormonal variations during her first trimester of pregnancy.

There was a recurrence of the lesion in the same region. The recurrent lesion was diagnosed as POF. Recurrence of the lesion might be attributed to a number of reasons such as, incomplete excision of the primary lesion, failure to remove local irritants such as plaque and calculus, improper oral hygiene maintenance leading to accumulation of local factors.

POF normally presents as a sessile or pedunculated, pink to red growth with areas of ulceration, with a smooth or irregular surface and a consistency varying from firm to hard depending on the amount of ossification and calcifications.[6, 7] Most lesions are usually 1-2 cm in size; however, cases ranging more than 2cm have also been reported.[11] Though oral pathologists use peripheral ossifying fibroma and peripheral cement-ossifying fibroma interchangeably, the term cement-ossifying fibroma is scientifically invalid, as there is no histomorphic or biochemical difference between bone and cementum.[12]

POF exhibits varying radiological features. Focal areas of calcifications at the center of the lesion along with superficial erosion of the bone have been reported in certain cases. Cupping defect, as seen in this case might sometimes be seen on radiographic examination.[5, 7, 12]

The pathogenesis of POF is uncertain. POFs are believed to arise from gingival fibers of the periodontal ligament and this can be proved by the fact that POF's arise exclusively on the gingiva, the proximity of the gingiva to the periodontal ligament and also histological evidence of oxytalan fibers within the mineralized matrix.[12]

In this case report, the primary lesion was diagnosed as PG. Superficial surgical excision lead to the recurrence of the lesion. It can be hypothesized that the patient's neglect towards dental treatment and poor oral hygiene maintenance for a longer duration enhanced the recurrent swelling to undergo fibrous maturation and ossification that lead to the development of POF.

Conclusion

Though it has been suggested that POF is a separate clinical entity altogether and not a transitional form of

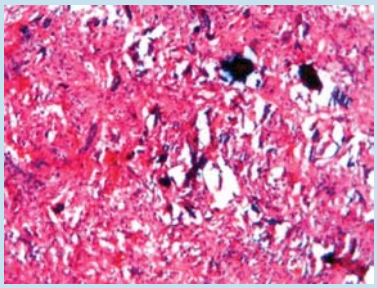

Fig.7 Parakeratinized stratified squamous epithelium and highly cellular fibroblastic component with focal areas of calcifications.

Fig. 8 One year postoperative – labial side.

Fig.9 One year postoperative – palatal side.

a PG, this present case report ascertains the concept that PG & POF may present themselves as different stages of the same pathology resembling the two sides of the same coin. Since both these lesions are associated with a high recurrence rate of 8-20%, deep surgical excision, down to the PDL and the periosteum, and scaling of adjacent teeth with close postoperative follow-up is necessary to prevent the recurrence of the lesions.

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Case report

Prosthetic rehabilitation of orbito ocular defects

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Abstract

The disfigurement associated with the loss of an eye can cause significant anatomic, functional and psychological problems. Rehabilitation of orbital defect is a complex task and if reconstruction by plastic surgery is not possible or not desired by the patient, the defect can be rehabilitated by an orbital prosthesis. Orbital with ocular prostheses artificially restores the eye, eyelids and the adjacent hard and soft tissues which have been lost. They protect the exposed orbital, nasal and sinus tissues and restore normal speech patterns and prevents regurgitation when the nasal and sinus areas are involved.

Introduction

Peretz defines loss as "*a state of being deprived of or being without something one has had and valued*". Maxillofacial prostheses can restore and replace stomatognathic and associated facial structures with artificial substitutes, aimed to improve the patient's esthetics, restores and maintain health of the remaining structures and consequently physical and mental well-being. Prosthetic eyes or ocular prosthesis are artificial ones that replace lost natural eye absent due to surgical removal from disease or injury. Anophthalmos not only deprives the individual of his vision but also causes painful psychological impacts.

Evolution of orbital prostheses

Artificial eyes have been in existence for thousands of years. Relics dating back to ancient Egyptian tombs suggest that eye replacement with precious stones, bronze, copper, and gold was common practice for the wealthy class. In the 16th century, Ambroise Pare, an army surgeon of that time, used artificial eyes made of gold, silver, and later, glass. Vulcanite and celluloid were used in the 19th century, and around that time, the glass eye was improved by using sand with low iron oxide content.

It was not until World War I that glass eyes were used by the general population, and glass remained the most popular material used in the fabrication of artificial eyes until the Second World War. Consequently, a material used by dentists to produce dentures, methyl methacrylate, began to be used in the manufacturing of orbital implants.

Common materials used to produce ocular prostheses are glass and methyl methacrylate

Common causes of eye loss

1. Trauma	
2. Malignancies-	Retinoblastoma-common in children Malignant melanoma. Basal cell carcinoma. Intra cranial tumors invading the orbit.
3. Congenital defect -	Microphthalmia Anophthalmia
4. Cataract and Glaucoma	

Surgical procedures for removal of eye

· *Orbital Enucleation*

– Surgical removal of the globe and a portion of the optic nerve from the orbit.

· *Orbital Evisceration*

- Surgical procedure wherein the intraocular contents of the globe are removed, leaving the sclera, Tenon's capsule, conjunctiva, extraocular muscles, and optic nerve undisturbed

· *Exenteration*

- En bloc removal of the entire orbit, usually involving partial or total removal of the eyelids, and is performed primarily for eradication of malignant orbital tumors

Prosthetic management

Cosmetic replacement of the lost eye can be accomplished by custom made ocular and orbital prostheses. To attain a successful result a thorough patient evaluation should be performed before proceeding further.

1. Physical & psychological evaluation

The psychological status of the patient should be assessed relative to the ability of the patient to accept a prosthetic eye.

2. Examination of the defect

- A thorough examination of the enucleated socket must be made to ensure proper healing and the absence of infection. The size and the extent of the socket should also be noted.

3. Examination of the position of head, contralateral eye & palpabre.

4. Inspection of eye movements, gaze, opening & closure of the eyes.

5. Internal anatomy of the socket during rest and movements.

6. Condition of conjunctiva, depth of the fornices and presence of cul de sacs.

Case reports

3 cases emphasizing the fabrication procedures of prosthetic eye is documented in this article.

Case 1

Fig 1. Patient with right eye loss

Fig 1a. Impression making

Fig 1 b. Boxed impression

Fig 1 c. Wax try - in

Fig 1d. Investment

Fig 1 e. Finished prosthesis attached to spectacle frame

Case 1 &2

CASE 1 – A 56 year old male who reported to the Department of Prosthodontics for rehabilitation of lost eye. He gave a history of surgical exenteration of his right eye due to malignancy. Examination of the defect revealed a well healed tissue bed with no signs of any infection or inflammations. (Fig .1)

Steps in fabrication

1. After lubricating the defect the area around the socket was boxed and with the patient in a semi reclined position a thin mix impression material (irreversible hydrocolloid) was painted over the impression surface and then the impression material was poured into the box and the impression was reinforced with dental plaster. (Fig 1.a)

2. As a result, the anatomy of the anophthalmic socket and overlying tissue was obtained. (Fig.1.b)

3. Master Cast made of dental stone and the fitting surface of the prosthesis was first fabricated using heat cure methyl methacrylate to form a thin shell and its fit and contour were assessed.

4. A stock eye shell resembling the contralateral eye was selected, and a wax trial ocular prosthesis was

Case 2

Fig 2. Preoperative

Fig 2b. Post operative post op

Case 3

Fig 3 a.
Patient with left eye loss

Fig 3 b.
Impression making

Fig 3 c.
wax pattern

Fig 3 d.
Patient with final prosthesis

sculpted and tried. Gaze was corrected according to contralateral eye. (Fig.1.c)

5. Investment was done routinely and the shell was indexed to reorient later after dewaxing. (Fig 1d)

6. For shade matching acrylic colors were blended to match the patient's skin tone and mixed with resin and packed into mould and cured.

7. The prosthesis was finished and tried and was attached to a spectacle frame which not only provided retention to the prosthesis but also masked its margin.(Fig.1e)

CASE 2 - A 44 year old male who reported to the department for replacement of his right eye lost due to malignancy. (Fig 2)

A custom made orbito ocular prosthesis was fabricated using the above mentioned method (Figure2a)

Case 3

A 28 year old female was referred from Government Ophthalmic hospital for refabrication of her left eye prosthesis. The patient had lost her eye of childhood measles and was using plain shell prosthesis with poor fit. (Fig 3. a).A custom orbital prosthesis was planned.

Steps in fabrication

1. A prefabricated medical grade acrylic resin eye shell was chosen based upon the size, extent, palpebral support, movements and position of the pupil.

2. The peripheries and the fitting surface of the shell were trimmed to conform to the defect.

3. For impression making of the defect this shell was invested in an alginate mold and after the alginate sets, the prosthesis was removed and replaced with clear acrylic resin. Perforations were made in the resulting tray, and a tunnel was cut into the stem through which impression material can be delivered (Fig 3. b)

4. *Impression Procedure*: The impression of the socket was made with a light viscosity polyvinyl siloxane impression material. Before making the impression, a thin layer of petroleum jelly was applied on the eyelashes and around the eye socket to prevent the impression material from sticking to the eyelashes. The material was then injected slowly into the socket and the patient was asked to perform various eye and eyelid movements to facilitate the flow of the impression material into all aspects of the socket. The impression was carefully removed from the socket once the material had set .

5. *Formation of the cast:* The impression was poured in dental stone. Markings were made on the cast to orient the shell correctly.

6. *Preparation of wax pattern:*. Molten wax was then poured into the cast. After the wax has hardened, the wax pattern was removed. Sharp ridges and undesirable irregularities were eliminated and the portion of the wax that represented the palpebral fissure was re-contoured to form a smooth convex surface. (Fig 3.c)

7. *Try in of the wax pattern:* The wax pattern with the shell was inserted into the patients socket to check for proper contour and bulk. Necessary modifications were done, until the soft tissue contour and the palpebral tissue resembled the patient's natural eye. The patient was then made to look straight ahead at a distant point and gaze was corrected. The patient was sent home with this wax try-in and recalled after 1 week. By this time the wax undergoes functional molding by the extra ocular muscles.

8. *Acrylisation*. The functionally molded eye shell is then removed from the defect and is invested, flask assembly is then dewaxed.

Medical grade acrylic (methyl methacrylate) is mixed and packed into the mold cavity. The resin is then processed under a slow curing cycle for 2 hrs. After recovering the prosthesis it was polished to get a smooth and shiny surface. On the final appointment the prosthesis was inserted into the patient's eye socket. (Fig 3.d)

Instructions to the patients: The patient was taught the proper method of removal and insertion.

- Removal is done by pulling the lower lid down, gazing overhead and engaging the lower margin of the

prosthesis with one finger so that it is expelled downward in to hand.

- Insertion is done by lifting the upper lid with the thumb and forefinger, sliding the prosthesis with other hand as much as possible under the upper lid and pulling the lower lid down to allow the prosthesis to slip into the socket

- The patient was instructed to wear the prosthesis day and night, removing and washing it with a mild soap once a day.

- To improve the movements of the eyelids and to get a sparkle on the surface of the prosthesis, use of an ophthalmic silicone liquid was advised.

For this patient eyeglasses were avoided.

Recent innovations

1. Implant retained -Titanium implants can be used for the retention of ocular prosthesis

2 Magnetic two piece eye prosthesis

3. Orbital implants.

A. *Nonintegrated implants* do not allow direct or indirect integration with the orbital structures or with the prosthesis. They have no direct attachment to the prosthesis.

Eg. PMMA and silicone

B.Hydroxyapatite *integrated orbital implants* inserted into the patient's orbit immediately following enucleation. The muscles that move the eye are then sutured to the implant. After about six months, when blood vessels have grown into and around the implant, a peg can be inserted and the prosthesis is attached to the peg. The implant becomes incorporated into the orbital tissue thus minimizing the chance of displacement and extrusion, apart from providing better motility .One major complication with hydroxyapatite implant exposure.

4. An *expandable orbital implant* will have the capacity to be enlarged as the surrounding orbital tissues atrophy. An enlarging prosthesis helps to correct ptosis (drooping eyelid), enophthalmos (sunken eye) and motility

5. Robotic prosthetic eye - detects the natural eye movement of the normal eye of the patient who needs to wear a prosthetic eye, using the patient's EOG (electro-ocular-graph). The built-in control system will then control the movement of the robotic prosthetic eye to follow the movement of the normal eye of the patient.

Summary

Retention for orbital prostheses can be gained through tissue adhesives, engagement of undercuts or even the use of osseointegrated implants. In case 1 and 2 even though undercuts were present the defects were large hence spectacle frames had to be used for retention but for case 3 the properly extended ocular prosthesis was well retained in the defect.

When eye glasses are worn care must be taken to prepare the lens over the prosthesis. Otherwise asymmetry of the prosthesis will be perceived. Patient can be instructed to turn his/her head and direct gaze rather than vary the gaze of normal eye thereby making the lack of eye movement of the prosthesis less noticeable.

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Clinical study

Relationship of smoking and gingival bleeding

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Abstract

To check whether gingival inflammation associated with plaque accumulation is delayed or impaired in smokers. A group of 30 subjects who had quit smoking were examined for changes in gingival health over a 4-week period.Plaque index,Gingival index,Probing pocket depthand presence of bleeding on probing were recorded and determined at baseline and the 4th week statistical analysis were carried out using a paired t test. The bleeding on probing increased despite improvements in the subjects oral hygiene. It was concluded that that tobacco smoking affects the inflammatory response and that these changes are reversible on quitting.

Introduction

Tobacco smoking is one of the most significant risk factors for chronic periodontitis Smokers are 2.5-6 times more likely to develop periodontal disease than non-smokers, and there is evidence for a direct correlation between the number of cigarettes smoked and the risk of developing disease. Tobacco users also tend to exhibit increased severity of periodontal disease. Direct correlations between tobacco use and increased attachment loss and pocket depth and reduced bone crest height have been reported.[1] Tobacco use is the most important preventable cause of serious morbidity and death worldwide. The effects of tobacco globally are devastating. In a recent report the World Health Organisation (WHO) estimated that 500 million people alive today will die as a result of their habit. A staggering 100 billion people could be killed as a consequence if current trends continue[2]. Numerous investigations of the relationship between smoking and periodontal disease have been performed over the last years, and there now exists a substantial body of literature. From both cross-sectional and longitudinal studies, there appears to be strong epidemiological evidence that smoking confers a considerably increased risk of periodontal disease. Numerous studies of the potential mechanisms whereby smoking tobacco may predispose to periodontal disease have been conducted, and it appears that smoking may affect the vasculature, the humoral immune system, and the cellular immune and inflammatory systems, and have effects throughout the cytokine and adhesion molecule network[3]

Subjects and Methods

A total of 30 subjects who visited Pushpagiri College of Dental Sciences aged between 18 and 65 years who smoked more than 10 cigarettes per day for a minimum of 5 years with atleast 20 natural teeth and no overt signs of advanced periodontal disease were taken. All subjects were medically fit and and no history of antibiotic or anti inflammatory therapy for the past 6 months. They also had to agree to refrain from any professional cleaning for the duration of the study.

Study design

The first clinical examination of their gingival status was carried out on the first visit, the quit-smoking day. The second visit (4 weeks after thequit day) was the final visit of the programme. The second clinical examination was carried out at this visit

The subjects were seen at about the same time of the day for both clinical examination visits and the clinical recordings were performed in the same order. Subjects were encouraged to return for their second clinical examination regardless of the outcome of the quit-smoking programme. They were advised not to inform the examiner of their smoking status on their second visit so that the examiner was not aware of whether they had been successful in quitting.

The following clinical parameters were recorded at baseline and at the 4th week

1 Plaque index (Turesky et al (1970) modification of Quigley Hein plaque index)

2 Gingival index (Loe H and Sillness J)

3 Probing pocket depth and

4 Presence of bleeding on probing using a Williams periodontal probe

Statistical analysis was carried out using a paired t-test on differences recorded at baseline (quit-smoking day) and at the 4th week

Results

The various aids used in assisting the subjects on the quit-smoking programme, 15 had used nicotine replacement therapy (NRT) and 15 patients did not use anything. There was no change in probing depth or the number of sites with probing greater than 2mm between visits. There was a statistically significant increase (po0.001) in the mean proportion of tooth sites that exhibited bleeding after probing, between baseline and 4 weeks post-quitting. In contrast, there was a statistically

Reduced bleeding on probing before quitting smoking

Increased bleeding on probing after quitting smoking

significant decrease (po0.001) in the number/mean proportion of tooth sites with plaque present, over the same time period.

	Visit 1 Mean (SD)	Visit 2 Mean (SD)	p-value
Mean probing depth	2.5(0.3)	2.6(0.3)	0.576
No of sites probing <2mm	20.6(5.7)	20.1(7.4)	.515
Mean propotion of sites that bleed on probing	15.7(7.7)	30.9(8.7)	<.0.001
Mean propotion of sites with plaque present	37.9(18.2)	29.2(12.2)	<.0.001

Discussion

Gingival bleeding is related to the persistent presence of plaque on the teeth and regarded as a sign of the associated inflammatory response. Subjects who refrain from normal oral hygiene procedures have a resultant increase in plaque accumulation and demonstrate a concomitant increase in gingival bleeding as gingivitis develops over a 2 – 3-week period. It has also been shown that this development of gingival inflammation and the associated bleeding is delayed or impaired in smokers.[4]

In the present study, despite a significant decrease in plaque score, there was an increase in bleeding on probing after quitting smoking. The reduction in plaque score should have resulted in a decrease in inflammation and bleeding rather than the observed increase. This strongly suggests that the signs of inflammation were inhibited by the smoking experience. Tobacco smoking is associated with a clinically suppressed hemorrhagic responsiveness of the periodontium.[5]

The reason for the improvement in the subject's oral hygiene may be due to the fact that they were part of a study that increased awareness of self-health and so they spent more time on oral hygiene procedures, although they were asked not to alter brushing routines for the duration of the study.

Conclusion

The effects of smoking on human health are serious and in many cases, deadly. There are approximately 4000 chemicals in cigarettes, hundreds of which are toxic. The ingredients in cigarettes affect everything from the internal functioning of organs to the efficiency of the body's immune system. The effects of cigarette smoking are destructive and widespread. Measures should be taken to create more awareness about the ill effects of smoking and to promote quit smoking programmes

In the periodontal context studies have shown that the periodontal health condition in former smokers, similar to that of non-smokers, remained stable, suggesting that smoking cessation is beneficial to periodontal health[6].

People on a quit-smoking programme should be informed of the possibility of an increase in gingival bleeding associated with smoking cessation, so as to prevent any anxiety that may cause them to resume smoking. Patients experiencing gingival bleeding should be advised to improve their oral hygiene and seek treatment by a dentist or a hygienist. The findings of this study emphasise the importance of awareness of the effect of smoking in masking the signs and symptoms of the inflammatory process, as this may have implications on other systemic inflammatory disease processes.

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Recent advances in root canal disinfection

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Abstract

Successful endodontic treatment involves meticulous debridement followed by disinfection of the pulp space, so that it can be sealed hermetically using a suitable obturating material. Due to the challenging anatomy created by the maze of main canals, accessory canals, isthmuses and fins; thorough disinfection has always been a challenge for dental practitioners. Recent research has unveiled a few novel irrigants, which seem promising and filling the many voids of ideal requirements which existed till recently. Advances in irrigant delivery and activating systems help to access the conventionally inaccessible parts of the root canal. Technologies other than irrigation solutions and their activation systems include lasers, ozone etc., which have been effectively used in research settings for microbial killing and disinfection of the root canal dentin.

This article will discuss these very advancements in a concise manner, so as to introduce them to the general dental practitioner. We can expect many of these products to reach our markets soon, and a previous knowledge will hopefully help to select a suitable, individualized disinfection protocol in our practice.

Introduction

Micro organisms are the cause of a large percentage of root canal infection and apical periodontitis. Optimally, endodontic treatment aims to remove and kill all microorganisms in the root canal and to neutralize any antigen that may be left in the canal. The goal of endodontic treatment can be stated as: prevention or treatment of apical periodontitis; or prevention or elimination of a microbial infection in a root canal system. Cleaning and shaping is the most important step toward a sterile canal. Instrumentation removes a great number of microbes from the accessible parts of the main root canal by direct mechanical cleaning action, and shapes the root canal in such a way that effective irrigation becomes possible. But instrumentation and irrigation with saline alone cannot predictably eliminate all bacteria from infected root canals.[1]

Sodium hypochlorite has remained the gold standard in root canal irrigation for many decades now. But it is far from being the "ideal", because of its disadvantages like caustic nature, high surface tension, unpleasant taste and odour and inability to remove smear layer. Research has led to the introduction of many hypochlorite alternatives, but none could actually replace the gold standard. Recently the focus of activity in root canal disinfection is placed on the development of irrigants, intracanal medicaments and irrigation techniques aimed to optimize irrigant penetration and action.

This article discusses the major advancements in the field of root canal disinfection under the headings of latest irrigants, irrigant delivery and activation, and other innovative techniques.

Latest irrigants

1. Mixture of tetracycline isomer, acid & detergent (MTAD) by Biopure, Dentsply, Tulsa, OK. (Fig 1)

Torabinejad, Khademi et al introduced MTAD in 2003.[2] It consists of Doxycycline, citric acid and Tween-80, a detergent. The authors recommended irrigation with 1.3% NaOCl followed by MTAD to remove the smear layer.[3] It makes irrigation simpler by combining smear layer removal with antimicrobial effect.

2. Electrochemically Activated Water or Oxidative Potential Water

Electrochemical activation(ECA) is the process of passing a diluted saline solution through a flow-through electrolytic module (FEM) to generate 2 types of ECA solutions:

1. Anolyte, with oxidation potential
2. Catholyte, with high reduction potential.

This solution exists in a metastable or disequilibrious state and contains many free radicals and a variety of molecules & ions. Studies of K.Gulabiwala et al and Solvyeva & Dummer have shown that ECA water is comparable to 3% & 1% NaOCl in antimicrobial efficacy and leaves a thinner smear layer than NaOCl.[4,5]

3. Carisolv (Fig 2)

Al Kilani, Whitworth, Dummer investigated the RC irrigant potential of Carisolv as it has antibacterial and collagen dissolving potential. They showed that Carisolv was better than PBS and worse than 4.5% NaOCl in canal cleaning ability.[6] Rahman, Whitworth, Dummer compared Carisolv with 1% NaOCl and concluded that: Carisolv cleans pulp debris from the walls of immature root canals as effectively as NaOCl (1%) during static, unrefreshed wall contact between 20 and 30 min. Refreshment of NaOCl (1%) enhances its cleaning ability above that of Carisolv.[7]

4. Ruddle's solution (Fig 3)

It has been described as a "cocktail" containing 5% sodium hypochlorite (NaOCl), Hypaque and 17% EDTA. It provides:"solvent action" of full-strength


Fig. 1 MTAD

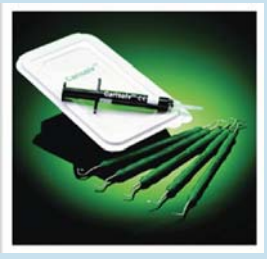
Fig. 2 Carisolv


Fig. 3 X-ray showhing Ruddle's solution

Fig. 4 EndoquilTM

Fig. 5 Papacarie™ Papain gel


Fig. 6 Max-i-probe


Fig. 7 Navitip-FX


Fig. 8 Quantec-E irrigation system

NaOCl; "visualization" as it is nearly as radiopaque as gutta percha; and "penetration" as the tensioactive agent lowers surface tension. Hypaque is a water soluble, radio-opaque, contrast solution which can be utilized to: visualize root canal system anatomy, monitor the remaining wall thickness during preparation procedures, detect pathological defects and manage iatrogenic mishaps.

5. Endoquil™: A castor oil based irrigant (Fig 4)

Endoquil™, a 3.3% *Ricinus communis detergent* (Poliquil, Polímeros Químicos Ltd.A.,Araraquara, São Paulo, Brazil) has produced good results as an endodontic irrigant. Its antimicrobial activity was found to be similar to that of a 0.5% solution of sodium hypochlorite when used in the treatment of root canals with pulpal necrosis.[8] Endoquil was effective against many Gram-positive microorganisms when a 0.5% solution of NaOCl was effective only against *S. aureus*.[9]

6. *Morinda citrifolia* juice

Morinda citrifolia, commonly known as the great morinda, Indian mulberry or nunaakai (Tamilnadu, India) or noni, is a tree in the coffee family. It is native to Southeast Asia but has been extensively spread throughout the Indian subcontinent and many Latin American countries. Peter E. Murray et al (2008), in an evaluation of *Morinda citrifolia* as an endodontic irrigant, compared *Morinda citrifolia* juice (MCJ) with CHX & NaOCl in removing the smear layer from the canal walls of endodontically instrumented teeth. MCJ was more effective than CHX for removing smear layer ($P < .0085$). The efficacy of MCJ was similar to NaOCl in conjunction with EDTA as an intracanal irrigant.MCJ appears to be the first fruit juice to be identified as a possible alternative to the use of NaOCl as an intracanal irrigant.[10]

7. Papacarie™ Papain gel (Fig 5)

Papain is a cysteine protease enzyme present in papaya. Papain is the main ingredient of Papacarie™, a gel used for chemomechanical dental caries removal. Because of its protein-dissolving properties, papain has been investigated as a potential endodontic irrigant. Antibacterial efficacy of papain gel was found to be lower than that of 3.3% castor oil and 0.5% NaOCl.[11]

Advances in irrigant delivery and activating systems

Lately, there has been a lot of interest in the development and marketing of various irrigant delivery and activating systems. This can be justified too, because Walton & Torabinejad have stated that "perhaps the most important factor is the delivery system & not the irrigation solution per se". In a "Review of Contemporary Irrigant Agitation Techniques and Devices", Li-sha Gu et al (2009) discussed the topic under the following headers:

1. Manual agitation techniques: Syringe Irrigation with Needles/Cannulas; Brushes
2. Manual-Dynamic Irrigation
3. Machine-assisted Agitation Systems: Rotary Brushes;Continuous Irrigation During Rotary Instrumentation
4. Sonic Irrigation
5. Ultrasonics
6. Pressure Alternation Devices: EndoVac; RinsEndo.[12]

1. Max-i-probe (Dentsply, Tulsa) (Fig. 6)

Max-i-probe features a well-rounded, close tip and side-port dispersal. It is available in a wide range of gauges from 21 to 30 gauge. The unique upward turbulent motion of irrigant produced by it thoroughly irrigates the root canal preparation and prevents solution and debris from being expressed through the periapical foramen.

2. Navitip-FX (Fig. 7)

Navitip-FX is a 30 gauge irrigation needle with a brush

Fig. 9 EndoVac

Fig. 10 Stropko irrigator

Fig. 11 EndoActivator

Fig. 12 Vibringe

Fig. 13 IrriSafe

Fig. 14 Lasers

Fig. 15 Photoactivated disinfection

Fig. 16 Ozone

3. Quantec-E irrigation system(SybronEndo)(Fig. 8)

It consists of a pump console, 2 irrigation reservoirs, and tubing to provide continuous irrigation during rotary instrumentation. The claimed advantages are: increased volume of irrigant, increased irrigant contact time, facilitates greater depth of irrigant penetration inside the root canal. According to Setlock et al, compared with needle irrigation, Quantec-E irrigation did result in cleaner canal walls and more complete debris and smear layer removal in the coronal third of the canal walls. However, these advantages were not observed in the middle and apical thirds of the root canal. This is also confirmed by Walters et al.

4. EndoVac (Discus-Dental) (Fig 9)

EndoVac claims to be the first apical negative pressure irrigation system, eliminating the apical vapor lock. It consisits of:

1. Master delivery tip for continuous irrigant delivery into, and evacuation of excess irrigant and gross debris from the chamber
2. Macrocannula for evacuation of coarse debris from the coronal and middle thirds of the root canal
3. Microcannula for microscopic debris evacuation from the root canal upto working length.

Rinsendo (Air Techniques, Melville, NY), Safety irrigator (Vista Dental), Irri-Vac ™ (ASI Medical) are variants of pressure alteration irrigation devices, all claiming simultaneous irrigation and evacuation, and thus a cleaner canal.

5. Stropko irrigator (Fig 10)

Versatile irrigation tips that can be adapted to the conventional or new air-water syringes. It can deliver both water and cool air. The latter is advantageous during ultrasonic procedures, effectively eliminating dentinal dust while not compromising visibility.

6. Ultrasonic activation

Comparative effectiveness of ultrasonics (US) and hand instrumentation have been evaluated in a number of studies.US, together with an irrigant, contributed to a better cleaning of the root canal than irrigation & hand instrumentation alone.[13,14]

Mechanism of action:

a) Cavitation: Cavitation in the fluid mechanical context can be described as the impulsive formation of cavities in a liquid through tensile forces induced by high-speed flows or flow gradients. These bubbles expand and then rapidly collapse producing a focus of energy leading to intense sound and damage.

b) Acoustic streaming: More prominent method by which the action has been explained. Acoustic streaming is the rapid movement of fluid in a circular or vortex-like motion around a vibrating file.

Two types of US irrigation:

where irrigation is combined with simultaneous US instrumentation (UI)

without simultaneous instrumentation, so called passive US irrigation (PUI).

During UI the file is intentionally brought into contact with the root canal wall. UI has been shown to be less effective in removing simulated pulp tissue from the root canal system or smear layer from the root canal wall than PUI. This can be explained by a reduction of acoustic streaming and cavitation.[15]

EndoActivator (Advanced Endodontics) (Fig 11) and Vibringe (Vibringe B.V., Amsterdam) (Fig 12) are sonic irrigant activation systems; ie., they use vibrations in the sonic frequency to activate the irrigants.

IrriSafe (Satellec) (Fig 13) is a product that uses ultrasonic energy to vibrate the file in the canal.

Innovative techniques of root canal disinfection

Other than irrigants, irrigant activating systems and intra-canal medicaments, research is turning towards newer and more rapid methods of achieving cleaner root canals. The more prominent among them are:

1. Lasers: (Fig 14)

It has been documented in numerous studies that CO2, Nd:YAG, Argon, Er,Cr:YSGG, and Er:YAG laser irradiation has the ability to remove debris and smear layer from the root canal walls following biomechanical instrumentation. A new endodontic side firing spiral tip (RCLase; Lumenis, Opus Dent, Israel) overcomes the disadvantage of the straight emission of the laser beam, and thus claims to enable cleaning of the root canal walls laterally.[16]

2. Photoactivated disinfection (Fig 15)

An alternative approach to microbial killing in the root canal system by laser light involves the use of low-power lasers to drive a photochemical reaction that produces reactive oxygen species, a technique termed photo-activated disinfection (PAD). By using exogenous photosensitisers such as tolonium chloride, killing of all types of bacteria can be achieved. In vitro studies of PAD have demonstrated its ability to kill photosensitised oral bacteria (such as E. faecalis), and more recently microbial killing in vivo in the root canal system has been demonstrated. While PAD can be undertaken as part of the routine disinfection of the root canal system, it also has potential use for eradicating persistent endodontic infections for which conventional methods have been unsuccessful.[17,18]

3. Ozone (Fig. 16)

Ozone is a strong oxidant and is unstable at high concentrations. HealOzone by KaVo is a new system introduced for various applications including disinfection/ remineralization of caries and endodontic disinfection. The unit looks like a standard handpiece with a protruding needle and a plastic/ silicone cap that fits over and seals the access. The needle goes in the canal and provides the ozone.[19]

4. Newer materials

a. Bioglass: Bioactive glasses have some antimicrobial activity when suspended in aqueous solutions through the release of their ionic compounds over time. 45S5, S53P4 bioactive glass suspensions/ slurries have been proved to be efficacious for root canal disinfection.[20]

b. Nanotechnology: Recent studies have shown the antibacterial efficacy of nanoparticles of chitosan, zinc oxide, silver etc. when used in the disinfection of root canals. Their commercial availability is dependent on further research.[21]

Conclusion

Despite the plethora of studies on the effectiveness of various endodontic irrigation regimens, it is noteworthy that no well-controlled clinical study is available in the current endodontic literature. This emphasizes on the need for studies in endodontics that could more effectively measure the efficiency of specific agitation methods for root canal irrigation with the use of standardized dentin debris or microbial biofilm models. From a practical point of view, no evidence based study is available to date that attempts to correlate the clinical efficacy of these devices with improved treatment outcomes. Thus, the question of whether these devices are really necessary remains unresolved.[12] Understanding these fundamental issues is crucial for clinical scientists to improve the design and user-friendliness of future generations of irrigant agitation systems.

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Comparative evaluation of novamin® and 5% potassium nitrate dentifrice in the management of dentin hypersensitivity - a pilot study

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Abstract

Post periodontal surgery hypersensitivity is a common phenomenon in clinical practice. The market is flooded with various de sensitizing tooth pastes for its management. A case control study was conducted at a dental clinic in Trivandrum dist: among 13 patients affected with chronic generalized periodontitis in 2009. Following periodontal flap surgery quadrant wise, Novamin® containing dentifrice was used in one quadrant and the same patient used 5% potassium nitrate containing dentifrice in another quadrant. Followed up on day 1 and day 7. Dentin hypersensitivity was recorded from 0 to 10 on a VAS scale. Mean benefit score of Novamin® (3.3 with SD 1.3) was significantly higher (pÂ 0.05) than 5% potassium nitrate(1.2 with SD 0.7). 60% of patients with Novamin® dentifrice got more than 2 score benefit while that with 5% potassium nitrate dentifrice was nil. Novamin® containing dentifrice has come to stay for the management of dentin hypersensitivity.

Introduction

Post periodontal surgery dentinal hypersensitivity is often a dilemma for the Periodontist. Many a patient have reported this unpleasant experience following periodontal flap surgery. Patients who suffer from severe dentinal hypersensitivity are very likely to be less compliant in post treatment instructions resulting in less favourable clinical outcomes. There are many studies evaluating the incidence of dentinal hypersensitivity. Some studies have reported rates as low as 8%[1], whereas others as high as 93%[2]. Following periodontal flap surgery one study reported dentinal hypersensitivity in the range of 17% to 25%[3]. This wide fluctuation in the incidence may be due to various methods employed to assess dentinal hypersensitivity.

Objectives

This study was to evaluate the effectiveness of 5% Sodium calcium phosphosilicate (Novamin®) and 5% Potassium nitrate dentifrice in the management of post periodontal surgical dentinal hypersensitivity.

Mode of action

Sodium calcium phosphosilicate (Novamin®) is essentially bioactive glass which was identified as an alloplastic bone graft material. (Novamin®) is amorphous sodium calcium phosphosilicate developed as fine particulates. These particulates will mechanically occlude open dentinal tubules and release Ca and PO_4 to form biological apatite, which mineralize and strengthen tooth structure[4]. This reaction occurs within seconds of exposure and the release of Ca and PO_4 continue as long as the particulate is exposed to the aqueous environment.[5] The combination of (Novamin®) particulates and the newly formed hydroxy carbonate apatite layer result in physical occlusion of dentinal tubules which will reduce hypersensitivity. In addition Na and Ca have been demonstrated to reduce transmission of nerve impulses, thus reducing the stimuli to the dental pulp.[6] Recent studies have also shown Novamin® containing dentifrices and the particulates when mixed with water, alone possess a strong antimicrobial action against periodontal pathogens, that could be of significant benefit to the patient in periodontal maintenance therapy beyond simply desensitizing the root dentin.[7] In one experimental gingivitis study it was proposed that the material also have some local anti-inflammatory action as determined by a reduction in gingival inflammation. These properties of Novamin® make the material an attractive candidate for use with periodontal maintenance patients[8].

Materials and methods

This was a pilot clinical study carried out in 13 patients who had undergone periodontal flap surgery as part of management of chronic generalized periodontitis at a private clinic in Trivandrum dist: in 2009. Informed consent was obtained and the usual routine medical protocol followed prior to surgery. This study was not funded by any tooth paste manufacturers and there is no conflict of interest.

Inclusion criteria[9]

1. Male or Female patients in good general health.
2. Having chronic generalized periodontitis and undergone periodontal flap surgery.
3. Min: of 6 teeth in each quadrant.
4. No desensitizing toothpastes prior 6 months.
5. Following surgery quadrant wise had atleast one scorable sensitive tooth to cold water.

Exclusion criteria

1. Unrestored cervical abrasion or caries.
2. Chipped teeth, fractured cusps or root canal treated tooth.
3. Dental pathology with similar symptoms.
4. Presence of soft tissue pathology
5. Using orthodontic appliances.
6. FPD/RPD which would interfere with evaluation of hypersensitivity.
7. Chronic use of analgesic/anti inflammatory drugs.
8. Long term antibiotic usage prior to surgery.
9. Allergy to any study products.
10. Pregnant or lactating females.
11. History of chronic regurgitation of acids.

Evaluation of sensitivity

Modified Widman periodontal flap surgery was performed quadrant wise in each patient, for standardization. Each patient was recalled the next day(Day-1) and a visual analogue scale(VAS) score for hypersensitivity from 0 to 10 recorded for cold water. 2ml of cold water at 4^0C was delivered from a syringe, 0 being no sensitivity and 10 severe sensitivity.

A Novamin® containing dentifrice was prescribed for brushing twice daily for 7 days. The quantity of toothpaste being peanut size. While brushing the toothpaste should remain in the mouth for atleast 3 minutes. The patient is advised not to eat or drink for 30 mins. Chlorhexidine mouth wash was used only 30 mins after brushing. Analgesic/anti inflammatories were used on the day of surgery. Thereafter only if absolutely needed. The patient was asked to report for evaluation of hypersensitivity without taking analgesics in the morning (Day 1) and the VAS score recorded. On the 8th day (Day 7), during suture removal the VAS score recorded again on a scale of 0 to 10. The same was repeated on the next quadrant for 5% potassium nitrate dentifrice and the VAS score recorded on day 1 and day 7.

Background of study participants

The sample size of this pilot study was 13. 53.8% of the sample were females. Age group being 31 to 50 years.

Results

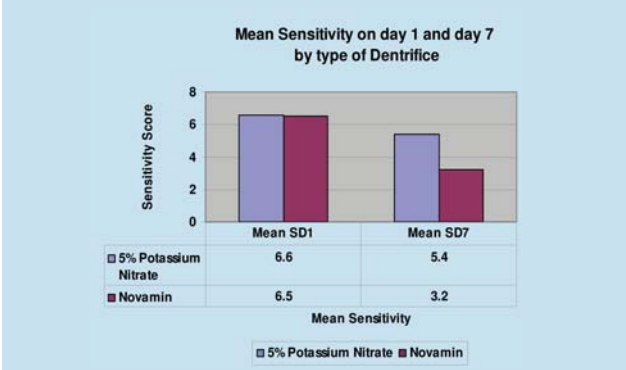
On using Novamin® containing dentifrice the mean sensitivity on day 1 was 6.5 (SD 1.9) and the mean sensitivity on day 7 was 3.2 (SD 1.3).

Whereas on using 5% potassium nitrate dentifrice the mean sensitivity on day 1 was 6.6 (SD 1.7) and the mean sensitivity on day 7 was 5.4(SD 1.4).

Mean benefit of Novamin® containing dentifrice was 3.3(SD 1.3). Mean benefit of 5% potassium nitrate dentifrice was 1.2(SD 0.7). 61.5% had more than 2 point score benefit with Novamin® and none had more than 2 point score benefit with 5% potassium nitrate dentifrice.

Discussion

Mean sensitivity was significantly lower with Novamin® containing dentifrice than 5% potassium nitrate dentifrice(pÂ0.05). Benefit of Novamin® containing dentifrice was significantly higher than that of 5% potassium nitrate(pÂ0.05).



Sensitivity score on day-1 & day-7 for 5% Potassium nitrate and Novamin®

The better results with Novamin® containing dentifrice compared to 5% potassium nitrate dentifrice may be due to[10]

1. Rapid mechanical occlusion of tubules with penetration.
2. Chemical bond to the dentin surface.
3. Release of Na and Ca with a decrease in the rate of nerve impulse transmission.
4. Release of Ca and P for remineralization which produces long term sensitivity reduction.

Conclusion

Apart from the hypersensitivity reduction properties of Novamin®, its anti microbial and anti inflammatory property makes it an ideal choice for post surgical oral hygiene management.

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Dental insurance – a perspective

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Abstract

A well run system of insurance is necessary for overall welfare of the society. A health insurance system de-risks the patients from emergency demands on medical expenses. A wider usage of dental insurance would help the lower socio-economic groups to obtain dental treatment. This article discusses the concept of insurance and the mechanisms of payment for dental care.

What is insurance?

Insurance, in law and economics, is a form of risk management primarily used to hedge against the risk of a contingent, uncertain loss. Insurance is defined as the equitable transfer of the risk of a loss, from one entity to another, in exchange for payment.[1]

Principles of insurance

Insurance involves pooling funds from many insured entities (known as exposures) in order to pay for relatively uncommon but severely devastating losses which can occur to these entities. The insured entities are therefore protected from risk for a fee, with the fee being dependent upon the frequency and severity of the event occurring. In order to be insurable, the risk insured against must meet certain characteristics in order to be an insurable risk. Insurance is a commercial enterprise and a major part of the financial services industry, but individual entities can also self-insure through saving money for possible future losses.[1]

History of health insurance

The concept of health insurance was proposed in 1694 by Hugh the Elder Chamberlen. Before the development of medical expense insurance, patients were expected to pay all other health care costs out of their own pockets, under what is known as the fee-for-service business model[2].

Today, most comprehensive private health insurance programs cover the cost of routine, preventive, and emergency health care procedures, and most prescription drugs.

Dental insurance

In 1850, there was an advertisement put up in "The Daily Reporter" which showed the following dental capitation plan: "for adults: $15, for children from 10 to 16: $10 and for children from 5 to 10: $5." They offered to open subscription books for each families and said that their purpose was to "reform the state and bad condition of the teeth and remove in great measure the evils and sufferings of thousand, and more particularly the rising generation."[3] Thus, dental insurance emerged like all other insurance in a rather informal way.

Mechanisms of payment for dental care

The mechanisms by which dental practitioners receive payment for their services can be grouped into:

1. Private – fee for service which is the traditional form of reimbursement for dental services. Dentists prefer this kind of arrangement and ADA says it is the most efficient way to provide dental care. The disadvantage of this system seems to be that if this is the only financing mechanism available some patients would not be able to afford dental care.

2. Budget payment plans involve the patient borrowing money from a bank or finance company to pay the dentist's fee. After the application is approved by the financing institution, the dentist is paid the entire fee. The patient then repays the loan to the bank in budgeted amounts. This plan has greatly helped people in the middle-income group. The people under the lower income- group have difficulty being accepted as credit worthy by lending institutions.

3. Private third party prepayment plans are defined as "payment for services by some agency rather than directly by the beneficiary of those services". Usually the term third party refers to a private carrier such as an insurance company.

4. Salary is payment given to those dentists working for the armed forces or those employed by public agencies. The advantage of this system is that the dentist is free of business concerns and need solely concentrate on clinical matters, although, a lack of financial incentive may affect the productivity of some dentists.

5. Public programs are sponsored by the government and aim at the needs of specific groups of the population. Examples include Medicare, Medicaid, the Veterans administration program and National Health Insurance. This was started since private practice was unable to meet the dental demands of all people[4].

Conclusion

The reason private fee for service is the common mode of payment is that it is flexible, prices can be changed according to the market conditions and it is administratively simple for the dentist. Therefore, it seems unlikely that dental insurance will become popular.

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Case report

Cleidocranial dysplasia

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Abstract

Cleidocranial dysplasia is an autosomal dominant disorder best known for hypoplastic or absent clavicles and dental anomalies. It also shows excessively large fontanelles, delayed ossification of skull and delayed closing of sutures. A case of a twenty year male of Cleidocranial dysplasia with multiple supernumerary teeth, retained deciduous dentition and unerupted permanent dentition is reported. The diagnostic and management aspects of this syndrome are discussed.

Introduction

Cleidocranial dysplasia (CCD), also known as Marie and Sainton's disease or Scheuthauer - Marie – Sainton syndrome or Mutational Dysostosis. It is a congenital disorder of autosomal dominant inheritance affecting both sexes with equal frequency[1]. The etiology of CCD is not well established. Rearrangement of long arm of chromosome no. 6 and chromosome 8 is suggested. Mutations in the core binding factor Alpha-1 gene located on chromosome 6p21 have been suggested to be the cause of CCD.[2,3] It is also considered to be an autosomal dominant skeletal dysplasia caused by mutations in the bone/cartilage specific osteoblast transcription factor RUNX2 gene.[4] The most striking features of this syndrome are partial or complete absence (in about 10% of cases) of clavicles causing unusual mobility of the shoulders and late closure of fontanelles resulting in frontal bossing.[4,5] Prolonged retention of deciduous teeth with delay in eruption of succedaneous teeth is the characteristic oral finding. Involvement of facial bones, altered eruption patterns and presence of multiple supernumerary teeth makes it significant for a dentist.

Case report

A twenty year old male patient reported to the department of Oral Medicine and Radiology with the complaint of absence of teeth in upper and lower arches. His medical history was non-contributory. However his father was having similar appearance and stature suggesting a familial inheritance. His head was brachycephalic with frontal bossing. Sunken nasal bridge and hypertelorism were other characteristic features noticed on examination (fig1). He was able to adduct his shoulders, when asked to attempt to bring his shoulders forward to the midline to check for any incomplete clavicle formation (fig 2); Oral examination showed prolonged retention of deciduous teeth. Presence of narrow arch, and partial ankyloglossia were also noted (fig 3,4).

The patient was subjected to radiographic examinations of chest, skull, cephalometric and panoramic radiographs. The radiographs revealed the following positive findings: Panoramic radiographs revealed abnormally retained primary teeth, twenty impacted permanent and supernumerary teeth (excluding third molars) (fig 5). Lateral Cephalogram showed hypoplastic nasal bone and a rounded outer contour of the mandible in place of normal physiological mandibular angle. Multiple supernumerary teeth were also seen (fig 6). Skull AP view showed open sutures, large wormian bones, calvarial thickening and sunken sagittal suture giving the skull a flat appearance (fig7). Radiograph chest PA showed narrowing of thorax and ribs which were obliquely directed downwards. Clavicles show hypoplasia with presence of high riding scapulae (fig 8).

Discussion

The clinical findings of CCD, although present at birth, are often either missed or diagnosed at a much later date. The gnathic and dental manifestations are distinctive and lead to initial diagnosis. The radiographic evaluation of patients is the most important and reliable means to confirm the diagnosis. Bone defects in the CCD affects mainly the clavicle and skull.

Appearence of the patient itself is diagnostic. They will be presented with a short stature, and a broad head with frontal and parietal bossing. Depressed nasal bridge and hypertelorism are additional features of this disease. Patients with CCD exhibit a high narrow arched palate with enlarged mandibles.[1, 2]

One of the characteristic oral finding is prolonged retention of the deciduous teeth and a delay in eruption of the permanent teeth. Various views regarding the etiology of non-eruption, such as lack of cellular cementum[6], defectiveness in post cementum formation[7], presence of thick connective tissue between oral epithelium and dental follicle, delayed tooth formation and maturation are suggested[1].

It is characteristic for numerous unerupted supernumerary teeth to be found by radiographic examination. Crypt formation around impacted teeth and ectopic teeth also has been reported.[1] These are mainly seen in mandibular premolar and incisor areas. The reason for the formation of multiple supernumerary

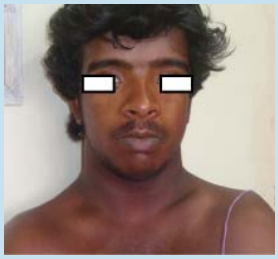

Fig. 1 & Fig. 2 External appearance

Fig. 3 & Fig. 4 Intra Oral view

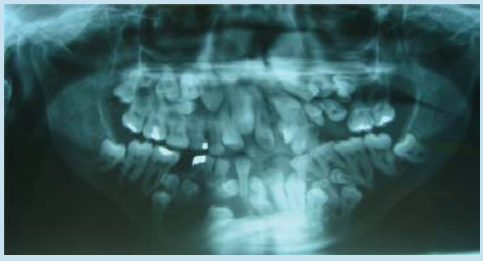

Fig. 5 Panoramic radiographs showing mixed dentitions & supernumerary teeth

Fig.6 Lateral Cephalogram

Fig. 7 Skull PA view

Fig.8 Chest X-ray

teeth is still unknown. A short lower facial height, anterior inclination of mandible and mandibular prognathism has also been reported.

Radiographic examination reveals the widely patent anterior fontanelle and sutures with wormian bones in cranium. The clavicles typically are reduced to single or double fragments on each side with middle part being deficient. Marked delay in ossification of pelvic bones especially pubic and ischial bones is regularly observed in patients with CCD. Femoral necks may show irregular mineralization of metaphyses. Spina bifida occulta is occasionally observed in the cervical and upper thoracic levels. Hands and feet demonstrate various anomalies including shortening and broadening of carpal, metacarpal, tarsal, metatarsal bones. There is hypoplasia of distal phalanges with massive epiphyses (marked in thumb) and shortenening and premature epiphyseal closure of middle phalanges.[1]

Pycnodysostosis or the Maroteaux – Lamy syndrome, has almost similar features of CCD. But they are also affected by dwarfism, have dense and fragile bones and partial agenesis of the terminal phalanges of the hands and feet.[3]

Genetic counselling is appropriate for prospective parents with a family history of CCD, where one or both parents are affected.[3] No specific treatment exists for CCD, as the bony abnormalities cause little problem. Complications may arise during delivery in case of narrow pelvis. Care of the oral condition is important as the dental problems are the most significant complications.

A multidisciplinary approach to treatment of these patients is recommended. The retained primary teeth should be restored if they become carious since extraction does not necessarily induce eruption of the permanent teeth. The current mode of therapy for the dental anomalies includes planned removal of nonresorbing primary teeth, surgical removal of supernumerary teeth, surgical exposure of permanent teeth and orthodontic alignment.

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Enhancement of esthetics with porcelain laminate veneer

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Abstract

The advancement in dental adhesives combined with the highly esthetic resin and ceramic materials in dentistry give the clinicians a chance to mimic the natural tooth. Porcelain laminate veneers are one of the most conservative and esthetic restoration that can be applied when restoring the teeth for improved esthetics. This article highlights the esthetic improvement of discolored, spaced and fractured central incisors with porcelain laminate veneers.

Introduction

The esthetic restoration of anterior teeth has been revolutionized by the introduction of porcelain laminate veneers (PLV). A PLV is an extremely thin shell of porcelain applied directly to tooth structure. This restoration may be used to improve the color of stained teeth, alter contours of misshapen teeth, and close interproximal spaces. The restoration is contraindicated in tooth with insufficient enamel structure, large restoration, edge to edge, or crossbite relation. The PLV is superior to composite veneers because composite veneers remain susceptible to discolouration, wear, and marginal fractures reducing thereby the esthetic result in the long term.[1] Clinical performance of PLV is found to be reliable. A 10 yr follow up revealed 97% success rate for 5 yrs and 91% for 10yrs.[2]

Case report

A 22yr old female patient came to our department for esthetic improvement of her central incisors. An oral examination revealed that the right and left central incisors were moderately discoloured and incisal edges were fractured. A diastema between the central incisors was also observed (Fig 1). Radiographic evaluation showed the teeth were root canal treated. Root canal treatment was done 6yrs back due to an accidental fall. The patient had deepbite and the labiolingual thickness of central incisors was less than normal. To achieve optimal esthetics by a conservative treatment the preferable option is go for porcelain laminate veneer.

Tooth preparation - Concepts regarding the preparation of teeth for porcelain veneers have changed over a past few years. Although early concepts suggested minimal or no tooth preparation,[3] current beliefs support removal of varying amount of tooth structure.[4]

Depth orientation grooves were placed on the facial surface of the tooth with 0.3mm and 0.5mm three wheel diamond depth cutter on the gingival half and incisal half respectively. The tooth structure remaining between the depth orientation grooves were removed with a round end tapered diamond. Doing so, the aprismatic top surface of mature unprepared enamel, which is known to offer only a minor retention capacity, was removed. A chamfer finish line was placed equgingivally to mask the discolouration of tooth. If there is no discolouration, then the finishing line can be placed supragingivally. Distally the tooth preparation was extended into the contact area, but terminated facial to the contact area. To correct the diastema the preparations were extended from the facial surface onto the mesial surfaces terminating at the mesiolingual line angles. Four basic incisal preparations exist for full veneers[5,6] (fig 2).

(a) The 'window' or intra-enamel preparation- Preparation terminates 1mm above the incisal edge (fig 2a).
(b) The feathered incisal edge preparation -Preparation terminates at the facioincisal line angle (fig 2c).
(c) The incisal bevel preparation-a buccopalatal bevel is placed at the incisal edge of the tooth (fig 2c).
(d) The Overlapped incisal edge preparation-Veneer overlaps the incisal edge terminating on the lingual surface (fig 2d).

In this case overlapped incisal edge preparation was chosen because fractured incisal edge of teeth needs lengthening. Besides incisal overlap provides a vertical stop that aids in the proper seating of the veneer.[7] The lingual finish line was placed with a round end tapered diamond, approximately one fourth the way down the lingual surface connecting the two proximal finish lines. The finish line should be minimum 1mm away from centric contacts. The prepared teeth for laminate veneer are shown in figure 3. The veneer extended onto the lingual surface will enhance mechanical retention and increase the surface area for bonding (fig 4). All sharp angles of the preparation were rounded off. After gingival retraction, impression is made with polyvinylsiloxane by putty-wash technique. The shade was selected under direct sunlight with VITA 3D master shade guide. Temporary restoration is required only if the appearance is unsatisfactory after tooth preparation or if the tooth is sensitive. Composite resin or hollow ground denture teeth can be used can be used to give temporary veneer. In this case the teeth were temporarily veneered with hollow ground denture teeth. It was bonded to the teeth only at 2 to 3 spots with composite resin.

Veneer cementation: The temporary veneers were removed; the teeth were cleaned and dried. The porcelain veneer made up of IPS-emax was tried on to the tooth with selected shade of try in paste to verify its color and fit. The esthetics and fit were acceptable, the veneers were removed from the tooth, rinsed thoroughly, and dried. The inner side of porcelain veneer was etched with 5% hydrofluoric acid (IPS Ceramic etching gel) for 20 seconds, washed under running water and dried. A layer of silane coupling agent (Monobond-S, Ivoclar vivadent) was

Fig 1. Preoperative view.

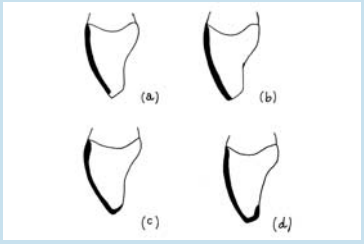

Fig 2. Types of incisal preparation.

Fig 3. Tooth preparation for laminate veneer

Fig 4. Palatal view of laminate veneer

Fig 5. Dual cure Resin cement

Fig 6. Porcelain laminate veneers bonded in place.

Fig 7. Close up view of PLV bonded to teeth

applied on the inner surface of veneer and gently air dried after one minute. The silane coupling agent forms a chemical bond between the porcelain and resin, besides it also reduces the marginal leakage and discolouration.[8] The silanized surface was then coated with a thin layer of bonding agent thinned with air from the air syringe. The resin layer was not polymerized with light. The prepared teeth were etched with 37% phosphoric acid for 30 seconds, rinsed thoroughly and dried. A layer of bonding agent (Adper single bond 3M ESPE USA) was applied on to the tooth surface. A dual cure resin cement (Variolink II, Ivoclar vivadent, Liechtenstein) was used for bonding the veneer to the tooth (fig 5). The selected shade of base paste and catalyst paste were mixed in proportion to get the shade that was obtained during the try in stage, and a layer of cement was applied on the inner surface of veneers. The veneers were then positioned on the teeth correctly with slight pressure; the excess cement was removed with a brush, light cured for 10 seconds to tack the veneers on to the teeth. After the initial set the remaining excess cement was removed with a NO: 12 Bard-Parker blades. The polymerization was continued for 60 seconds by directing the light initially from lingual side, so that the resin cement shrinks towards tooth providing more retention. Then each segment of veneer was light cured for 40 seconds. Occlusion was checked to ensure that no contact existed on tooth-porcelain interfaces. The final view of the porcelain laminate veneer on the central incisors was shown in figure 6. The patient was satisfied with her new smile.

Discussion

Porcelain laminate veneers have become the major modality of treatment when conservative aesthetic restoration of anterior teeth is needed.[9] Minimally invasive preparation designs and modern ceramic materials make this treatment option increasingly conservative to the natural tooth structures, while providing both predictable and long-lasting aesthetics. The bonding systems and procedures used offer reasonable strength and sealing both on the porcelain site and on dentin and enamel. Studies have shown that etched porcelain used with silane coupling agent produced bond strengths to composite of 14-28 MPa.[10] This bond strength seems to surpass the cohesive strength of porcelain.

In this case the labiolingual thickness of the central incisors was less and the patient had a deep bite relation, so to restore the tooth with all ceramic crowns requires extensive removal of tooth structure which may weaken the tooth. Porcelain veneers requires only very minimal tooth preparation.

Conclusion

The color and translucency of porcelain laminate veneers is close to that of natural teeth as well as fulfilling the need for adequate retention, while preserving remaining tooth structure. Care should be taken during tooth preparation and particularly during the cementation of veneers to ensure optimum aesthetic results to be obtained for the patient.

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Magnification in dentistry

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Abstract

Each discipline in medicine has developed into super specialities with these specialists learning more and more of just about a tissue or a gland or an organ. The more you want to know or operate on a smaller tissue you need better vision. Various magnification systems are used very commonly these days. Similarly in dentistry doing procedures in areas with little or no access together with the use of today's highly sophisticated dental materials has required a corresponding increase in the technical skills of the operator. Better vision helps us to do a better job as well as help us utilize the full potential of the materials we use. One problem which many dentists face is musculoskeletal injuries due to poor posture maintained during work because of eye strain when visual enhancements are not used. Today a wide variety of magnification systems are available to the modern dentist ranging from simple loupes to operating microscopes. This article intends to throw light to the various magnification systems in dentistry, their applications and specifications.

Introduction

A variety of simple and complex magnification systems are available to dentists, ranging from simple loupes to prism telescopic loupes and surgical microscopes. It is an ergonomic methodology in which surgical manipulations are improved for better motor coordination. In addition to increasing clinical accuracy, the microscope is important for diagnostic and nonsurgical procedures. As well as reducing the ongoing concern of eyestrain because of the sustained, demanding and intense near visual work required in dentistry, these can offer very real improvements in the quality of work undertaken whilst also improving posture.

The Benefits Of Magnification: Magnified Image, Brilliant Illumination, Better Posture and Improved Comfort, Increasing Precision, Improved Dental Care, Additional Treatment Options, and Improved Profitability.

Various Magnification Systems

1) Intra-oral cameras

Since their introduction (Fig 1) in 1987, these have become widely used for co-diagnosis and patient education. Modern systems have benefited from improvements in image sensor technology and image display units, with compact CMOS colour cameras and LCD screens now the usual combination. Using zero degree and 90 degree optics, these cameras are normally used for demonstrating to patients, aspects of hard and soft tissue pathology, with relevant images being "frozen" through the use of volatile memory.

2) Magnifying loupes

Loupes are funda-mentally dual monocular telescopes with side-by-side lenses convergent to focus on the operative field. The magnified image formed has stereoscopic properties by virtue of their convergence. A convergent lens optical system is called a Keplerian optical system.Three types of Keplerian loupes are typically used in dentistry: Simple or single-element loupes, Compound loupes, and Prism telescopic loupes. Each type may differ widely in optical sophistication and individual design.

Simple loupes: Simple loupes consist of a pair of single meniscus lenses. Simple loupes are primitive magnifiers with limited capabilities. Each lens is limited to only two refracting surfaces. Their magnifi-cation can only increase by increasing lens diameter and thickness. Size and weight constraints make simple loupes impractical for magnification beyond l.5x. Another disadvantage of simple loupes is that they are greatly affected by spherical and chromatic aberration. This distorts the image shape and colour of objects being viewed.

3) Compound Loupes:

Compound Loupes (Fig 2) use multi--element lenses with intervening air spaces to gain additional refracting surfaces. This allows increased magnification with more favourable working distance and depth of field. Magnification of compound loupes can be increased by lengthening the distance between lenses, thereby avoiding excessive size and weight. In addition to offering improved optical performance, compound lenses can be achromatic.

Prism telescopic loupes:

The most advanced loupe optical magnification currently available is the prism telescopic loupe (Fig 3). Such loupes employ Schmidt or "rooftop" prisms to lengthen the light path through a series of switchback mirrors between the lenses. Prism loupes produce better magnification, wider depths of field, longer working

Fig. 1 Intra oral Camera

Fig. 2 Compound loupes

distances, and larger fields of view than other types of loupes. Recent innovations in prism telescopic loupes include coaxial fiberoptic lighting incorporated in the lens elements to improve illumination.

There are generally two types of surgical loupes:

· Galilean loupes: These, which are economical and simple to use, consist of 2–3 lenses and are easy to operate, light, and inexpensive. Their disadvantages are limited magnification (2.5- or 3.5-fold) and a blurry peripheral border of the visual field.

Prism loupes (or wide-field loupes): Each of the prism loupes, which are high quality and precise, consists of seven lenses. The magnification can reach from 3.5-fold to 10-fold, and the visual field is much clearer and sharper than with other loupes.

3) Surgical operative microscope

These represent the "gold standard" in magnification because of their flexibility and outstanding illumination of the field of view. Dental Operating Microscopes (fig 5) are starting to replace the need for dental loupes, which work like a magnifying glass. There are significant differences between dental loupes and dental microsurgery for instance, dental microscopes offer better magnification. Dental loupes magnify the surgical area 3 to 6 times its original size, while dental microscopes provide far greater detail, enlarging the field of vision up to 20 times. Dentists can also adjust the level of magnification during dental microsurgery, while dental loupes are designed to fit a set distance between the dentist and patient, limiting mobility.

Like dental loupes, Dental Operating Microscopes are worn like glasses, but they can also be mounted on a wall or table. Some dental microsurgery systems include a tiny camera that displays the procedure on a video monitor for all in the dental operatory to see. These can also be recorded for educational purposes. Perhaps the greatest advantage of the surgical micro-scope is that it allows the dentist to change working magnification easily to a value appropriate for the clinical task at hand.

Applications in Dentistry

- The placement of dental implants
- Locating the tooth's roots and infection during root canal procedures
- An apicoectomy, where the root's tip is surgically removed to treat a root canal
- Periodontal surgery or gum disease treatment
- Locating small cracks or defects in the tooth
- The removal of dental restorations and instruments, including files, posts and fillings that need to be dislodged during endodontic retreatment

There is a lot of advancement made in the materials we use in dentistry today. To achieve the best results with these materials we have to clinically perform dentistry fully as per the guidelines laid in our text books. This is often difficult to achieve and one of the common reason attributed is poor vision. It is here that magnification come tour rescue. One critical factor associated with aesthetics, periodontal health, and longevity of restorations is the precision of the margins at the periodontal-restorative interface. Improper margins can cause overhangs, and over contouring that may ultimately result in caries, periodontal inflammation and breakdown, and compromised aesthetics. In order to prevent pathology at the restorative tooth interface, each phase of the aesthetic treatment must be performed with precision and care. This can be best achieved with magnification.

An area where magnification really holds good is in the practice of endodontics. Location of canals, cracks, resorption, caries, etc are best achieved with enhanced vision

In recent years, Periodontics has seen increasing applica-tion of procedures requiring progressively more intricate surgical skills. Regenerative and resective surgical proce-dures, periodontal plastic surgery, and dental implants all demand clinical performance levels that challenge the technical and motor skills of periodontal surgeons beyond a range possible with unassisted vision. Studies demon-strated that root debridement performed without magnification was incomplete. When debrided roots were examined with the aid of a microscope, substantial deposits remained. Even in the absence of clinical studies, it may be inferred that microscope-enhanced vision in periodontics permits more definitive root debridement. Periodontal microsurgery introduces the potential for a less invasive surgical approach. This is exemplified by a decreased need for vertical releasing incisions and greater use of

Fig. 3 Prism Telescopic loupes

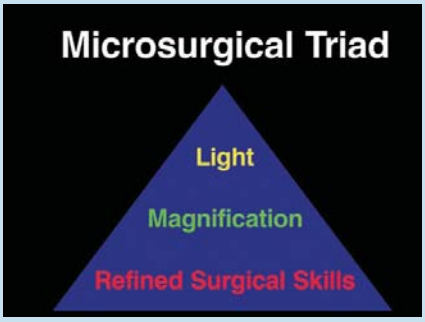

Fig. 4 Microsurgical triad

Fig. 5 Operating microscope

smaller surgical sites. Peri-odontal surgeons, as with other micro-surgeons, continue to notice the extent to which reduced incision size and surgical retraction are directly related to decreased postoperative pain and rapid healing.

Eyestrain

During intense near visual work, the ciliary muscle of the eye, which produces accommodation (focusing) and the extra-ocular muscles, which converge the visual axis of each eye on to the object of interest, become fatigued. Subconscious attempts to alter posture to improve near vision can result in musculo-skeletal complaints, as well as eyestrain. Presbyopia is a reduction in the ability to attain sharp focus for near vision. It occurs because of reduced elasticity of the lens as a consequence of normal aging, and results in blurred near vision. Conversely, solutions to eyestrain (such as loupes or operating microscopes) provide a major improvement to the operator's posture. As we age, the discrepancy between the visual demands of dentistry (close visual work) and our visual abilities increases. This is particularly common above the age of 40 years.

Conclusion

Incorporation of increased magnification allows the user improved visualization of the surgical field. Both clinicians and technicians can use this tool to ensure development of aesthetic and functional restorations for any type of treatment indication. Evaluation of the existing structures can be facilitated with ease to allow proper diagnosis and treatment planning. Microsurgery offers new opportunities for periodontal surgery that can enhance the therapeutic results for a variety of procedures. Its benefits include improved cosmetics, rapid healing, minimal discomfort, and enhanced patient acceptance.

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Clinical information

Identification and management of denture discomfort

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Abstract

The prescribing clinician is responsible for planning complete dentures after diagnosing potential problems, whether they are anatomical, physiological, pathological, or emotional. Once a denture wearing problem becomes apparent, it is important that it is addressed in a logical and systematic way. An adequate history of the problem must be taken and a careful examination of the mouth carried out so that an accurate diagnosis can be made, and an appropriate treatment plan devised

The problems that are encountered by the patients may be transient and may be essentially disregarded by them or they may be serious enough to result in the patient being unable to tolerate the dentures. Problems causing denture discomfort should be identified early and eliminated promptly. This article summarizes the factors that lead to denture discomfort ,their identification and management.

Introduction

Problems reported by patients shortly after provision of replacement dentures include discomfort, looseness and general problems in relation to adaptation. Many patients experience some discomfort for a period of up to a few days following receipt of new or replacement dentures. For some, however, especially where potential problems were not identified at examination or at the time of insertion, the consequent discomfort can be prolonged. This article summarizes the findings associated with denture discomfort and their management.

Symptoms, findings and management

Finding I: Areas that are painful to pressure

Pressure areas under the denture can result from faulty impressions, damage to the working cast and warpage of the denture base. They can also be due to residual pathology, lack of relief for active frena or non displaceable mucosa over a bony prominence like a torus.

Management

Consider the removal of the residual pathology. Disclosing material will help us to accurately locate the area to be relieved. If the discrepancy is severe, remaking the denture may be required.

Finding II*:* Pain on insertion and removal, and inflamed ridges.

These findings are probably due to undercut areas in the ridge which are not relieved.

Management

Disclosing material is used and the denture is adjusted at the region where the disclosing agent is wiped off on removal. Care should be exercised as excess removal may reduce retention. The clinician should only insert the denture and remove it and should not make the patient occlude, which may lead to a confusion, whether the pain is due to an occlusal fault or support problems.

Finding III*:* Discrete painful areas.

These areas under a denture can be due to pearls or sharp ridges of acrylic on the fitting surface arising from deficiency in laboratory finishing.

Management

Disclosing material is used to locate the area and it is relieved.

Finding IV: Generalized pain over denture supporting area

Generalised pain can be due to an under extended denture base caused by over adjustments to the periphery of the impression surface or it can also be due to a reduced amount of freeway space.

Management

Extend the denture to the optimal available denture supporting area and in the second case,restore the freeway space.

Finding V: Over extension of lingual flange; painful mylohyoid ridge; denture lifting on tongue protrusion, painful to swallow.

All these findings indicate an over extend edlower impression.

Management

Determine the position and extent of over extension using a disclosing material and relieve accordingly.

Finding VI: Lack of relief for frena or muscle attachments; pinching of tissue between the denture base and retromolar pad or tuberosity, sore throat, difficulty in swallowing.

These findings can be due to peripheral over extension resulting from impression stage or a design error. Palatal soreness can be due to post dam that is too deep.

Management

Relieve the interfering areas with the aid of a disclosing material. Care should be exercised while adjusting the post dam. Remove the existing seal and replace it with green stick prior to permanent addition of the resin.

Finding VII: Pain on eating in the presence of occlusal imbalance

Pain on eating can be due to an anterior or a posterior prematurity in occlusion, incisal locking or a lack of balanced articulation.

Management

Determine where the occlusal prematurities exist. Adjust the occlusion by selective grinding and If there is a severe error, remake the denture using a face bow and new inter occlusal records.

Finding VIII: Pain lingual to lower anterior ridge.

In this case,check for over extension and if it is not present look for a protrusive slide from the retruded contact postion to centric occlusion.

Management

Mark the deflecting inclines of posterior teeth with a thin articulating paper. If the slide exceeds half a cusp width, re-register the records and reset the teeth.

Finding IX: Pain and/or inflammation in the labial aspect of the lower ridge.

Check for any impression surface defect in this case and if it is not present, it can be due to lack of incisal overjet causing an incisal locking.

Management

Reduce the incisal vertical overlap. If the appearance is compromised, resetting the incisors may be required.

Finding X : Pain at the periphery of the dentures possibly accompanied by pain in masseter and posterior temporalis muscles (classically pain increases as the day progresses).

This is a classical finding for vertical dimension that is more than a patient can tolerate.

Management

If the excess vertical dimension is less than 1.5 mm, grind to provide free way space. If it is greater than 1.5mm, re-register the records to reset the denture at the new vertical dimension.

Finding XI: Cheek biting.

In this case it is likely that the functional width of the sulcus was not registerd.

Management

Restore the functional width of the sulcus and/or reset.

Finding XII: Lip biting

It can be due to poor lip support or an inadequate horizontal overlap.

Management

Grind the lower incisors to provide a more appropriate incisal guidance angle.

Finding XIII: Tongue biting

Tongue biting can be due to a lack of lingual overjet or teeth generally placed lingual to lower ridge.

Management

Remove the lower lingual cusps or reset the teeth.

Finding XIV: Pain at the posterior aspect of the upper denture on opening

This finding can be seen when the flange on buccal aspect of the tuberosity is too thick and constraining the coronoid process.

Management

Use a disclosing material to accurately define areas involved, and then relieve and repolish these areas.

Conclusion

There are a wide range of problems that can be experienced by the patient while going through a complete denture therapy. The clinician should be prudent enough to know what to treat and how to treat it thus preventing over treatment or under treatment.

Disclosing agents can be used judiciously to locate the areas that interfere with the proper functioning of the denture and these areas can be relieved.

Thorough knowledge of every step in complete denture fabrication, can help us in preventing mistakes and also correcting them.

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Case report

Metastatic gastric adenocarcinoma in the gingiva

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Abstract

Metastatic involvement of the oral tissues has been infrequently reported. They comprise 1-3% of all oral malignancies. Furthermore, metastasis to soft tissue is less common compared to osseous structures. Localized gingival enlargement is often associated with specific systemic medication, abscess formation, trauma or reactive lesions. Available literature on enlargement of gingiva due to a metastasis of gastric adenocarcinoma is scanty. Correlation of medical history with histopathological findings is necessary for appropriate diagnosis and treatment of the patient. Here we present a rare case of metastatic gastric adenocarcinoma in the gingiva, in a patient who absconded from complete treatment for cancer of the stomach.

Introduction:

Metastatic involvement in the oral region, including the maxilla, mandible and oral soft tissue, has been infrequently reported as one of the manifestations of generalized metastases from various kinds of malignancies, with an incidence of approximately 1-3% of all oral malignancies.[1,2] Earlier publications reporting on metastatic oral malignancy elucidated that the common sites of primary malignancy are the breast, lung and kidney.[2-4] Other primary sites, in order of decreasing frequency, are the thyroid and prostate; the stomach, however, was involved only in a few instances. Furthermore, metastasis to the oral soft tissue is less common than that to osseous tissue; thus, incidences of gastric cancer metastasizing to the oral soft tissue were far rarer, with only a few sporadic cases reported in the literature.[5]

The diagnosis of a metastatic lesion in the oral region is challenging, both to the clinician and to the pathologist. The clinician must recognize the possibility that a lesion may represent a metastasis, and the pathologist must determine the site of tumor origin.

This is a case report of a man, who presented with gingival enlargement in relation to the lower anteriors and gave a history of incompletely treated stomach cancer.

The purpose of this report is to alert the dental profession to include tumors from distant sites in their differential diagnosis of questionable lesions.

Case Report

A 70 year old male patient reported to the department of Oral & Maxillofacial Surgery, complaining of a swelling in the left lower anterior gingiva since 3 weeks. The patient reported that the swelling was gradually increasing in size since its onset. On taking further detailed history of the patient it was revealed that he was diagnosed with stomach cancer two years back. However the patient also revealed that he had stopped treatment in between because of financial reasons and did not have any records of the treatment undergone.

On examination a firm and sessile gingival enlargement was found extending from 31 to 34 region lingually. The swelling was non-tender and exhibited bleeding on probing and was pale pink in colour. The size of the swelling was 2.5x1.5x1.5cm approximately. Oral hygiene was poor.

Routine blood investigation of the patient did not reveal anything abnormal.

An excision biopsy was performed and the lesion was submitted for histopathological examination. On gross examination, there was a single bit of size 2x1.5x1cm, which was brown in colour and soft to firm in consistency.

Histopathological examination of the received specimen showed fragments of a neoplasm composed of cells arranged in glandular and papillary pattern. Cells lining the glands had moderate to abundant eosinophilic cytoplasm and round/oval pleomorphic nuclei with coarse chromatin, many showing prominent nucleoli. Nuclear stratification was seen at many places. Few mitotic figures were noted. Inflammatory infiltrate was also seen in between tumour cells. None of the cells had any resemblance to the native cells of oral mucosa. The histopathological report was suggestive of a metastatic malignancy.

Immunohistochemistry revealed that the tumour cells were positive for CK7 and CK20. These results suggest the diagnosis of metastatic adenocarcinoma of the gingiva consistent with metastasis from carcinoma stomach.

Discussion

The dentist has a great responsibility in detecting malignancy in the oral cavity because of his opportunities during routine examinations. Any suspicious lesion in the oral cavity in a patient with a history of carcinoma should be thoroughly evaluated and biopsied. In this

Fig 1. Intra-oral view showing swelling present from 31 to 34 region lingually

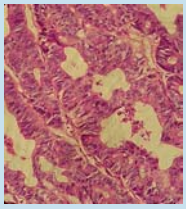

Fig 2. Shows fragments of a neoplasm composed of cells arranged in glandular and papillary pattern (Haematoxylin and eosin stain; magnification x10)

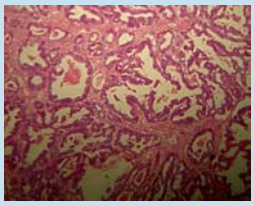

Fig 3. Cells with dysplastic features (Haematoxylin and eosin stain; magnification x40)

Fig 4. Immunohistochemistry showing positivity for CK7

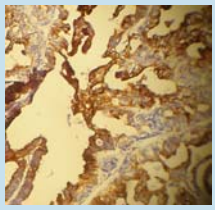

Fig 5. Immunohistochemistry showing positivity for CK20

case the patient had a history of carcinoma stomach two years back. Metastatic malignant tumors in the oral cavity should be carefully distinguished from primary oral malignancies or a direct extension into the oral cavity by malignant tumours that develop in contiguous structures. In our case we came to a conclusion of metastasis of a gastric adenocarcinoma to oral cavity after correlating the history given by the patient with the histological and immunohistochemical findings.

Among the metastatic tumours in the gingiva, gastric cancer as a primary source was exceedingly rare, amounting to only a few sporadic case reports.[5] Abrams *et al* reviewed 119 autopsy cases of gastric cancer and demonstrated that the liver, lung and peritoneum were frequent distant metastatic sites. However, the authors could not find any metastases to the oral region.[6] Previous investigators have demonstrated clinical characteristics of the metastatic malignancies to the oral soft tissue. Metastatic deposits in the oral soft tissue were most frequently located in the gingiva, followed by the tongue, lip and buccal mucosa.[7] Some investigators have found that gingival metastasis is more common at the anterior region rather than at the premolar or molar regions. In the present case too the patient presented with a gingival enlargement in the lower anterior region.

It is speculated that the route of metastasis is haematogenous.[2] Batson proposed the vertebral venous system as a fourth venous network in addition to the pulmonary, caval and portal systems. The vertebral system has vast interconnections with the caval system.[8] Thus, gastric cancer cells once involved in the portal-caval system might be squeezed into the vertebral system by an increase in intra-abdominal pressure such as a cough and straining, and afterwards could be distributed anywhere along the system, including the oral region.[9]

Considering this proposed metastatic route, it is plausible that patients with oral metastasis have already had a widespread disease and usually exhibit poor prognosis.[10] Hence, gingival metastasis from gastric cancer exhibits an aggressive disease, that is, survival periods of such patients are no longer than a few months. Gingival metastases severely affect oral function and nutrition, adequate local control improves nutritional status and quality of life. Excision biopsy is necessary for diagnosis and has the potential to simultaneously restore oral function and improve nutritional status. In cases of widespread metastatic disease, radiation, chemotherapy or a combination of these is the choice of treatment for palliation in order to relieve patient's complaints and to maintain their quality of life. In this case we could not follow-up the patient further as he did not return for the histopathology report nor report anytime afterwards at the dental college.

This case emphasizes that although rare, metastatic malignancy must be considered as differential diagnosis of proliferative lesion in gingiva, mainly if the patient presents cancer in other sites.

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Case report

Apert syndrome

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Abstract

Apert syndrome (Acrocephalosyndactyly) is a rare developmental malformation characterized by craniosynostosis, mid-face hypoplasia, symmetrical syndactyly of hands and feet. The prodromal characteristics for the typical cranio-facial appearance are early craniosynostosis of the coronal suture, cranial base and agenesis of the sagittal suture. The purpose of this paper was to report a case of Apert syndrome with emphasis on craniofacial and oral features in an Eighteen month old male child. The patient presented with several craniofacial deformities, including brachycephaly, midface hypoplasia, flat face, hypertelorism, ocular proptosis, downslanting palpebral fissures. Syndactylies with osseous fusion of the hands and feet were also observed. Intraoral findings included delayed eruption of teeth, high arched palate with pseudo cleft in the posterior one third.

Introduction

Apert's syndrome named after a French physician "Eugene Apert" who first described it in 1906 is a relatively uncommon cranio-facial anomaly[1]. According to Cohen[2], the incidence of Apert's syndrome is about 15 per 1,000,000 live births. Apert's syndrome has been rarely reported from India[3]. It is inherited in an autosomal dominant fashion with mutations of either Ser252Trp or Pro253Arg in fibroblast growth factor receptor 2(FGFR2) on chromosome 10q25.3-26[4,5,and13]. But sporadic cases are also frequent. Sporadic transmission indicates that a family may have a child with Apert when no other member of family is affected. The recurrence risk of having another child with Apert syndrome for 2 unaffected parents is negligible. However there is a higher mutation rate in males because the germ-cell divisions in males are greater than those in females. Hence, the mutation rate increases with paternal age. In contrast, Glaser et al. reported a significantly greater mutation rate in a group of young man who had children and suggested that there are many other relevant environmental factors in addition to paternal age[6,9].

Holten et al[14] conclude that there is a genetic anomaly causing variable and uncoordinated differentiation of the mesenchyme at the time of embryologic separation into various skeletal components, particularly in the distal limb and craniofacial skeleton. The disease process continues postnatally, especially in endochonral bone growth.

Apert's syndrome occurs as a result of Androgen end organ hyper-response affecting the epiphyses and sebaceous glands that results in early epiphyseal fusion leading to short stature, short and fused digits and Acrocephaly[7].

Case history

An 18 months old male child was referred to Calicut dental college and hospital because of a delayed eruption of primary teeth. The baby had an abnormal shape of the head, webbed fingers & developmental delay. He was the first child born to non-consanguineous parents. Pregnancy and labour were uneventful and there was no history of taking any drugs during the entire term of pregnancy. His mother was 40 yrs old and his father was 48 years old. The family history contained no report of similar cases.

At birth,the child had craniosynostosis, brachycephaly, and syndactyly of hands and feet. Recently, he underwent cranioplasty to reduce intracranial and ocular pressure. He had mild developmental delay.

Clinical examination revealed features of Acrocephalosyndactyly. The baby had a short anteroposterior diameter with high, full forehead and flat occiput (brachycephaly). Face was mildly flattened; there was hypertelorism, ocular proptosis,downslanting palpebral fissures. The nose was small, nasal bridge is depressed, which gave a "parrot's nose aspect" (figure-1). The middle third of the face was hypoplastic, absence of lip closure, prominent frontal area, ears were wide, & displaced downwards, the palate was high arched with pseudo cleft in its posterior third and eruption of primary teeth was delayed .(Figure-4).

Syndactyly (Base ball glove appearance) involving 2nd, 3rd, & 4th digits of both hands and feet (figure-2 &3).the feet shoed "sock foot deformity". The plantar arches were normal. The shoulder, hip, ankle and knee joints and spine were normal.

Cardiovascular defects include ACHD, ASD, along with epilepsy & mental retardation.

CT scan showed bony discrepancy & decreased antero- posterior size of cranium, as well as increased vertical length, yielding a Turricephaly (Tower shaped skull) with coronal synostosis (figure-5). DISCUSSION:

This Patient demonstrated the clinical triad that characterizes Apert syndrome: Brachycephalic skull,

Fig. 1 (Turricephaly, Prominent forehead, flat face, depressed nasal bridge, shallow orbits and hypertelorism.)

Fig. 2 (syndactyly of hands)

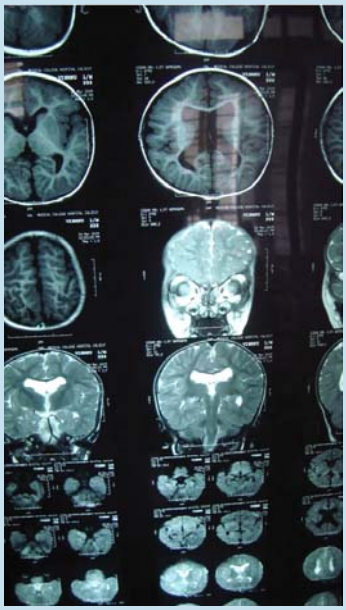

Fig. 5 Turricephaly (tower shaped skull) with coronal synostosis

Fig. 3 (Short and broad great toes, syndactyly of toes 2-4.)

Fig. 4 (Palate is narrow and v-shaped with cleft of posterior third.)

midface hypoplasia and syndactyly of hands and feet. The cranial features are characterized by early fusion of skull bones, mainly coronal, sometimes lambdoid sutures. The calvarium is lengthened vertically and shortened in the antero – posterior dimension resulting in a flattened occiput and a prominent frontal area.

Osseous and or cutaneous syndactyly of hands and feet most commonly with complete fusion of 2nd to 4th digits. Cutaneous syndactyly of all toes with or without osseous syndactly may also be seen.

Wilkie et al[10] scored the severity of the syndactyly in Apert syndrome according to modified version of classification of Upton (1991).

Type I: Thumb and part of 5th finger are separate from syndactylous mass.

Type II: Little fingers are not separate.

Type III: Thumb and all fingers are included.

Syndactyly in foot may involve mainly 3 digits (type I) or digits 2- 5 with a separate toe (type II) or be a continous (type III).

Kreiborg et al[9] found fusion of cervical vertebrae in 68 % of patients with Apert syndrome & multiple fusions in 31%. C5 – C6 fusion was most common.

Commonly associated features include cardiac anomalies, visual and hearing defects.

Varying degrees of mental deficiency have been associated with Apert's syndrome. Individuals who have done craniectomy early life may have improved intelligence.

The maxilla is hypoplastic and retropositioned. The palate is high arched and narrow transversely. Pseudo cleft palate along with an anteriorly tipped palatal plane is common. The soft palate is thick and relatively long considering the maxillary retroposition with a 30% incidence of soft palatal clefting[11].

The maxillary dental arch is v-shaped and there can be some compensatory growth of the alveolar base. Most probably the alveolus thickens to accommodate the teeth that are impacted and crowded to an extreme degree in a small maxilla. The maxilla slants down posteriorly. As a result, open bite is common, if untreated, the maxilla-mandibular discrepancy and class III malocclusion worsens with age.

The appearance of a patient with Apert syndrome is prognathic. The "pseudoprognathic" appearance is basically due to maxillary retroposition. Impactions, severe crowding of developing teeth within the alveolus, delayed eruption, thick gingival and sometimes supernumerary teeth or congenitally missing teeth are the hallmarks of the maxillary dental development in the Apert patient. There is severe arch length deficiency to accommodate the tooth material. There is a mean dental developmental delay of 0.96 years, with a range of 0.5 to 2.9 years. It is postulated that mutation in the FGFR2 gene has an effect on the mesenchymal development, which has an effect on tooth morphogenesis.

Treatment of these patients is done by multidisciplinary team. Planning of sugery should be done in stages: Craniotomy aims to decompress the brain and is done in infancy; advancement of the middle third improves airway- nasal flow and may be done in puberty and finally orthognathic surgery improves occlusion and dental esthetics & may be done in adolescence[12].

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Mini implants and anchorage in orthodontics

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Abstract

The efficacy of retraction and control of teeth in three dimensions had enormously increased the need for studying various methods by which anchorage loss can be controlled. With the use of skeletal anchorage in orthodontic treatment, orthodontists could expect absolute anchorage for tooth movement. Sliding mechanics with maxillary microscrew implants provide anchorage for bodily retraction with a slight intrusion by making the force pass near the center of resistance. The maxillary posterior teeth and anterior teeth can both be retracted without anchorage loss. There are a few concerns about the complications and failures of using microscrew implants in dentistry.

Introduction :

Orthodontic treatment with fixed appliances commonly involves moving teeth along an archwire to close the residual extraction spaces. When clinicians select a force delivery system for this purpose, they hope that it would apply a force which will be of sufficient duration to achieve tooth movement in an efficient and effective manner, without causing damage to the tooth or periodontal structures. The ideal space closure system should have mechanical properties that provide a continuous light force, preserve periodontal integrity, and close the space within a minimum time. Space closing systems include elastomeric products, such as elastomeric chains and modules, and nickel titanium (NiTi) coil springs. The ideal magnitude of force for space closure in orthodontics was found to be between 150 and 200 g.

Absolute anchorage has been a hypothetical situation due to mechanical, biological and patient cooperation constrain. With the advent of micro implants in combination with sliding mechanics and enmass retraction, the efficacy of retraction and control in three dimensions in anterior and posterior area has enormously increased. Sliding mechanics with maxillary microscrew implants provide anchorage for bodily retraction with a slight intrusion by making the force pass near the center of resistance. The maxillary posterior teeth and anterior teeth can both be retracted without anchorage loss.

With the use of skeletal anchorage in orthodontic treatment, orthodontists could expect absolute anchorage for tooth movement. The micro-implants and mini-screws are smaller in diameter and come in several lengths. They can be inserted in any desired location, including inter radicular space, could be loaded immediately, could withstand typical orthodontic forces during the entire length of treatment; did not need osseointegration unlike restorative implants and could be easily removed by the orthodontists [1]. The treatment using, microscrew implant for anchorage along with sliding mechanics, could maximize the efficiency of retraction of the anterior teeth in maximum anchorage cases.

Miniscrews remain clinically stable but not absolutely stationary under orthodontic loading. The displacement could be attributed to several factors, such as fixture size, orthodontic force magnitude, depth of the miniscrew inside the implant site, bone quality and quantity at the implant site, and waiting period. Among these factors, the waiting period could play a determining role in displacement [2]. It has been suggested that a waiting period is not necessary for miniscrews, because their primary stability (mechanical retention) is sufficient to sustain normal orthodontic loading, and this would not compromise the clinical stability of the miniscrews. Most of the implants losses were considered to be the result of excessive strains and stresses at the bone / implant interface[3]. FEA (finite-element analysis) clearly demonstrates that the local strain distribution has a significant impact on the biological activity of the adjacent bone tissue[4]. The number of days from implantation to force application was not associated with stability. It is suggested that immediate loading of a screw-type implant anchor is possible if the applied force is less than 2 N. Such immediate loading is probably possible because of successful mechanical interdigitation between the implant anchor and the alveolar bone in the posterior region [5]. The length of the titanium screws, used as means of anchorage did not have any relation with stability if the screw was longer than 5 mm. On the other hand, the diameter of the screw was significantly associated with its stability. As the maxilla is composed more of cancellous bone, the length of the implant should be longer and thinner in contrast that of mandible.

Most orthodontic applications need forces of less than 300g. Therefore sufficient mechanical interdigitation between the screw and the cortical bone is an important factor that affects the stability of the screw type implant anchor [6].

Method for implant placement:

A periapical X-rays and jig are used to determine

whether adequate space exists for implant placement. When enough space is not available, moving the roots apart orthodontically can be carried out before placing implants. The infrazygomatic crest has 2 cortical plates which contribute for better stability of miniscrew implant. To obtain 10 mm (biting depth + clearance) of mini screw without injuring the adjacent structures, the screw insertion is angulated at 40^0 and 8mm gingival to the maxillary base archwire. The emergence of miniscrew head causing soft tissue irritation and infection can be prevented by placing the miniscrew at keratinized gingival or mucogingival junction. The maximum thickness of infrazygomatic crest is between the roots of 2nd premolar and 1st molar in the upper arch.

The procedure for placing the implant - a small amount of local anesthetic solution is sufficient to anesthetize the area of insertion. A probe can be used to confirm profound anesthesia. The probe also creates a precise soft tissue marker to guide the miniscrew after radiographic verification. A 4 mm vertical incision is made with a No: 15 B.P surgical blade at the mucogingival junction above the maxillary second premolar and first molar, as it would prevent a soft-tissue rollup while using the pilot drill. A mucoperiosteal flap is elevated to expose the cortical bone of the maxilla.

A speed-reduction contra angle hand piece (Antrogyr 1/64) with chilled saline irrigation can be used to make the original entry into the bone. Before using the pilot drill, a round bur (0.9mm diameter) is used first to make a small indentation on the bony surface. When drilling into dense bone, careful up and down as well as stop and go strokes is given to compensate for the low torque generated by the slow-speed hand piece. Long hand driver can be used for slow driving (tapping) of the microimplant on the buccal surface of maxilla. Chilled saline irrigation is continued throughout the drilling and tapping procedure as this is considered to be significant to prevent necrosis. Care has to be taken while tapping the implant to avoid any contact with the roots. In the event of such an incident the implant is removed and redirected away from the roots.

These results suggest that micro-implant treatment has the following advantages:

1. Does not depend on patient compliance with extraoral appliances.
2. Provides absolute anchorage for orthodontic tooth movement.
3. Shortens treatment by retracting the six anterior teeth simultaneously.
4. Produces an early profile improvement.

There are concerns about the complications and failures of microscrew implants [7]. The *complications that can arise during implant insertion* on buccal maxillary cortex are trauma to the periodontal ligament or the dental root, mini screw slippage, air subcutaneous emphysema, maxillary sinus perforation and bending, fracture or torsional stress of mini screw. The *complications that can arise during orthodontic loading* consist of stationary anchorage failure and mini screw migration. The *soft tissue complications* associated are aphthous ulceration, soft tissue coverage of the mini screw head and auxiliary and soft tissue inflammation / infection / periimplantitis. The *complications that can arise during removal* of mini screw consist of mini screw fracture and osseointegration.

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* Bindu R. Nayar

Gum Inflammation Linked to Alzheimer's Disease

ScienceDaily (Aug. 4, 2010) —researchers have found the first long-term evidence that periodontal (gum) disease may increase the risk of cognitive dysfunction associated with Alzheimer's disease in healthy individuals as well as in those who already are cognitively impaired.Gum inflammation may contribute to brain inflammation, neurodegeneration, and Alzheimer's disease. "The research suggests that cognitively normal subjects with periodontal inflammation are at an increased risk of lower cognitive function compared to cognitively normal subjects with little or no periodontal inflammation," Dr. Kamer found that subjects with Alzheimer's disease had a significantly higher level of antibodies and inflammatory molecules associated with periodontal disease in their plasma compared to healthy people.Dr. Kamer's team compared cognitive function at ages 50 and 70, using the Dr. Kamer found that periodontal inflammation at age 70 was strongly associated with lower DST scores at age 70. Digit Symbol Test, or DST, a part of the standard measurement of adult IQ. The DST assesses how quickly subjects can link a series of digits, such as 2, 3, 4, to a corresponding list of digit-symbol pairs, such as 1/-,2/4% ... 7/Ë,8/X,9/=.Subjects with periodontal inflammation were nine times more likely to test in the lower range of the DST compared to subjects with little or no periodontal inflammation.This strong association held true even in those subjects who had other risk factors linked to lower DST scores, including obesity, cigarette smoking, and tooth loss unrelated to gum inflammation. The strong association also held true in those subjects who already had a low DST score at age 50.A follow-up study involving a larger, more ethnically diverse group of subjects, to further examine the connection between periodontal disease and low cognition.

How to Rapidly Assess Children's Tooth Decay Risk

ScienceDaily (July 2, 2010) — ATP-driven (adenosine triphosphate-driven) bioluminescence — a way of measuring visible light generated from ATP contained in bacteria — is an innovative tool for rapidly assessing in children at the chair-side the number of oral bacteria and amount of plaque that can ultimately lead to tooth decay.Caries (microbial disease) prevention is one of the most important aspects of modern dental practice. Untreated, large numbers of cariogenic bacteria adhere to teeth and break down the protective enamel covering, resulting in lesions and cavities. There is a critical need in dentistry to develop better quantitative assessment methods for oral hygiene and to determine patient risk for dental caries, because disease as well as restorative treatment results in the irreversible loss of tooth structure. Previous caries risk assessments have focused on social, behavioral, microbiologic, environmental and clinical variables.The use of microbiological testing, specifically ATP-driven bioluminescence, for quantifying oral bacteria, including plaque streptococci, and assessment of oral hygiene and caries risk. The oral specimens were then assessed to count total bacteria and streptococci and subjected to ATP-driven bioluminescence and may be used as a potential assessment tool for oral hygiene and caries risk in children."The use of ATP-driven bioluminescence has broad implications in dentistry and medicine and can be used translationally in the clinic to determine the efficacy of interventional therapies, including the use of mouth rinses and perhaps in the detection of bacterial infections in periodontal and other infectious diseases,"

Journal Reference: 1. Fazilat, Shahram; Sauerwein, Rebecca; Mcleod, Jennifer; Finlayson, Tyler; Adam, Emilia; Engle, John; Gagneja, Prashant; Maier, Tom; Machida, Curtis A. Application of Adenosine Triphosphate-Driven Bioluminescence for Quantification of Plaque Bacteria and Assessment of Oral Hygiene in Children. Pediatric Dentistry, Volume 32, Number 3, May / June 2010 , pp. 195-204(10)

Can Cleft Palate Be Healed Before Birth?

ScienceDaily (Dec. 2, 2009) —How to non-surgically reverse the onset of cleft palate in fetal mice — potentially one step in the journey to a better understanding of similar defects in humans.Cleft palate is one of the most common congenital birth defects in humans and that current surgical treatment for the craniofacial abnormality is often complex and invasive, sometimes stretching over a period of years before the treatment is considered complete.Cleft palate can cause serious complications, including difficulty eating and learning to speak. However, close regulation of important signaling molecules during palate formation may one day allow doctors to reverse a cleft palate before the baby is even born.For example, the protein Shh must remain within a certain level in a developing fetus in order for a proper palate to form. If too little or too much of the protein is expressed, a cleft palate can occur.Two genes are responsible for the regulation of Shh levels. Signaling from the Msx1 gene encourages Shh production, while Dlx5 discourages Shh, creating a healthy balance. Both genes are critical for the healthy development of the palate, teeth and other skull and facial structures.The fetal mice were strategically bred to have a defect in the Msx1 gene, resulting in lack of expression of the Shh protein and the formation of cleft palates. However, when the impact of the Dlx5 gene was suppressed, more Shh was successfully expressed and the palate began to regrow.When the mice were born, their palates were intact. While some of the oral structures had minor differences as compared to the palates in completely healthy mice, the function of the rescued palates were healthy, allowing the newborn mice to feed normally.With more research into the genetic processes behind cleft palate in humans, the breakthrough could someday make a big difference in how we prevent or treat cleft palate in humans.

Story Source: The above story is reprinted (with editorial adaptations by ScienceDaily staff) from materials provided by University of Southern California.

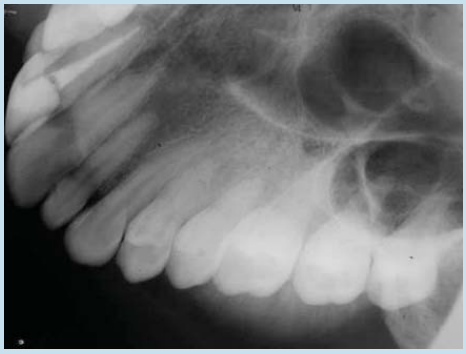
***** Professor, Dept of Periodontics, Govt. Dental College, Thiruvananthapuram**

Diagnose

Diagnose the following case

*Sajna Hemaraj, **Jincy Thomas, ***Nileena R Kumar, ***Sharafuddeen K P, ****Anita Balan



A 28 year old female patient presented to the OPD of Government Dental College, Calicut with a swelling on left side of face of one month duration. She gave a history of a similar swelling in the region which was removed 2 years back. She didn't have any previous records. The swelling started as a small one which rapidly increased to the present size. She has mild pain in the right maxillary region.

Extra oral examination revealed a diffuse swelling on the left maxillary region, just lateral to the ala of nose. Skin over the swelling was normal. No cervical lymph node enlargement was present. On palpation, there is no local rise of temperature. Mild tenderness was present and the swelling was bony hard in consistency.

Intraorally a swelling was seen in the upper buccal sulcus extending from 23 to 26, obliterating the sulcus. Of 6 x 3 cm in size having a smooth surface. Mucosa over the swelling was slightly erythematous. On palpation, the swelling was moderately tender and bony hard in consistency. There was no mobility of teeth.

IOPA radiograph revealed an alteration in the trabecular pattern in the region, with numerous fine trabeculae. Occlusal radiograph revealed fine, radiating radiopaque lines interspersed with radiolucent space in between seen in the buccal surface of maxilla extending approximately 1 cm from the surface. there was loss of lamina dura of all the teeth in the region of the lesion.

What is the most probable diagnosis?

Ans: Osteosarcoma

Osteosarcoma is a malignancy of mesenchymal cells that have the ability to produce osteoid or immature bone. The radiographic findings vary from dense sclerosis to a mixed sclerotic and radiolucent lesion to an entirely radiolucent one. The classic sunray appearance is caused by osteophytic bone production on the surface of the lesion. Sun ray appearance can be seen in 25% of jaw osteosarcomas.

*** PG student, ** Former PG student,**
***** Asst Professor, **** Professor and Head,**
Govt. Dental College, Kozhikode

Quiz

* Sajna Hemaraj, **Nileena R Kumar, **Sharafuddeen K P, ***Anita Balan

1. A patient reported with a complaint of recurrent swelling and pain on the right submandibular region during meal times. Radiograph revealed two radio opaque masses near the lower border of mandible. Identify the condition

a) Osteoma b) CEOT
c) Sialolith d) Calcified lymph node

2. Topical steroid is used in the management of the following conditions except:

a) Erosive lichen planus b) Canker sore
c) Cold sore d) Pemphigus

3. This patient with a white striated lesion on the buccal mucosa,also has red scaly patches on his face ,chest and back. The most probable diagnosis is.

a) Lichen planus
b) Graft-versus-Host Disease
c) Discoid lupus erythematoses
d) Mucocutaneous candidiasis

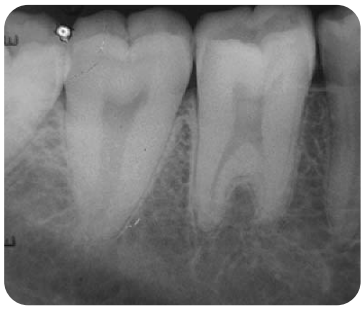
4. Most common cause of xerostomia is

a) Aplasia of salivary glands b) Medication
c) Sialadenitis d) Sialolithiasis

5. A female patient reported with a complaint of burning sensation on left cheek of 3 months duration. She has an amalgam restoration on the left lower molar. She doesn't have any deleterious habits. Identify the condition.

a) Lichen planus b) Lichenoid reaction
c) Leukoplakia d) Candidiasis

6. The radiographic appearance of the lower first molar is characteristic of



a) Dilaceration
b) Taurodontism
c) Dentinogenesis imperfecta
d) Dentin dysplasia

7. Most common periapical radiolucency in the jaws

a) Periapical granuloma b) Periapical cyst
c) Cementoma d) Osteomyelitis

8. Cracked mud appearance is seen in

a) Oral lichen planus b) Homogenous leukoplakia
c) Candidiasis d) Erythroplakia

9. Target or Iris lesions are pathognomonic of

a) Systemic lupus erythmatosus
b) Erythema multiformae
c) Reccurent herpes labialis
d) Recurrent aphthous ulcer

10. A 25 year old female patient presented with a slow growing swelling on the left lower part of face of eight years duration. She didn't have any associated symptoms. Radiograph revealed a ground glass appearance in the right body ramus region of the mandible, with downward bowing of the lower border of the mandible. The inferior alveolar canal was displaced upwards. The diagnosis based on radiographic appearance is

a) Odontogenic keratocyst b) Osteomyelitis
c) Amelobalstoma d) Fibrous dysplasia

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

* PG student, ** Asst Professor, *** Professor and Head, Govt. Dental College, Kozhikode

Secretary's Report and Association News

Secretary's Message

Dear friend,

I have great pleasure in presenting this write up in the 3rd quarter of this calendar year. In this last edition of the Kerala Dental Journal for the year 2009-10.Iam proud to announce the list of successful programmes like Dentist's Day programme,Students Conference,National CDE,Inauguration of International Study Centre,Sports Meet,Chilamboli that were turned into gold by the mida's touch of our respected President Dr.Samuel K Ninan and team.I strongly believe this was possible only because of your stupendous support and exceptional co-operation.There are no words to express my gratitude.Iam sure this golden touch does not end.It continues and extends to beautify our 43rd Kerala State Dental Conference-MIDA'S TOUCH 2010.

REPORT OF ACTIVITIES

CDE REPORT

Dr. Jaibin George
CDE Convener

Dear Friends,

I feel extremely happy to present this report before all of you. As you are all aware, this year IDA Kerala state was able to conduct great number of cde programmes. Many of them were trend setters.

Our two state level programmes organized at Munnar & Thalassery were based on "Edutainment concept" - being both educative and entertaining... especially with the exotic locations they were conducted in. Those were two full day programmes and there were banquets on the first day with variety entertainments. Participants' family members also attended the banquet and many of them highly appreciated the events.

Our Thiruvalla cde and the National cde at Cochin were well attended and had around 500 participants each, which could be possibly be considered as national records.

We feel proud to have introduced a novel system in organizing CDE programs.

The cde listings on our website www.idaKerala.com enables our members to be aware of the various programmes being organized along with their dates, topics, speaker(s), schedules, venues, fees etc.This novel online mechanism gives our members a unique opportunity to select the topic of their interest and a date of their convenience. We also propose to switch over to a web-based registration process too, to simplify the registration process.

We are glad that several programs we organized received extensive media coverage. It helped considerably in spreading the awareness about the latest developments in Dentistry not just among the general public, but also among all health care providers, apart from dentists.

We have also introduced a unique evaluation system for all CDE programs. This system helps evaluate every program based on a feedback form which is given to the participants, after the program. A thorough analysis of the feedback obtained helps the organizers in a great way to ensure that succeeding programs are even better.

All IDA branches have been conducting excellent CDE programs... though with a few clashes in scheduled dates. This issue can be avoided if the state CDE wing is informed well in advance about the proposed CDE programmes. Please be aware of the fact that the State CDE wing approval and prompt reporting is mandatory to avail credit points with respect to the participants and for bidding for the Awards with respect to the organizing branch. Concrete guidelines have been formulated for the benefit of the branches for smooth conduct of CDE programs. The CDE application forms, report forms, attendance sheet and sample certificate given on our web site is very useful for our local branches. State CDE wing played a great role in coordinating the branch, inter branch, state and national level CDE programmes in a smooth manner.

This year we have organized several CDEs (National level - 1, State level - 5, Inter branch - 35 & branch level - 36) till date with the approval of CDE wing.Two state level cde programmes organized at Thiruvalla and Malappuram were free for our members. Clinical clubs were formed in Alleppey and Nedumbassery branches.

We feel proud to have had the first national cde centre inaugurated at IMA house Kaloor, Cochin by our national president Dr. L Krishnaprasad on 25th July 2010. The IDA Head office is planning regular cde programmes with hands on at the cde centre.

CDE programmes imparting newer and advanced techniques and concepts in Dentistry will certainly attract more members and in turn strengthen our association.

1st State Level CDE (2009-10) was organized on 29th Nov 2009, Sunday on the hot topic "Current Concepts & Advances in Dental

Implantology". This program was conducted along with a Live Video Surgery of a BOI implant in the maxillary sinus region. The faculty were Dr Sigmar Kopp, Dr Varghese Mani, Dr Prem Nanda, Dr Srikanth Mallan, Dr.Joseph Varghese and Dr Prasanth Pillai. The programme was supported by DISK (Dental Implantologists Society of Kerala) & IDA Kochi. The venue was Saraf Hospital, Ravipuram, Kochi.

The 2nd IDA Kerala State Organised CDE was held on the 6th & 7th of February 2010 at Hotel T & U Munnar. The program was on Fixed Orthodontics which covered all major fields of modern orthodontics with special emphasis on Pre-adjusted Edgewise Appliance (Straight Wire) .There were also Lectures on Lingual orthodontics, Clear aligners and Orthodontic mini implants. The Speakers were Dr Sumeet Ghonmode, Dr Rakesh Mahode , Mr. Rajesh Bhojwani, Dr.P.S.Dinesh and Dr Benoy Ambookkan. IDA Kerala State President Dr.Samuel.K.Ninan inaugurated the programme. The programme was of 12hrs of lectures and 3 hrs of hands-on including placement of orthodontic implants in sheep bone. 103 dental surgeons attended the programme. It was an 'Edutainment' programme with banquet and musical night on the 6th evening. Many dentists attended the programme with their families. The programme was supported by IDA Green valley and Malanadu branches.Participants with their family enjoyed the programme.

IDA Kerala state organized its **3rd state level CDE programme** on 14th March 2010 at Macfast Auditorium Thiruvalla hosted by IDA Thiruvalla branch .It was Inaugurated by Kerala Dental council president Dr Mathew Joseph Vayalil.The faculty was Dr Aqueel Sajjad Reshamvala renowned Prosthodontist and the topic was 'Full Mouth rehabilitation'. It was a free CDE for IDA members. 507 dental surgeons attended the programme. The programme was of 8 hours of lecture and also had a live demonstration of measuring Jaw relation and face-bow transfer.

4th state level CDE programme ("Gurukulam 2010") was hosted by IDA Thalassery branch on 10yh and 11th of July. It was a 2 full day programme .Speakers were Dr Rengarajan, Dr Padmanabhan, and Dr Harsh Vyas

There was a Beach side banquet party on the fist day night Participants with their family enjoyed the program.

National CDE programme Hosted by IDA Kerala state was on 25th July 2010 at IMA House Kaloor. Topics were Current trends in cosmetic dentistry by Dr.Sunil Bhoolabhai, 4D Endodontics- another challenge by Dr.Anish Vishnu Navare & Implant soft tissue esthetics by Dr Neel Bhatvadekar. The programme was supported by Kochi and Nedumbassery Branches. This was well attended and there were 418 participants. CC meeting and a banquet with variety entertainments was there on the previous day

5th State Level CDE programme

Hosted by IDA, Malappuram Branch on Sunday, the 29th of August, 2010 at Al-Mas Hospital, Kottakkal. It was a unique CDE wherein the advanced ARS was incorporated to make the lecture a lively one. It was a "Symposium on Minimal Intervention Dentistry" by Dr. Kandaswamy and Dr. Sriram.

CDH REPORT

Dr. Joseph C.C.
CDH Chairman

CDH wing of IDA Kerala state conducted various projects in 2009-10.

1. A POSTER for dental clinics in patients waiting area both in Malayalam & English distributed to all the 3500 members of ida kerala state.

2. Power point presentation on patient education for public as well as school children .

3. The main project of this year is IDA palliative care Asha Kiran project

Study: Scientific study and research on xerostomia in patients under palliative care.

Activity: Drapes and table cloth for dental clinics by palliative care patients and their family.

4. Palliative care day : The palliative care day was observed on January 15. A state function was arranged to mark the day at Kunnamkulam hosted by the Kunnamkulam branch.

5. Dentists' day: Dentists' day was observed on March 6 at Kollam. The state program was highlighted by the presence of Mr.Premachandran. Minister for water recourses and national office bearers including the president Dr. L. Krishna Prasad and Hon Sec. general Dr. Ashok Dhoble.

6. Smile Kerala project: Dental Camps conducted at all local branches on March 6 as part of Dentist day.

7. World No Tobacco day: This day is observed on May 31. The state level programme was hosted by Malabar branch. The programmes were multiple video presentations at public places; quiz competitions for students; tableau and street shows on the hazards of tobacco use were conducted aimed at increasing patient awareness.

8. Oral hygiene day: Oral hygiene day was observed on Aug 1 at Malappuram by Malappuram branch. Zilla panchayat officials attended the function. Dental awareness classes and poster exhibition for anganwady workers were the highlight of the programme.

9. NOHP Inauguration: The national oral health programme was inaugurated by ex minister for finance and excise Mr. Vakkom Purushothaman at Attingal. Mr. Peethambarakurup (M.P.of Quilon) was also present at the function. The function was hosted by Attingal Branch

10. Chilamboli: With active participation of most of the local branches, the entertainment & Cultural programme chilamboli was conducted at Rotary Hall, Alappuzha. Noted film director Vinayan was the Chief Guest.

11. Prathyassa - Free Denture programme: Ida kerala state is the brought out a prestigious project prathyassa free denture progremme few years back and the project is still running under this scheme hundreds of dentures have been delivered free of cost to deserving patients.

The state level programme will be hosted by Malabar branch at Calicut Town Hall on October 3rd. 140 free dentures will be delivered at the public function on the day.

11. Photographic contest: Entries are invited in two categories.

(i) 'From the nature'

(ii) IDA in public Activities

12. Road safety & trauma care

Asha Kiran IDA Palliative Care

IDA Kerala state is planning to put forward a new project this year under the name Asha Kiran Ida palliative care.

We have conducted a two day seminar on March 20,21 in Aluva YMCA

The active involvement of Indian Association of Palliative care (IAPC) and Indian Dental Association (IDA) members has made the first step of Asha Kiran a grand success. The sincere effort of

the delegates turned the event into a golden land mark in the history of IDA. The depth of the seminar, the simplicity of the faculty and the sincerity of the delegates made it very memorable.

The Asha Kiran Education Scheme for the dependants of palliative care patients is going to be a big step in the commitment to the society.

Our working plan in academics, clinical and research level is going to be another milestone in the history of dentistry and palliative care.

Three working groups have been formed for

i Xerostomia

ii Candidiasis

iii Pre & Post Radio Therapy Maxillo facial prosthesis

To address the lacunae present in these fields; especially in palliative care patients. Senior most professors, academicians, clinicians, and research fellows and house surgeons of various dental colleges will be called in for this project of Asha Kiran,

Research studies are aimed at eliminating this lacunae observed in the data rating and guide lines in the management of these topics which will be addressed by learned men based on the clinical data available in our country. In a way this will help for proper follow up and correlation of the data available which will pave the path for better continuity in research works in our country.

Ida kerala state is the brought out a prestigious project prathyassa free denture progremme few years back and the project is still running under this scheme hundreds of dentures have been delivered free of cost to deserving patients.

World Pain and Palliative Care Day

World Pain and Palliative care day on January 15th Friday at Kunnamkulam. Dr. Joseph C.C. CDH Convener, IDA Kerala State will inaugurate the session and Prof N.N.Gokuldas, Sreekrishna College, Guruvayoor took the seminar on Introduction to Palliative Care and Role of IDA.

State level Two days training session .. to be conducted at YMCA Alwaye on 20th and 21st of March 2010 in association with IAPCK.

IDA PALLIATIVE CARE - ASHAKIRAN WORKSHOP

MARCH 20TH & 21ST 2010, YMCA - ALUVA

First time in the history of IDA Kerala State, we have conducted a beautiful 2 days workshop in Palliative Care on March 20th & 21st 2010 at YMCA Aluva. The Indian Association of Palliative Care(IAPC), Secretary Mr. Praveen inaugurated the function. Dr. Joseph.C.C. State CDH Convenor presided over the function. Dr. Jaibin Gerorge State CDE Convenor explained this combined programme of State CDE&CDH. The President of IDA Nedumbassery welcomed the gathering and the State Co-ordinator of ASHAKIRAN Project Dr. Abdul Latheef delivered the vote of thanks.

The active involvement of Indian Association of Palliative care (IAPC) and Indian Dental Association (IDA) members has made the first step of Asha Kiran a grand success. We could see the sincere effort of the value based human beings turning up into a golden land mark in the history of IDA. The depth of the seminar, the simplicity of the faculty and the sincerity of the delegates made it memorable.

Delegates from all over Kerala participated in the workshop. Dr. Suresh Kumar Director of Institute of Palliative Care, Calicut; Dr. RajaGopal, Director of Pallium India, Trivandrum; & Dr. Mathew Nambely, Project Officer NRHM, Idukki District, conducted classes on various topics. Demonstration class on Home Care was conducted by Sheeba. A self-improvement session was conducted under the leading 'SUCCESS' by Dr. Abdul Latheef.

The ASHAKIRAN Edu Care Scheme for the dependants of Palliative Care patients was explained. Three working groups on Xerostomia, Oral Candidiasis, Pre & Post Radiation Therapy Maxillofacial prosthesis were formed to address the lacunae present in the available literatures, Datas, Clinical expertise and research works. The information given by Dr. Suresh Kumar about the role of Dental Surgeons in Palliative Care was an eye opener to the delegates.

Our working plan in academics, clinical and research level is going to be another milestone in the history of dentistry and palliative care. The proposal of 15 days community dentistry posting for house surgeons in palliative care clinics have to be brought to effect as early as possible.

Senior most professors, academicians, clinicians, and research fellows of our country will be called in for this project of Asha Kiran Research studies are aimed at eliminating this lacunae observed in the data rating and guide lines in the management of these topics which will be addressed by learned men based on the clinical data available in our country .In a way this will help for proper follow up and correlation of the data available which will pave the path for better continuity in research works in our country. Dr. Premkumar. G, Past President of IDA Kerala State has offered to provide a vehicle for the palliative care unit at Kodungallor.

World No Tobacco Day Celebrations 2010

World No Tobacco Day Celebrations of the Kerala State Branch was conducted at Calicut by the IDA Malabar Branch with various programmes. A Notice regarding all these programmes were distributed along with the newspapers at Calicut City on Sunday May 30th and details of the programme was inserted in the today's programme column of all the leading newspapers on May 31st.

On 31st May at 6.25 am, Dr. Binu Purushothaman delivered a

No Tobacco message in the programme 'Sradha' telecasted by All India Radio Calicut Station.

At 10.00 am, the anti tobacco documentary produced by the IDA Malabar Branch was screened for the public at Moffusil Bus Stand, Calicut. The programme was inaugurated by Dr. Sharafuddeen. K. P, President, IDA Malabar Branch. State CDH Convener Dr. Joseph. C. C also spoke on the occasion. Dr. Antony Thomas, Dr. Mehul. R. Mahesh and Dr. Manoj Joseph were also present. The documentary was repeated for many times and thousands of people watched the show.

At 3.00 pm, a quiz competition was arranged for the college students at Jubilee Hall, Kandamkulam, Calicut. The quiz competition was conducted by Dr. Ranjith. R and the winners were Indu. V and Vini Grace Ross of Govt. Dental College, Calicut.

The public function was conducted at Jubilee Hall, Calicut at 5.00 pm. The IDA Kerala State first Vice President Dr. R. K. Nizarosiyo chaired the programme. State CDH Convener Dr. Joseph. C. C welcomed the gathering. Worshipful Mayor of Calicut City Sri. M. Bhaskaran inaugurated the function. Dr. C. Ravindran, Principal, Medical College, Calicut delivered the No Tobacco Day message. Dr. Binu Purushothaman (President, Calicut JCI), Mr. Ashokan Aalapurath (President, Kerala blood Donors Forum) and Dr. Antony Thomas felicitated on the occasion. IDA Malabar Branch President Dr. Sharafuddeen. K. P proposed the vote of thanks.

After the public function, an anti tobacco tableau was arranged on a vehicle with the documentary show, was flagged off by the Worshipful Mayor Sri. M. Bhaskaran. The documentary was screened at different important spots in the Calicut city repeatedly in the evening.

DENTISTS' DAY Celebrations

NOHP Inaguration

1. The national oral health programme was inaugurated by ex minister for finance and excise Mr. Vakkom Purushothaman at Attingal. Mr. Peethambarakurup (M.P.of quilon) was also present at the function. The function was hosted by Attingal Branch

Oral Hygiene Day 2010

The state celebrations of Oral Hygiene Day 2010 was held at LP School, Downhill, Malappuram on the 1st of August, 2010. Mr. Arimbram Mohammed, (Chairman, District Panchayat) was the chief guest and inaugurated the day. Mr. Kiliyamannil Yakub (Chairman, Malappuram Municipality) and Mr. Salim

Kuruvambalam (Chairman, Standing Committee, Zilla Panchayat) were also present to inaugurate the Oral Hygiene Public Awareness Exhibition (conducted by our student members) and our local NOHP project respectively. Dr. Deebu, President, IDA Malappuram Branch welcomed the crowd. Dr. Sudeep.S (State Coordinator, Oral Hygiene Day) presented the keynote speech. Dr. Aneesh (Programme Coordinator) conducted an awareness lecture for anganwadi teachers and NRHM Asha volunteers. Dr. Abdul Razak (CDH Convenor, IDA Malappuram) delivered the vote of thanks. Lunch was served to all present.

Road Safety & Trauma Care

Road Safety & Trauma Care - Road Traffic Accidents are increasing day by day and around 30% of the Road Traffic accidents victims report with Cranio facial injuries. Many of the facial disfigurements can be cosmetically restored with advancement in dentistry like maxillofacial prosthesis, implants etc. IDA would like to implement the project in three steps.

Step A. Educate our members and our families about the road safety principles by conducting seminars for our members. Invite Road safety authority officers, Lawyers handling Motor Accident Claim Tribunals cases, Officers from Vehicle Insurance companies, Vehicle manufacturers, Doctors working in Trauma care etc etc.. to explain various aspects.

Step B Conduct Road safety awareness classes/ Competitions for the public/Drivers and school/college children along with our already existing school dental health Programmes. Educate the public and school children about the importance of immediate attention in Trauma care and newer Dental Treatment modalities to restore the deformities.

Step. C. Locate accident prone areas in our area and bring it to the notice of the authorities and erect road safety sign boards.

Photography contest for IDA Members

A photography contest is planed for the members this year also. Entries are invited in two categories.

(i) 'From the nature' (ii) IDA in public Activities

All entries shall reach the state CDH office on of before the 15th of October 2010. The maximum entries per member are three per category. The photos shall be submitted in an A4 size photographic print (size 8 X 12). The winner shall be awarded prize money of Rs. 1000/- in addition to a trophy and a certificate. The runner up shall also receive a cash award of Rs. 500/- a trophy and a certificate. The prizes will be distributed at the annual conference. All entries shall be put on display at the conference.

Chilamboli-2010- Report

"CHILAMBOLI 2010" was the name given to the cultural extravaganza conducted by IDA-Kerala State at Alappuzha on 29th August 2010. It featured cultural competitions for the entire dental fraternity (including family members) from all the IDA branches of Kerala.

Earlier cultural programs were integrated with the IDA State Annual conference; however IDA State President Dr. Samuel K Ninan who is known for bringing innovative changes to IDA- Kerala decided it would be held differently this time. And so for the first time a separate Cultural Competition was held and IDA-Alappuzha had the privilege of hosting the inaugural event. They did themselves proud by doing it in style.

St. George Hall , where the event was held, was filled by 9.30 am as competitors arrived promptly for registration. The inauguration function was well attended by the IDA State officials including State President Dr. Samuel Ninan, State secretary Dr. Shibu Rajagopal, Past President Dr. Prathapkumar, Cultural Committee Chairman and Chilamboli organizing chairman Dr. G. Venugopal,CDE Convener Dr. Jaibin George and others. The presence of noted filmmaker Mr. Vinayan as the chief guest added the extra zing to the occasion. The Theme Song of IDA Kerala, the lyrics of which were written by Dr. G. Venugopal and composed and sung by a rising young talent in the music field Mr. Sunil, was also launched at the inaugural function.

Dentists of IDA -Kerala State decided to give rest to their probes, air- rotors and forceps and competition began by 11 in gusto. Performers captivated the audience from start to finish with their mesmerizing performance in the categories of dance, music and variety. Each team was allotted 20 minutes to perform under these 3 broad categories. Music included light/classical/film/vocal/ instrument; Dance included classical/cinematic/folk/contemporary and Variety included Fashion show/magic/mono act/mime/street drama/skit etc. Competitors were judged on quality, entertainment value, variety and the number of participants by a team of accomplished judges who undoubtedly had a tough time.

It was truly amazing to have teams from all over Kerala gather to showcase their remarkable talent. In all 13branches participated and dominating this year's competition in both the individual and team events were IDA Mavellikara and IDA Kollam. The crowd-favorite IDA Mavellikara took the overall title and a cash prize of Rs. 10,000 beating their nearest rival IDA Kollam who went home with a cash prize of Rs.5000 besides the runner-up trophy.

This event had a host of sponsors and Dr. Joe Bijoy sponsored the First cash prize and Dr. Tijo Alex the second.

IDA Alappuzha received many accolades for conducting the event in a meticulous manner and rest assured IDA Alappuzha felt all their efforts were worth it.

Dr. Joseph C.C.
(CDH Convener,IDA Kerala State)

TRIVANDRUM

RELEASE OF TRIVANDRUM DENTAL JOURNAL

20 July 2010:-. TRIVANDRUM DENTAL JOURNAL [volume 1 issue 1] the official journal of IDA Trivandrum branch was released by Dr Nandakumar (chief editor Kerala dental journal) and presented the first copy of the journal to Dr Shanavas, head of the department of orthopedics GovtMedical college Trivandrum. The release of the journal took place during the monthly meeting of the IDA Trivandrum branch held in the hospitality centre of the Trivandrum club. TheTrivandrum Dental Journal, the official publication of the Indian Dental Association,Trivandrum Branch, is intended to be a bi annual research periodical for informing its readers of ideas, opinions, developments and key issues in dentistry - clinical, practical and scientific - stimulating interest, debate and discussion and an opportunity for life long learning, amongst dentists of all disciplines. The journal is intended for dentists, dental undergraduates, members of the dental team, hospital, community, academic and general practitioners. The journal has been allotted ISSN serial no ISSN 0976-4577. TRIVANDRUM DENTAL JOURNAL has also been included in the master list of journals of Index Copernicus, an international indexing authority.

MONTHLY MEETING: 20 July 2010:- The monthly meeting of the IDA Trivandrum branch was held in the hospitality centre of the Trivandrum club. Dr Shanavas,head of the department of orthopedics GovtMedical college Trivandrum gave a talk on "ERGONOMIC FACTORS RELATED TO DENTISTRY". The talk preceded the meeting. The monthly meeting started off with a silent prayer. The house observed served one minute silence in the memory of the departed members Dr PI John, Dr Retnamma, Dr KG Gopakumar. The meeting discussed several issues related to dental surgeons TRIVANDRUM DENTAL JOURNAL the official journal of IDA Trivandrum branch was released by. Dr Nandakumar (Chief editor Kerala Dental Journal) and presented the first copy of the journal to Dr Shanavas. Dr Velayudhan Nair released the july2010 issue of THE PROBE (the official news letter of the IDA Trivandrum branch).

SYMBIOSIS [THE CLINICAL CLUB OF IDA TRIVANDRUM BRANCH]

13 July2010:- Dr Suchithra MS, Assistant Professor, Dept of

Pedodontics, Govt. Dental College, Trivandrum, presented "SPACE MANAGEMENT IN MIXED DENTITION". The presentation also touched upon the management of mixed dentition problems in children. The talk was well appreciated. Dr Suchitra was presented a certificate of appreciation by Dr T Sreelal, Dean of Dentistry and Professor and head department of Prosthodontics Govt dental college Trivandrum. The presentation was followed by a case presentation by Dr CP John. Dr John presented the case and the treatment options and the various aspects were thrown open for discussion. A lively scientifically oriented discussion followed.

10 august 2010:- Dr Arun Sadasivan, Reader, Dept of Periodontics, Sree Mookambika Institute of Dental Sciences, Kulasekharam, presented "ANTIMICROBIALS IN THE MANAGEMENT OF PERIODONTAL DISEASE: CURRENT TRENDS". The elaborate presentation went into details regarding the general trends in Kerala, the current international status and research frontiers, in the use of antimicrobials among the practitioners of dentistry. The program was held in the Trivandrum club. It had overwhelming attendance. A notable feature of the program was that an attendance certificate was issued to the participants on a trial basis. The procedure was started as the association intends to apply for credit points from the Kerala Dental council. The notable feature of Symbiosis is that it has been going on every month with out fail ever since its inception in march 2008. The program was followed by a grand dinner and fellowship.

14 september 2010:- Dr Anuroopa, Sr Lecturer, Dept Of Prosthodontics, Sree Mookambika Institute of Dental Sciences, Kulasekharam, gave a presention on THE PRECISION ATTACHMENTS IN PROSTHODONTICS. Several clinical aspects regarding the selection of precision attachments for use in prosthodontics, economic viability, and methods to incorporate precision attachments where ever necessary in daily practice were discussed.

KOTTARAKKARA

1. Dental awareness & dental checkup camp at Marthoma Jubily mandiram old age home,Kottarakara on july 31st 2010

2. Free dental checkup camp at St.Johns Orthodox church, Punalur on 15/08/2010

3. Inter school quiz competetion at St.Thomas higher secondary school, Punalur on 5/9/10. 302 students participated in the competetion

KARUNAGAPPALLY

DENTIST DAY CELEBRATION: We celebrated the Dentist day by conducting Free Mega Dental Check Up Camp at all the dental clinics of our members on 6/3/2010.

Morethan 1000 patients got the benefit of the project .

Free treatment also offered for the deserved.

The project was a grand success

WELCOME TO RED RIBBON EXPRESS

Red Ribbon Express is an exhibition train which run all over India to convey the various aspects of the threatening disease AIDS to the common man by the govt: of India.

It attracts more than a Lack of people at karunagappally railway station.

It stayed here for three days.

We gave a warm welcome to this project.

CDE PROGRAMMES

CDE on Gingival Enlargement & its management by Dr Shamnad MDS on 13/6/10 at IMA Hall Karunagappally from 4.00pm to 8.00pm.

22 participants are there for the programme

3. CDE Programme on Single Visit Endodontics, Myths & Controversies on 8/8/10 at Vijaya Palace, Karunagappally from 9.00am to 4.00 pm

33 dental surgeons are participated in the programme.

Faculties: 1.Dr.Rajesh Pillai Vice Principal &HOD Dept. of Con: dentistry PMS Dental college 2. Dr Ganesh.P.Asso: prof. PMS Dent College Tvm

FAMILY TOUR

One family tour was conducted to The Kerala's First Eco Tourism Project TENMALA.

12 Families were participated.

The one day tour was a pleasant experience to one & all of the participants.

TRISSUR

CDE PROGRAMME – 14/08/2010

BRANCH LEVEL : CDE Programme conducted on minor oral surgical procedures attended by 55 members of Thrissur Branch. Programme coordinated by Dr. Antony George, CDE Convener

Presenters : Dr. Varghese Mani, Dr. Sankar Vinod, Dr. Arun George.

CDH ACTIVITIES- 19/08/2010

1. Dental awareness class conducted at Marthoma Girls School, Thrissur. 70 children attended. Classes conducted by Dr. Jones Paul and Dr. Alex Mathew
2. Teachers Training Program conducted at the same school. 8 teachers attended the program.

6th General Body

Date: 14/08/2010

Place: Hotel Trichur Towers

Attendance:55 members

Started at 8pm with a silent prayer ,presided by Dr Alex Mathew,addressed the gathering

Hon. Secretary give report of activities. Previous GB and Exe. Committee minutes passed . Treasurer gave detailed financial report.

1. House paid homage to father of Dr. Shyamala Hareesh who passed away recently.
2. The president recognized the presence of Dr. Anto from Malabar Branch, Dr. Arun George and Dr. Sankar Vinod from Mar Baselios Dental College Kothamangalam.
3. House Briefed about Chilamboli cultural festival on August 29 IDA Kodungallur Branch CDE Programme, FDI K.S.D.A. Prog. With eighteen credit points.
4. Labour laws briefed to all members and to be given copies to all members.
5. CDE conducted by Dr. Varghese Mani, Dr. Sankar Vinod and Dr. Arun George
6. Meeting adjourned

CHALAKKUDI

Dr Eldo Koshy was the pilot faculty for the one-day Lecture and demonstration on Complete denture impression techniques on 28/03/2010, for which 52 of IDA members from different branches participated.

On 27/06/2010 we conducted a one-day hands-on course on rotary endodontics with Dr Madhu .H as the pilot faculty, at Kallely Park Inn. 22 Members attended and there were 6 of them for the hands-on (Photos attached).

An awareness camp on dental hygene was conducted at MSUP School Koratty at Chirangara on 22/07/2010. Dr Aby Hormis delivered the awareness speech. Dr Seby K Bastin, Dr Johny Mampilly, Dr Suneer Mohan and Dr Ann Smitha participated in the camp. 185 students participated.

On 1st of August 2010, we held the 4 th IDA State executive of this year at The Plantation Valley resorts. In-house accommodation was provided for members. A pre-executive bash was arranged at the water front on 30th Saturday. 175 members including family members attended.

On 12/09/2010 The 2nd outreach clinic functioned at The Madonna. Dr Jolly Ambooken and Dr Jophy Moyalan attended. A total of 12 patients were given comprehensive dental treatment.

A state level Sports competition was conducted on selected events with cash awards, on the 5th of September of this year at the COSMOS Club premises. Competitions were held in events like, Chess, Carroms, Cards, Arm wrestling, Tug of War, Swimming, and Water Polo. Malapuram Branch bagged the overall Championship.

WAYANAD

18/7/2010 **Teachers training programme** and natioanl oral health programme conducted. State CDH convenor Dr. C.C. Jospeh addressed the gathering.

Family tour to Ooty was conducted

18/7/10

National Oral helath programme was lunched. inaugurated by district panchayath president smt. devaky

Teachers training programme was conducted at hotel woodlands and state CDH convenor Dr. CC Joseph was the chief guest.

Onam Celebrations and sports meet conducted at Diana Club, Mananthavady

CDE Programme on medical emergensies in dental clinic by Dr. Jithenthranath

THIRUVALLA

Executive Meeting

Activities Report: 1. Executive Meeting(Gth) was held on 1/07/10 at Travancore club Tiruvalla. 12 members attended the meeting

2. 7th Executive meeting was held on 03/09/10 at Travancore club Tiruvalla. 13 members attended the meeting

CDE Activities

1.The 5th CDE programme was held on17/08/10 at Pushpagiri College of Dental Sciences auditorium, Tiruvalla. The faculty was Dr Oommen Aju Jacob and the topic was "All about surgical Extractions".Including student members 82 members attended the programme.

2. An Inter branch CDE and Hands on course was held on 19/09/10 at Pushpagiri College of Dental Sciences auditorium, Tiruvalla.The faculty was Dr Dilip Bandodkar MDS (Endodontist, Faculty for Dentsply India from Goa). The topic was'Excellence in Endodontics',15 members at-tended the Hands on course on Protaper.46 members attended the lecture session.

MALAPPURAM

JULY 2010

The 8th executive committee meeting was held at Ernad Inn on Monday, 5th of July, 2010. 13 members were present. Dr. Deebu, President, presided over the meeting. Dr. Rajesh, Hon. Secretary, delivered the vote of thanks.

Kalikkalam 2010 was held on the 11th of July, 2010 at Cosmo Club, Manjeri at 9am. Dr. Koruthu George was the coordinator. 46 members were present with their families. Badminton, Table-tennis, caroms and WakaWaka(penalty shoot-out) were held. Dr. Rajesh Raveendranathan was the overall champion.

A General Body meeting was conducted on 11th of July, 2010 at Cosmo Club, Manjeri at 4pm. 36 members were present. A lot of important decisions were made during the meeting. The prizes for Kalikkalam 2010 winners were given away.

The 6th Inter-Branch CDE, "Brackets and Wires" was conducted on the 18th and 19th of July, 2010 by Dr. Binoy Ambookkan. The first day was a lecture followed by hands-on the next day. 49 members attended the programme.

AUGUST 2010

The state celebrations of Oral Hygiene Day 2010 was held at LP School, Downhill, Malappuram on the 1st of August, 2010. Mr. Arimbram Mohammed, (Chairman, District Panchayat) was the chief guest and inaugurated the day. Mr. Kiliyamannil Yakub (Chairman, Malappuram Municipality) and Mr. Salim Kuruvambalam (Chairman, Standing Committee, Zilla Panchayat) were also present to inaugurate the Oral Hygiene Public Awareness Exhibition (conducted by our student members) and our local NOHP project respectively. Dr. Deebu, President, IDA Malappuram Branch welcomed the crowd. Dr. Sudeep.S (State Coordinator, Oral Hygiene Day) presented the keynote speech.

Dr. Aneesh (Programme Coordinator) conducted an awareness lecture for anganwadi teachers and NRHM Asha volunteers. Dr. Abdul Razak (CDH Convenor, IDA Malappuram) delivered the vote of thanks. Lunch was served to all present.

The 9th executive committee meeting was held on Tuesday, the 3rd of August, 2010 at Ernad Inn, Malappuram. 12 members were present. Dr. Deebu, President, presided over the meeting. Dr. Rajesh, Hon. Secretary, delivered the vote of thanks.

The 5th IDA Kerala State level CDE was hosted by IDA, Malappuram Branch on Sunday, the 29th of August, 2010 at Al-Mas Hospital, Kottakkal. It was a unique CDE wherein the advanced ARS was incorporated to make the lecture a lively one. It was a "Symposium on Minimal Intervention Dentistry" by Dr. Kandaswamy and Dr. Sriram. 75 members were present.

SEPTMEBER 2010

The 7th Inter Branch CDE, "Complete Denture Prostheses" was conducted on Sunday, the 5th of Septmeber, 2010 at KPM Residency, Perintalmanna by Dr. Byju Kurien. 33 members attended the programme which had a live demo.

The 10th executive committee meeting was held on Tuesday, the 14th of September, 2010 at Ernad Inn, Malappuram. 16 members were present. Dr. Deebu, President, presided over the meeting. Dr. Rajesh, Hon. Secretary, delivered the vote of thanks.

KASARAGOD

In the month of July, members of IDA Kasaragod branch joined the protest march of IMA Kasaragod branch against hospital attack at Badiadka, Kasaragod.

CDE Programme: An Inter branch CDE programme of IDA Kasaragod and Coastal Malabar branch was held on August 8th 2010, at Bekal International hotel, Kanghangad. The faculty was Dr. Srinivas Murthy, Prof., A.J. Dental college, Mangalore and the topic was "Advances in dental laboratory, how to encash it".

Awareness talk: On August 22nd Dr. Rekha Maiya, Endodontist presented an awareness talk on "Aesthetic Dentistry" at IMA Women's wing meeting held at Kasaragod.

National Oral Health Programme: On September 8th NOHP was inaugurated by Muncipal chairperson Mrs. Befathima Ibrahim at GUP School. The programme will be continued for the next 40 days at various schools of Kasaragod.

NEDUMBASSERY

We had our 5th executive meeting on 13th july 2010 and 6th executive meeting on 20th august 2010.

4th GENERAL BODY MEETING AND ONAM CELEBRATION

Date 31st August 2010

Venue Hotel Mahanami Aluva

A pookalam was made by QUEENSLAND members (Ladies wing of IDA Nedumbassery)

Dr Jose was dressed as mahabali and gave a speech. Our team which conducted a skit and dance programme for the CHILAMBOLI repeated the performance for onam celebration. Vineetha helan vinod d/o Dr Saji Vinod, who was adjudged as the best dancer of chilamboli was handed over the trophy. The members came in traditional dress and onam sadya was served after the meeting

TOUR PROGRAM : A tour was conducted to Pooyamkutty near kothamangalam on sept 12th sunday.The members took bath in the river. The serene beauty of the forest was enjoyed by everyone

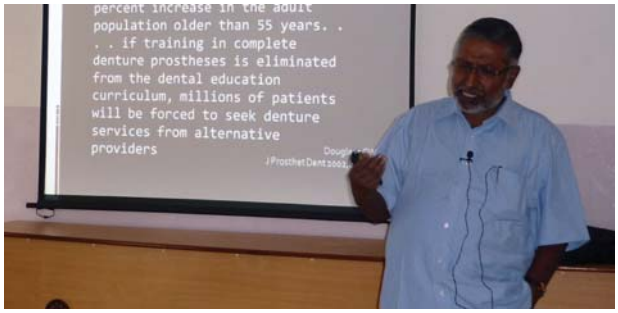
CDE PROGRAM : A fullday interbranch CDE on Reverberations of aesthetics in full mouth reconstructions by Dr Aqeel Reshamvala was conducted. nearly 60 participants attended the programme

MALABAR

7th CDE Programme: Our 7th CDE programme was held on 18th of July 2010 at 9.30 am at IDA Hall. The topic was a Hands on programme on "Minimally Invasive Dentistry with Lasers" by Dr. Alex Mathews. M, Professor, Dept. of Prosthodontics, Vinayaka Mission Dental College, Salem. 56 members attended the programme.

3rd Executive Meeting: The third executive meeting of the IDA Malabar branch was held on 28-07-2010 at IDA Hall, Ashokapuarm at 7.30 pm. 24 executive members were attended the meeting. Various important decisions were taken.

Independence Day Celebrations: On August 15th, we celebrated our Independence Day by hoisting the national flag in front of IDA Hall. President Dr. Sharafuddeen. K. P hoisted the flag at 8.30 am. Dr. Ipe Varghese, Dr. Antony Thomas, Dr. Manoj Joseph, Dr. Ravindran Nair, Dr. Girish Kumar, Dr.Sudheer. K. T, Dr. Shyam Kishore, Dr. Joseph. C.C, Dr. Harish Kumar. V. V, Dr. Dinesh. K. R and Dr. Saleel. K. C were present on the occasion.



Dr. Girish Kumar delivered an Independence Day message after the flag hoisting.

Prathyasa Free Denture Screening Programme : On 15th August 2010 at 9. 00 am, we conducted the screening camp for the Prathyasa 2010 free denture programme. Many of our members volunteered in the camp. A total of 176 patients attended the camp.

8th CDE Programme: Our 8th CDE programme was held on 29th of August 2010 at 2.30 pm at IDA Hall. The topic was "Complete Denture Impressions – an easy way to success" by Dr. Chandrasekharan Nair, Professor & HOD, Dept. of Prosthodontics, Maruthi Dental College, Bangalore. 71 members attended the programme.

Iftar & Onam Celebrations: On 29-08-10 at 6. 30 pm, we conducted the Iftar & Onam celebrations of our branch. 80 members and their family participated in the programme. A pookkalam was arranged as part of the Onam Celebrations and the traditional lamp was lighted by our senior members Dr. Joaquim Kunju, Dr. Joy Philip, Dr. Sathy Devi, Dr. Alexander Korah and Dr. Chandrasekharan Nair.

CENTRAL KERALA KOTTAYAM

AUGUST 2010

STATE EXE.COMMITTE MEETING: All the state exe committee members and the representatives from the branch attended the state exe. committee meeting at Chalakudy on 1st August 2010.

JOURNAL RELEASE: The 3rd issue of the branch journal "SMILE" was released during the state exe committee meeting at Chalakudy on 1st August 2010 and were distributed to the state exe committee members.

OTHER ACTIVITIES

INTER BRANCH SHUTTLE TOURNAMENT: Branch hosted the IDA kerala state inter branch shuttle tournament on 8th August 2010 at Ramavarma union club, Kottayam. Dr Alias Thomas, IDA National vice president inaugurated the tournament. Dr Pratap Kumar, Immediate past State President and Dr Shibu Rajagopal, Hon state secretary were the guest of honours. Competitions were held in the Mens singles, Mens doubles and Veterans singles categories. Dr Baby K Antony of the branch was the winner the veterans singles category. Dr Timmy of the branch finished runner up in the mens singles category.

INDEPENDENCE DAY CELEBRATION: Independence Day was celebrated on 15th August 2010 at Snehadeepam Juvenile Home,Inchiyani,Mundakayam. National flag was hoisted and break fast was provided to the inmates. Oral hygiene class was taken by Dr Sherry and oral hygiene kits were distributed to the inmates.

CHILAMBOLI: Branch participated in the state level inter branch cultural competitions "CHILAMBOLI" at Alapuzha on 29th August 2010.

CDE ACTIVITIES: The 6th CDE programme of the branch was held on 15th August 2010 at Hotel Orchid Residency,

Kottayam. Dr Rakesh S, MDS, Acting Prof, Dept of Oral Pathology, Amrita institute of Dental Sciences, Kochi conducted the programme on "SUSPICIOUS ORAL LESIONS". The evening programme was attended by 24 members.

CDH ACTIVITIES

DENTAL CAMP: A Dental check up and treatment camp was organized at Muttom, Thodupuzha on 12th August 2010 in association with Kottayam Social Service Society and St Gregorious Dental college, Chelad.

ANTI TOBACCO AWARENESS CLASS: An Anti Tobacco awareness class was conducted for the students of Govt Higher secondary school, Changanacherry on 13th August 2010.Dr Augustine JC conducted the class which was attended by 100 students.

SEPTEMBER 2010

CDH ACTIVITIES

DENTAL CAMP: Branch organized dental treatment camp at Mariyapuram, Kattappana on 3rd and 4th September 2010 in association with Kottayam social service society and St Gregorios Dental College, Chelad. 1200 patients were screened and treatment were provided to the needy.

FLOUROSIS DETECTION AND TREATMENT CAMP: Branch organized flourosis detection and composite veneering camp at Elappara Govt L P School on 4th Septomber 2010.Composite veneering were done for the detected children and the camp was supported by 3M.

CDE ACTIVITIES: Branch conducted the 7th CDE of the year on 12th September at Hotel Orchid Residency, Kottayam on "INTERCPTIVE ORTHODONTICS" as an evening programme. Dr Raju Sunny MDS, Reader, Dept of Paedodontics, St Gregorios Dental College, Chelad was the faculty.

KOLLAM

CDH : Shanthdhan project- Treatment Camp conducted at old age home on 19 augustand 41 patients were treated.Parent teacher education programme conducted at Puthiyakavu central school on august 12 by Dr Kannan Venugopal. 83 parents and 23 teachers wre attended the class.

School dental health programme inauguration done on 15/9/10 at Govt Town U P School Kollam. Mr K P Ramachandran

nair,State vice president SSI, inaugurated the programme

Cash award: seven cash awards are given to 7 students from first std: to 7 std

Cultural progrmme Chilampoli: Quilon branch members actively participated in the chilampoli state wide cultural pogramme and won second prize.

G B MEETING: August 18 one GB meeting was consducted and 43 members were attended.

Family meet and Onam celebration is on sep 19 at Aquassereene resort, Paravoor, Kollam

ATTINGAL

A School Dental Health Programme aimed at creating awareness about dental problems and preventive measures was inaugurated by Former Minister Shri Vakkom B.Purushothaman on 16 /7/2010 at Town Hall, Attingal.

As part of service to the poor, a Free Denture Programme was organized by the branch and the programme was inaugurated by Member of Parliament Shri Peethambarakurup on 16 /7/2010 at Town Hall, Attingal.

Adoption of Blind School and CSI Orphanage was done by Attingal Municipal Chairman Adv.C.J.Rajeshkumar on the same day and same venue.

IDA Kerala State President Dr Samuel K Ninan presided over the function. Kerala State Vice President Dr Abhilash, Kerala State Secretary Dr Shibu Rajagopal, Branch President Dr Premjith, Branch Secretary Dr Sudeep.S, CDH Representative Dr Arun, and Programme Co-ordinator Dr Anish were also present at the function held on 16 /7/2010 at Attingal Town Hall.

KOTTAYAM (VEMBANAD)

CDE Programe by Prof Mahesh Varma Dean Moulana Azad Dental College Delhi.

Our scholarship distribution by Former Vice chancellor Dr Equbal.

NORTH MALABAR

CDE Programme
Topic: Full Mouth Rehabilitation
Faculty: Dr.Aqueel sajjad Reshamwala
Venue:Hotel Royal Omars,Kannur; Date:4.07.2010

CDE CLUB
Topic:Preventive Orthodontics : what lies beneath
Faculty:Dr Pramod Phillip
Venue:Hotel Malabar Residency,Kannur. Date:10.8.10

CDH ACTIVITIES

FREE DENTURE SCREENING CAMP
Venue : Thavakkara LP School ,Kannur Date:15.9.10
25 patients were screened during the camp of which 10 were selected for free dentures.These patients were then allotted to various clinics for the fabrication of free dentures.

DENTAL AWARENESS CLASS
Date:12,13,14 July 2010
Dr Faizal C P and Dr Jayada K M conducted a Dental Awareness Camp At ST TERESA'S A.I.H.S. SCHOOL.
Date:19th & 20th of July 2010
Dr Faizal C P and Dr Jayada K M conducted a Dental Awareness Camp At URUSLINE SENIOR SECONDARY SCHOOL.

ONAM& RAMZAAN CELEBRATIONS
Date:15.8.10 Venue : Hotel Malabar residency ,Kannur
IDA North Malabar branch members along with their family celebrated onam and ramzaan with 'nombu thura',onasadya and various cultural programmes arranged by the members.

DONATION: Members and their relatives who celebrate their birthday in the month of august donated an amount of Rs 2500 to the inmates of Ashraya school for the mentally compromised, Thottada as part of independence day and onam celebrations.

Release of Journal: 2nd issue of Dens Info, journal of IDA North Malabar Branch was released by President Dr Ramesan TV by handing over the first copy to Dr Aqeel Reshamwala on July 4, at Hotel Royal Omars ,Kannur.

EXECUTIVE COMMITTEE MEETING
1. 8th Executive Committee Meeting Date:13.7.2010 at Hotelmalabar residency, Kannur.
2. 9h Executive meeting Date:6.8.2010 at Hotelmalabar residency, Kannur

KUNNAMKULAM

10TH ANNIVERSARY CELEBRATIONS WITH ONAM & IFTHAR PARTY - 29.08.2010 – SUNDAY

IDA Kunnamkulam Branch celebrated its 10th Anniversary on 29.08.2010 at I.M.A. House Kunnamkulam. ONAM & IFTHAR PARTY Programmes were arranged along with this. The programmes started at 3PM with the POOKKALA MALSARAM followed by Musical Chair & Tug of War. From 5.30 PM to 6.30PM, the President Dr. Abdul Latheef delivered the ONAM & IFTHAR message. In his message, the importance of practicing healthy religion was highlighted. He reminded about our responsibility to uphold the values of Indian Secularism and Democracy. At 6.45 PM, we had the IFTHAR PARTY. The official inauguration of

the 10th Anniversary Celebrations was done by Dr. T.A. Cheriachan, the founder president of IDA Kunnamkulam at 7PM. Dr. Paulosekutty the senior most member presented the memento to Dr. Cheriachan. All the chartered members were honored by presenting the 10th Anniversary Celebration memento. Dr. Paulosekutty and Dr. Susanth did the felicitation speech.

Later, we had a wonderful Cultural Programme session with Solo, Group Dance, Thiruvathirakkali, Oppana and Drama. Dr. T.A. Cheriachan released the latest issue of IDA Kunnamkulam journal ,IMAGE, and congratulated Dr. Joji George for the wonderful performance. Dr. Mohammed Faris, the Secretary delivered the vote of thanks and the meeting was adjourned for dinner.

COASTAL MALABAR

STATE EXECUTIVE COMMITTE MEETING 09-05-2010

Dr.A.V. Sreekumar , Dr. Santosh Sreedhar , Dr. Sreekumar Nambiar , Dr. Sreekumar.C , Dr. Rajesh .E , Dr. Abhilash T , Dr. Girish Kumar T.P attended the 3rd EC meeting held at wayanad.

4th CDE PROGRAMME: 27-06-2010

VENUE: K.K. Residency, Payyanur

FACULTY: Dr.Arunachalam, MDS, Periodontics

TOPIC: Simple & easy aesthetic dentistry

4th CDE programme of IDA CMB held on 27-06-2010 at K.K. Residency about Simple & easy aesthetic dentistry by Dr.Arunachalam. Dr.Arunachalam is presently Professor at Priyadarsini dental college , Thiruvallur, a fellow of International Congress of oral implantology & a fellow of International Congress of Prosthodontics. His professional interests in practice are Periodontology, implantology , aesthetic dentistry & oral rehabilitations.

About 70 doctors attended the lecture. The function started at 10.30 am with Dr. Girish Kumar's welcome speech. Dr. Sanjith Simon introduced the faculty. The lecture was a new interactive

experience. Table demonstration about class iv incisal fracture build up with multiple shades using putty index was a different experience. The programme came to an end by 4 pm.

5th CDE PROGRAMME – INTER BRANCH CDE PROGRAMME 08-08-2010

The first inter branch CDE programme along with IDA Kasargod branch was held at hotel Bakel International Kanhangad on 08-08-2010. The function started at 10.30 am & presided by Dr. Girish Kumar. The topic for CDE programme was "ADVANCES IN DENTAL LABORATORY HOW TO ENCASH IT ".

The faculty for the programme was Dr. Srinivasa Murthy, HOD & Prof. Dept. of prosthodontics, AJ Institute of dental science, Mangalore. The programme was well appreciated by all the members. 20 members from IDA Kasargod & 30 members from IDA CMB participated. Dr. Sanjith Simon, CDE convener introduced the faculty & Dr Risha Rao , Secretary IDA Kasargod proposed vote of thanks.

ONAM CELEBRATION : 20-08-2010

We conducted onam celebration in a grand manner. It was conducted at Hotel Vyshak International, Payyanur on 20-08-2010 Friday at 7.30 pm. Lot of entertainment programme , variety of games & orchestra under the leadership of Dr.A.V. Sreekumar & Dr. Anil was conducted. 30 family members attended. It was a very grand function & the main anchor for the programme was Dr. Varun Nambiar.

6th CDE PROGRAMME: 30-08-2010

VENUE: Hotel Hilane Plaza, Cheruvathur

FACULTY: Dr.Keshav Bhat, MDS, OMFS

TOPIC: Maxillofacial surgery Saving Faces Changing Lives

6th CDE programme of IDA CMB was held on Hotel Hilane Plaza, Cheruvathur. The faculty was Dr. Keshav Bhat , an eminent Oral & Maxillofacial surgeon at Mangalore. President Dr. Girish Kumar welcomed the gathering & Dr. Sanjith Simon, CDE convener introduced the faculty.

KODUNGALLUR

CDE PROGRAM

The 6th CDE program was at the IMA Hall, Kodungallur on the 16th of Jully 2010. World renowned speaker Dr. Binoy Ambooken was the faculty of the day and the topic was "Diagnosis and Treatment Planning in Straight wire Orthodontics".

The 7th Inter Branch CDE Program was held at Hotel Kallada Regency, Irinjalakuda on 15th August 2010. Dr. Gopi Krishna delivered a very useful class on "Rotary Endodontics" followed by a hands-on program.

The 8th CDE Program was held at Hotel Chand V, Moonupeedika on 17th September 2010. Dr. Anish Babu conducted a class on "Myofacial and Habit-breaking Appliances".

EXECUTIVE MEETING

4th executive meeting was held at IMA Hall, Kodungallur on July 12th, 2010

5th executive meeting was held on 19th August at IMA Hall, Kodungallur

GBM

6th GBM was held on 24th June 2010 at IMA Hall, Kodungallur. There was a discussion on the future CDE Programs and the meeting was well attended.

7th GBM was conducted at Hotel Chand V, Moonupeedika on 17th September 2010. The topic of discussion was the state executive meeting on October 10th.

4th executive meeting was held at IMA Hall, Kodungallur on July 12th, 2010

5th executive meeting was held on 19th August at IMA Hall, Kodungallur

TELLICHERRY

Executive Meetings

. 4n ECM on07l07l20l0 at DERACT Beach

. 5th ECM on1910812010 at DERACT Beach

State CDE Programme

IDA Tellicherry branch hosted the 4ft state Level cDE Programme on 10th & 1lth July 2010 at Hotel Pearl View Regency and Hotel Gokulam, Fort, Tellicherry. The inaugural function was chaired by Dr Jaibin George, State CDE Convener and programme was Inaugurated by Dr Santhosh Sreedhar,President elect IDA Kerala State. Prof. Dr.V.Rangaraj an and Prof.Dr.T.V.Padmanabhan (prosthodontists) and Dr.Harsh Vyas (paedodontist) were the faculties. About 74 Membefs were attended the CDE proglamme. The program was sponsored by Colgate- Palmolive, Dent Care Dental Lab and GC Dental Corparation

National CDE Programme

Fifteen members from our branch attended the National CDE programme at Kaloor,Kochi on 25ft August.

Branch CDE Programme

on 5ft August conducted a cDE program atDeractBeach,Tellicherry. The topic is 'Role of dental Implants in general practice'. Dr Abdul Majeed Kavarodi was the faculty.

On 8ft September conducted a CDE progftrm at Deract Beach Tellicherry. Dr Ajoy Vijayan take classes on the topic 'Impactions

CDH Activity

Dental check up camp was conducted at Jaycees special school for Mentally Retarded childrens,-Dharmadam,Tellicherry on 13 th September Dr.E Saj eevan and Dr Ali KPM attended the camp

Dental awareness classes and check up was conducted. at Thiruvangad Girls School, Thalassery on l4th September. Dr Ali KPM and Dr.E.Sajeevan attended the camp.

Kerala Dental Journal
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GUIDELINES

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