VSPM'S DENTAL COLLEGE INTERDEPARTMENTAL SCIENTIFIC ACTIVITY 2020-2021

VISA

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FOREWORD

I am pleased to introduce the fifth edition of VISA magazine for the year 2018-2019. VISA team has had yet another successful year in bringing together all the post graduates and staff members to discuss comprehensive management of rare and interesting cases by interdisciplinary approach.

The cases presented this year were overall good and the discussions are an effective way to promote interactive learning. This magazine is a compilation of these interesting cases and serves as a good read for everyone.

I congratulate team VISA for this fifth issue and appreciate their efforts and contribution in continuing uninterrupted VISA activities.

Dr. Usha Radke
Dean
VSPM's Dental College and Research Centre

FROM THE DESK OF THE VICE DEAN

I congratulate team VISA for taking out the fifth edition of VISA magazine which was started in 2016. This indeed is the materialization of all the efforts put in by the team and the post graduate students in presenting the best of cases during this year and fostering better coordination between all the departments.

The brain storming sessions are always healthy and they aid the clinicians in making better diagnosis and treatment plan and the end beneficiaries are the patients.

Wishing the team VISA a very successful new year.

Dr. Ramakrishna Shenoi
Vice dean
VSPM's Dental College and Research Centre

FROM THE EDITOR'S DESK

Dear Readers,

It gives me immense pleasure to present the fifth issue of VSPM's interdepartmental scientific activity (VISA). The aim of VISA is to encourage and facilitate holistic learning by post graduate students by conducting interdepartmental case discussions every month in the institute. The staff members and the students have done full justice to this aim during this year. Some very interesting cases were presented this year with complete treatment plans and follow ups. We hope to have even better sessions in the future.

On behalf of the VISA team, I extend my heartfelt thank you to our management and our respected Dean madam for supporting us in all our endeavors. I also congratulate all the post graduate students who have presented these cases and my VISA team for all the efforts put in to compile this issue.

Regards

Dr. Mukta Motwani

Convener VISA commitee

CONTENTS

A CASE OF CENTRAL GIANT CELL GRANULOMASECONDARY TO HYPERTHYRODISM

Presented by:
Dr. Rajani Patle MDS II (ODMR)
Dr. Sheweta Yadav (Oral & Maxillofacial surgery)

Case Report: A patient 35 years female, residing near Hingna, housewife was reported with the chief complaint of growth in the upper left side of jaw intraorally since 6 years.

History of present illness : Patient was apparently alright 6 years back then she noticed a small growth in the upper left side of the palate. The growth was initially of small pea size and gradually increase to attain the present size with involvement of most of the palatal area.

It was asymptomatic since onset and had not regressed in size at any time. The growth was not associated with pain or discomfort.

- No h/o bleeding or discharge from the growth.
- No h/o paraesthesia or fever.
- No h/o trauma.

Patient gives history of similar type of growth 7 years back, for which she did not take treatment immediately, as the patient was pregnant with her second baby. After her delivery, she underwent surgical intervention and complete removal of growth was done. But growth recur immediately after one month. (relevant documents were not with the patient.) Patient consulted clinicians and her medical reports suggested hyperparathyroidism and her level was high at the time recurrence. (PTH Level - 1096 Pg/dl on 21/11/2014) Patient was taking treatment intermittently for hyperparathyroidism.

Patient reported to VSPM's dental college for further management.

Past Medical History: Patient was diagnosed with osteoarthritis of hip on 30/12/2020 and under treatment for same.

Injection Teriperatide (Parathyroid hormone) 8U OD for 3 months.

Tablet Calbona (calcium carbonate, calcitriol, methylcobalamine, folic acid) OD for 3months.

Syrup Arachitol Nano (Vit D3) once a week for 6 weeks.

Past Dental History: Patient visited VSPM's Dental College 5 years back for same complaint but didn't turn up for follow up.

Family History: Not contributory

Habit History: Absent

Personal History:

1) Brushing habit: Patient brushes using toothbrush and toothpaste; once daily.
2) No addictive or any parafunctional habits present.

Sleep Cycle: Normal

Bowel and Bladder Movement: Normal

General examination: Patient was conscious, co-operative and well oriented to time, place and person.

Built:	Thin
Gait:	Normal
Height:	4.5ft
Temperature:	Not raised
Pulse:	86 bpm
Respiration:	16 cycles per minute
Blood Pressure:	120/80 mm of Hg
Pallor:	Absent
Icterus:	Absent
Cyanosis:	Absent
Clubbing:	Absent

Extra-oral examination:

Face: Bilaterally asymmetrical due to diffuse

swelling present on left side of face.

Extending A/P from nasolabial fold to lateral margin of eye.

S/I from left infraorbital margin to lower border of mandible.

Color: same as that of adjacent skin.

Surface: smooth

No visible discharge seen

On palpation

Temperature: not raised

Tenderness: absent

Consistency: firm to hard

TMJ examination: Mouth opening was inadequate

Interincisal distance: 20mm, No clicking, popping sounds, no deflection or deviation.

Muscles of Mastication: Activity of muscles were normal

Regional Lymph node examination: A Single left and right submandibular lymph node of size approximately 0.5x0.5cm was palpable, which was soft in consistency, freely movable and non tender.

Intra-Oral Examination:

Hard Tissue Examination:

Teeth present:

17 16 15 14 13 12 11 21 22 23 24 25 26

47 46 45 44 43 42 41 31 32 33 34 35 36 37

Root piece with 36, 46

Gingival recession with 31

Stains +

Calculus ++

Soft Tissue Examination:

1) Buccal mucosa: Normal
2) Tongue: Normal
3) Floor of mouth: Normal
4) Vestibule: Normal
5) Soft palate: Normal
6) Uvula: Normal
7) Faucial pillars: Normal
8) Gingiva: Normal

9) Hard Palate: Exophytic growth seen on palate extending from alveolar ridge of 25, 26 involving 2/3rd of palate, crossing the midline.


Area of chief complaint

An exophytic growth of size7x5cm approx. seen on upper left alveolus region in association with 25, 26 and left maxillary tuberosity, involving 2/3 of palate, crossing the midline. i9k;3.

Extension:

A/P – 2 cm behind incisive papilla till the junction of hard and soft palate.

M/L – from left buccal vestibule, involving alveolus and 5cm medial to it involving palate.

Surface – rough with indentations

Color – reddish pink

Margins – well defined

Discharge – no visible discharge seen

On palpation:

Tenderness: Absent

Consistency: Soft on alveolus and hard on the palate.

No discharge on provocation.

Provisional diagnosis:

Giant cell lesion secondary to hyperparathyroidism

Investigations:

Blood Investigations:

		Ref. level
Serum calcium	10.80 mg/dl.	8.40-10.10 mg/dl
Phosphorus	1mg/dl	2.50 – 4.90 mg/dl

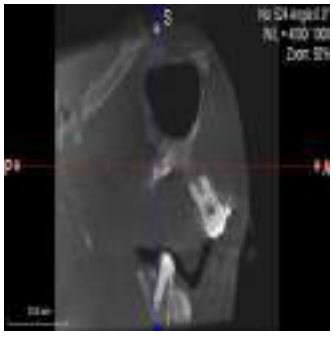
Kidney function test:

		Ref. level
Urea	16 mg/dl	15- 40 mg/dl
Serum creatinine	0.34 mg/dl	0.50 – 1.02 mg/dl
Sodium	1.39 mEq/L	1.37 – 145 mEq/L
Potassium	4.1 mEq/L	3.50– 5.10 mEq/L
Parathyroid hormone	41.2 pg/ml	11.1- 79.5 pg/ml

Radiographic Investigation: OPG

A lytic lesion seen on left maxillary tuberosity region with dislocation of second premolar in apical direction. Generalised low density of bone is noted along with generalised loss of lamina dura. Loss of cortical thickness is also noted.

CBCT of Maxilla:

In all three sections, an osteolytic lesion seen on left maxillary tuberosity region distal to second premolar extending A/P from distal of second premolar to root of left pterygoid plate. Internally, irregular bony pattern showing ground glass appearance suggestive of giant cell lesion.

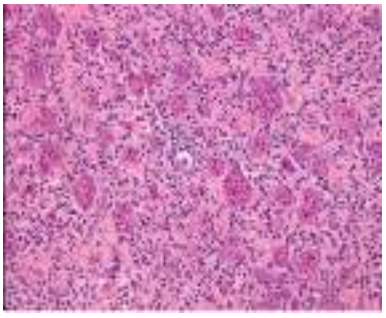
Contrast CT of neck:

Large blowout lesion is seen involving the left

alveolar process of maxilla in premolar and molar region with well defined margin without invasion of tongue or parapharangeal spaces.

Histopathological examination:

Multiple Large multinucleated giant cells with about 10-15 nuclei per cell is seen. In accordance with the clinical, radiological and histopathological evaluation, the final diagnosis was Giant Cell Granuloma.



Surgical management:

Surgical treatment of the pathology was planned under general anaesthesia. Three days prior to surgery, to optimize calcium levels, zoledronic acid (bisphosphonate) in 100 mL normal saline was administered intravenously over 15–30 minutes. 3 litres of normal saline was also administered daily to maintain hydration. Along with right inferior lobe parathyroidectomy to control primary HPT, surgical curettage of maxillary lesion was performed with primary closure under one-time general anaesthesia. On histopathological examination, excised gland was suggestive of adenoma and curettage material from right maxilla was consistent with CGCG. No postoperative complications occurred and the lesion healed uneventfully.

Discussion: Central giant cell granuloma is an uncommon, benign and proliferative lesion. It was first introduced by Jaffe in 1953 as 'giant cell reparative granuloma' to distinguish it from giant cell tumor of long bones. It is defined by the WHO as an intraosseous lesion consisting of cellular fibrous tissue with multiple foci of hemorrhage, aggregation of multinucleated giant cells and trabeculae of woven bone. Females are more frequently affected than males with the ratio of 2:1 and more than 70% of lesions affects mandible and very few cases have been reported in maxilla.

Waldron in 1966, analysed 38 cases and found 34% of predilection for maxilla in his study. Similar results were published by Gungormus (2003) and De Lange(2005), where maxillary involvement in their study was 44% and 33% respectively. Central giant cell granuloma is common in younger age group, especially under 30 years of age but can be seen in all ages. In a study of 27 diagnosed cases of CGCG (2003), almost 88.9% of cases occurred before the age of 40 years, which completely supports the present case scenario. Central giant cell granuloma causes facial swelling, asymmetry and expansion of cortical plates, perforation, tooth mobility. Depending on the clinical and radiological features, central giant cell granuloma can be divided into aggressive and nonaggressive form.

Histological features of giant cell granuloma includes, loose fibrillar connective tissue stroma with many interspersed proliferating fibroblast and small capillaries. Multinucleated giant cells are the prominent feature of such lesions with numerous foci of old extravasated blood and associated hemosiderin pigment.

Features of central giant cell granuloma is no different than any giant cell lesions and histologically its completely indistinguishable from brown tumor or hyperparathyroidism. So it is imperative for patients presenting with the features of central giant cell granuloma to screen for hyperparathyroidism.

Conclusion: Early diagnosis of HPT can be done with assessment of all the radiographic, biochemical and histological parameters. Giant cell lesions like CGCG must be suspected and investigated to rule out hyperparathyroidism. Although the lesion resolves spontaneously after parathyroidectomy, surgical curettage should be done through out for large lesions irrespective of site of lesion.

INTRUSION OF OVER-ERUPTED TEETH USING ORTHODONTIC MINISCREW IMPLANTS : A CASE REPORT

Presented by:
Dr. Shwetali Jadhav (Department of Orthodontics)
Dr. Jui Karmarkar (Department of Oral surgery)

Introduction: The goal of orthodontic treatment is to improve the patient's life through enhancement of dentofacial functions and esthetics. Anchorage, defined as a resistance to unwanted tooth movement, is a prerequisite for the orthodontic treatment of dental and skeletal malocclusions. Paradigms have started to shift in the orthodontic world since the introduction of mini-implants in the anchorage armamentarium. Clinical applications of mini screw implants include: Direct anchorage in all three dimensions, Intrusion of the extruded maxillary molars in patients requiring prosthodontic rehabilitation of edentulous space, Distal movement of maxillary molar, Intrusion of the maxillary molar tooth in patients with anterior open bite, Uprighting of mandibular molars, etc. Miniscrew implants are made from titanium alloy or surgical grade stainless steel and employ a conical or tapered screw design with asymmetric or symmetric thread pitch. They can be placed directly through the gingival tissue into bone in between the roots of individual teeth with a hand driver or hand piece. Placement is minimally invasive and often completed using only topical anesthetic.

Miniscrew implants are unique because unlike restorative endosseous implants they do not require osseointegration. Instead, these devices rely on mechanical retention to maintain rigidity, which also makes their removal relatively simple and noninvasive. Ideally, they should be placed in areas with adequate cortical bone and with the head of the screw in attached alveolar mucosa. They may be loaded immediately, but biomechanical factors must be taken into consideration owing to the increased chance of loosening associated with the lack of integration and torque or rotational forces that may occur under loading. Once they have served their purpose, they are removed. Early loss of mandibular permanent first molars is a clinical problem that routinely occurs and prosthodontic rehabilitation of edentulous space is often complicated with overeruption of antagonistic tooth requiring preprosthodontic intervention. Orthodontic intrusion of the overerupted antagonistic tooth is a desirable strategy, since it is more effective and less invasive procedure.

This case report will focus on preprosthodontic intrusion of an overerupted maxillary quadrant teeth using a miniscrew implants and partial fixed orthodontic appliance.

Case Report: As per WHO 2017, Ossifying fibromas are benign fibro-osseous neoplasms affecting the jaws and the craniofacial skeleton. There are two varients of it Cemento-Ossifying fibroma and Juvenile Ossifying fibromas. Juvenile Ossifying fibroma are further divided into trabecular and Psammomatoid form.

Juvenile pssamomatoid variant occurs in 2nd-3rd decade of life and has higher rate of recurrence, hence has to be treated in radical manner.

One such case of female patient, age 16 years reported to the department of Oral and maxillofacial surgery with a complain of swelling over right back region of jaw since few months. With all the clinical and

radiological investigations cement-ossifying fibroma, fibrous dysplasia, cement-osseous dysplasia was diagnosed followed by which she underwent excisional biopsy of which histopathological diagnosis confirmed as Cemento-ossifying fibroma. Further patient was kept on close follow up.

Post surgery after 5 months, patient reported again the complain of swelling over right back region of jaw which was gradually seen to be increasing by the end of year. Again, Incisional biopsy was taken which came as Juvenile pssamomatoid ossifying fibroma. With the high recurrence that it possess we had to plan aggressive surgery. Hence, patient underwent radical resection of mandible followed by which considering the age of the patient free fibula flap reconstruction was done with the help of recon plate.

Post surgery after a period of 6 months, implants were place into fibula graft and were let to osseointegrate for around a period of 4 months.

Further on, for the purpose of placement of abutment and prosthesis vertical occlusal clearance was required for which patient was sent to department of orthodontics for the intrusion of ipsilateral maxillary teeth.

After 2 years of her surgery, 18-year-old female was referred from the Department of Oral surgery with the chief complaint of difficulty in chewing because of missing teeth in lower back region of jaw.

The patient was apparently alright 3 years back when she underwent extraction of teeth from 32 to 48 along with hemimandibulectomy. As a result, the maxillary posterior teeth were overerupted and there was insufficient occlusal clearance. Lateral cephalometric analyses showed that the patient had a Class I skeletal relationship with an acceptable profile. And class I molar relation on left side

Fig.: 1 and 2

Fig 3: Pre treatment OPG

Aim: The aim of treatment was to provide adequate function, maintain the structural balance and prosthodontic rehabilitation of edentulous space by intrusion of over-erupted teeth using orthodontic miniscrew implants

Treatment Plan: The treatment objective was to intrude the over erupted teeth with the help of miniscrew implants and subsequently

regain the appropriate dental space for prosthetic rehabilitation.

It was decided to undertake intrusion of the upper right quadrant using 2 miniscrew implants to facilitate restorative treatment of missing molars. Two temporary anchorage devices, 7 mm in length and 1.6 mm in diameter, were used . One miniscrew implants were inserted between first and second molar on right palatal side. The other 1 devices were placed between the upper right canine and lateral incisor on labial side. These positions were chosen to facilitate the required intrusive movement. One operator placed all of the devices.

Prior to miniscrew placement, a slight purchase point was made by drilling a small pilot hole (according to surgical stent) with a round bur using slow-speed contra-angle hand piece. This facilitated accurate directional control when threading the miniscrew implant into the bone. Sterile saline irrigation and strict antiseptic protocols were followed. Implants were inserted in desired position with the help of implant driver.

Begs backets were boned on the lingual side of the 14,15,16,17 and a sectional wire was passed from that and the power chain was attached to the microimplant from the premolar and molar.

The temporary anchorage devices were immediately loaded with 100 g of intrusive force using a closed elastic power chain attached to bite plate hooks. The power chain was activated every 2 weeks. (Fig 4).

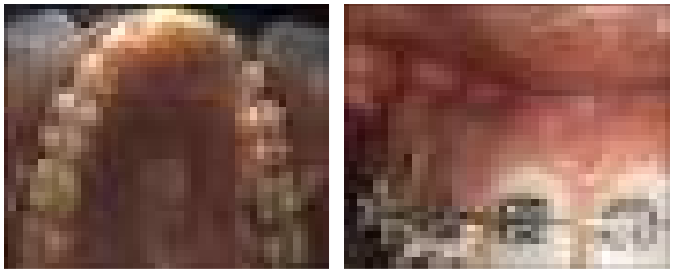
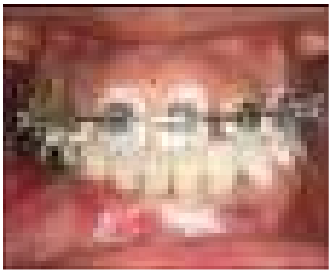


Fig.: 4

After 6 months of orthodontic treatment with the 2 upper miniscrew implant, functional occlusion was established in the right and left posterior dentition through 4-mm intrusion of the upper maxillary posterior teeth. This created adequate space to restore the opposing edentulous spaces.

Following which abutment and prosthesis was placed.



Conclusion:

- TAD-supported molar intrusion is controlled and timely and may be accomplished without the need for full-arch brackets and wires. Supraerupted maxillary first molars can be intruded 3 to 5 millimeters in 7.5 months (approximately 0.5–1.0 mm per month), without loss of tooth vitality, adverse periodontal response or radiographically evident root resorption.
- Adjunctive orthodontic treatment involves tooth movement designed to enhance

the success of other dental procedures necessary for the control of disease and to restore function

- Orthodontic treatment as an adjunct to prosthodontic and restorative dentistry can significantly enhance a favorable result.

A CASE OF ANTERIOR DISC DISPLACEMENT

Presented by:
Dr. Sumeet Jalan (JR III, Department of Prosthodontics)
Dr. Rutuja Muneshwar (JR II, Department of Oral Medicine and Radiology)
Dr. Rutuja Muneshwar (JR II, Department of Oral Medicine and Radiology)

A 21 years oldmale patient residing in Mouda, Nagpur came with the chief complaint of clicking in the right TMJ while opening of mouth since 8 months.

History of present illness: Patient was apparently alright 8 months back when he started experiencing clicking in the right TMJ on opening of mouth. Patient also complains of lock jaw during wide mouth opening, for which he has to hand manipulateand push the mandible to the left side to open the mouth.

He has visited private clinic where, he was prescribed with muscle relaxant tablets and multivitamins but he didn't get any relief.

- H/O unilateral chewing habit from right side since 3-4 years.
- H/O stress since 1 year
- No H/O pain associated with the TMJ.
- No H/O trauma in the orofacial region.
- No H/O swelling
- No H/O unilateral sleeping habit.

So, patient reported to VSPM's dental college for further treatment.

Past Medical History and past Dental History was not contributory. Patient didn't have any deleterious habit.

Personal History:

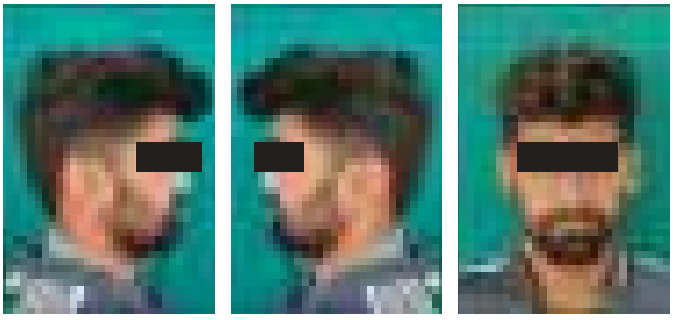
1 Brushing habit- Patient brushes using toothbrush andtoothpaste; once daily.
2 No addictive or any parafunctional habits present

General examination: Patient was conscious, co-operative and well oriented to time,place and person.

- Built: Thin
- Gait: Normal
- Height: 5'11ft
- Temperature: Not raised
- Pulse: 86 bpm
- Respiration: 16 cycles per minute
- Blood Pressure: 120/80 mm of Hg
- Pallor, Icterus, Cyanosis and Clubbing was absent.

Extra-oral examination:

No observable asymmetry seen.



TMJ examination:

- Mouth opening was inadequate
- Interincisal distance with manipulation – 50 mm.
- Interincisal distance without manipulation – 23 mm
- Bilateral movements of TMJ were palpable.
- Clicking present in right and left TMJ on opening and closing of mouth.
- Crepitus present on both sides of TMJ region.
- Deviation was seen towards right side whileopening the jaw.

Muscles of Mastication:

Activity of muscles i.e temporalis, masseter, medial pterygoid, lateral pterygoid were normal.

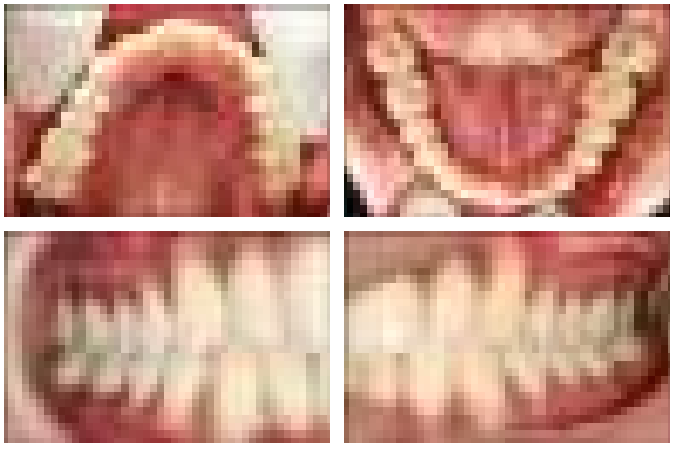
Regional Lymph node examination:

Not palpable

Intra-oral Examination: Hard tissue Examination

Teeth present

- 17 16 15 14 13 12 11 21 22 23 24 25 26 27
- 47 46 45 44 43 42 41 31 32 33 34 35 36 37
- Angle's Class I relation on right and left side
- Crowding 42 41 31 32
- Stains +
- Calculus +



Soft tissue Examination:

1 Buccal mucosa - normal
2 Labial mucosa - normal
3 Tongue -normal
4 Floor of mouth- normal
5 Vestibule-normal
6 Hard and soft palate-normal
7 Uvula-normal
8 Faucial pillars-normal
9. Gingiva- normal

Provisional Diagnosis:

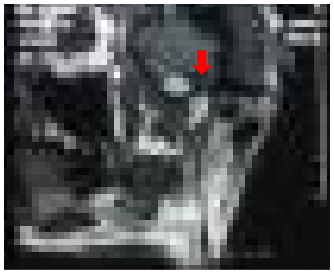
Anterior disc displacement with reduction.

Radiographic Investigation :

1] OPG
2] MRI

1] OPG: OPG shows maxillary and mandibular teeth up to 2nd molar and with impacted 38 and 48. No gross osseous changes in the right and left condyles can be identified.

2] MRI – MRI in sagittal sections - MRI of left TMJ: In closed mouth sequence, normal relationship of the disc and condylecan be seen with disc located with its normal position over the condyle. During opening, the condyle and disc translates anteriorly.



Closed mouth

Open mouth

MRI of Right TMJ: In closed mouth sequence, anterior subluxation of the articular disc is noted. In open mouth, disc is recaptured into its normal position on the condyle.

Clinico - Radiographic Diagnosis: Anterior disc displacement with reduction.

Anterior Disc Displacement with Reduction: Research Diagnostic Criteria for Temporomandibular disorder (RDC/TMD) defines DDwR as an intracapsular biomechanical disorder when, in closed mouth position, the disc is in an anterior position relative to the condylar head, and the disc reduces upon opening of the mouth (clicking, popping, or snapping noises may occur with disc reduction)

Treatment Plan:

1. **Definitive:** Management with Anterior positioning device
2. **Supportive:** NSAIDs, soft diet, limited mouth opening.

Anterior Positioning Appliance: The anterior positioning appliance is an interocclusal device that encourages the mandible to assume a position more anterior than the intercuspal position.

It may be useful for the management of certain disc derangement disorders, since anterior positioning of the condyle may help to provide a better condyle-disc relationship, thus allowing a better opportunity for tissue adaptation or repair.

Etiology:

- Elongation of discal collateral ligaments
- Elongation of inferior retrodiscal lamina
- Thinning of posterior border of the disc

Goals:

- The goal of treatment is not to alter the mandibular position permanently but only to change the position temporarily so as to enhance adaptation of the retrodiscal tissues.
- Once tissue adaptation has occurred, the appliance is eliminated, allowing the condyle to assume the musculoskeletally stable position and painlessly function on the adaptive fibrous tissues.

Indications:

- Intra-capsular disorders
- Disc displacements
- Disc dislocation with reduction

Procedure:

1. Primary impressions and making of primary casts
2. Facebow records and transfer to the semi-adjustable articulator
3. Protrusive record in anterior position
4. Fabrication of anterior positioning appliance


Primary Impressions


Maxillary Mandibular

Tansfer of Facebow Record to Semi-adjustable Articulator

Mounting on the Semi Adjustable Articulator in Desired Anterior Position

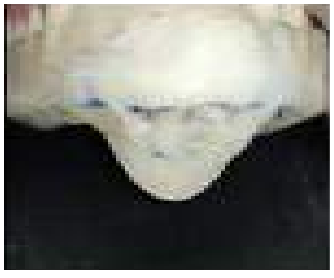
Anterior Positioning Device

Right Lateral

Frontal

Left Lateral

Intra-operative



Palatal Ramp

Discussion: Disc displacement with reduction is the most common derangements of the condyle-disc complex. There are several forms of these derangements, but anterior and anterior-medial displacements are the most frequent. Disc displacements may be partial or complete, depending on their extension. Trauma, anatomy of TMJ, bruxism, stress, masticatory muscle contracture, and abnormal dental occlusion may lead to elongation of the disc ligaments and indirectly to disc displacements and excessive load within temporomandibular joints and retrodiscal tissues.

The use of ARS in the treatment of disc displacement plays an important role, due to TMJ tissue unloading including retrodiscal tissues and insertions of selected masticatory muscles to articular discs.

Randomized clinical trials performed by Schiffman et al. and Haketa et al. showed that occlusal splint therapy could be an efficient method in displaced disc recapture and also pain level alleviation. In both clinical trials, the authors compared occlusal splint therapy with other treatment options, including conservative and surgical approaches, and concluded that all of these are efficient in the management of intra-articular TMJ disorders.

Final criteria for the anterior positioning appliance. The following five criteria should be met by the anterior positioning appliance before it is given to the patient:

1. It should accurately fit the maxillary teeth with total stability and retention when in contact with the mandibular teeth and when checked by digital palpation.
2. In the established forward position, all the mandibular teeth should contact it with even force, cusp tips against flat surfaces.
3. The forward position established by the appliance should eliminate the joint symptoms during opening and closing to and from that position.
4. In the retruded range of motion, the lingual retrusive guidance ramp should contact and upon closure direct the mandible into the established therapeutic forward position.
5. The appliance should be smoothly polished

and compatible with adjacent soft tissue structures.

Instruction to the patient: The patient is instructed to wear the appliance only at night. During the day the appliance should not be worn so that normal function of the condyle will promote the development of fibrotic connective tissue in the retrodiscal tissue. The patient should be provided with physical self-regulation instructions so as to reduce loading of joint structures during the day. If the patient reports pain during the day, the appliance may be worn for short periods of time throughout the day to reduce the pain. As soon as the pain is resolved, the use of the appliance is limited to nighttime only

The length of time that the appliance is worn will be determined by the type, extent, and chronicity of the disorder. The health and age of the patient are also factors in treatment

It is important to reemphasize that the anterior positioning appliance is not designed to permanently position the mandible forward. It is designed to temporarily reduce loading to the retrodiscal tissues, thus allowing these tissues to adapt. Once the

retrodiscal tissues have adapted to fibrosis, connective tissue the mandible can comfortably assume the musculoskeletally stable position for function. Although this now becomes a painless joint, the disc remains displaced and therefore clicking may continue. In this manner the clinician is helping nature repair or adapt this joint.

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HEMISECTION-WINDOW FOR FREEZING TOOTH : A CASE REPORT

Presented by:
Dr. Himani Thawale (Department of Conservative Dentistry & Endodontics)
Dr. Gajanan Chandode (Department of Periodontics)

Abstract: This case report presents combined Endodontic and surgical management of a mandibular molar with extensive root caries and Furcation involvement in 44 year old Man.

Introduction:

- Advances in dentistry has provided an opportunity to maintain a functional dentition for lifetime.
- Loss of the posterior teeth is eventful and undesirable often leading to Teeth Drifting, - Loss Of Masticatory Function and Loss Of Arch Length.
- The oral cavity has the potential to harbor at least 600 different bacterial species and in any given patient more than 150 species may be present. These bacterias are responsible for various dental health issues such as dental caries and periodontal problems.
- Management of periodontally involved molars with extensive decay is a challenging and is limited to dental extraction and replacement with implants.
- Hemisection is a conservative way of preserving tooth. The term "hemi section" or "root amputation" are synonyms for "root sectioning" or "bisection" and is a treatment modality, which allows the preservation of tooth structure, alveolar bone and cost savings over other treatment options. By definition – "Hemisection is sectioning of multi- rooted teeth with its crown portion, with the loss of periodontal attachment and is performed to retain the original tooth structure and attain the fixed prosthodontic prosthesis.

Endodontic and restorative indications:

- Severe destructive process
- Vertical fracture of one root
- Endodontic failures
- Prosthetic failure of abutments within a splint

Periodontal Indications:

- Severe vertical bone loss involving only one root of multirooted teeth
- Through and through furcation destruction
- Unfavorable proximity of roots of adjacent teeth, preventing adequate hygiene maintenance in proximal areas
- Severe root exposure due to dehiscence.

Case Report: Demographic data:

Name: Jayant Deshmukh,

Age: 44 years,

Sex: Male,

Chief complaint: A 44 year old male patient came to the Department of Conservative Dentistry and Endodontics with a chief complaint of pain in the lower left back region of jaw since 15 days

History of present illness: Patient was relatively alright 15 days back, then he experienced pain in lower left region of jaw. Patient gave history of dull aching continuous pain, caused by a hot or cold stimulus, or pain occurs spontaneously. Pain persists for several minutes to hours, lingering after removal of thermal stimulus. Nocturnal Pain: Present,

Clinical Examination:

Extraoral Examination: Detected no

abnormalities

Intraoral examination: Deep Proximal caries with 36

Test Results:

Test	**Result**
Percussion test	Tenderness positive
Cold test	Delayed response
Mobility and depressibility test	Grade I mobility
Electric pulp test	Delayed response

Radiographic Examination: Radiovisiograpghy (RVG) revealed a Crown-Proximal Radiolucency suggestive of distoproximal caries Root-Proximal radiolucency suggestive of root caries Periapical area - Periodontal Ligament Widening.

Furcation - Furcation Involvement seen

Figure 1- Pre-operative Radiograph

Provisional Diagnosis:

- Symptomatic irreversible pulpitis with symptomatic apical periodontitis was made with 36.

Rationale: NSRCT

- To help reduce the number of microorganisms in the root canal system.
- To prevent recontamination through root canal system.

Hemisection:

- Extensive Root Caries with distal root
- Furcation Involvement
- Healthy Bone support with stable Mesial Root.

Treatment Plan:

- Non-Surgical Endodontic Therapy
- Followed by Hemisection

Treatment Procedure:

1. Informed consent
2. Patient was informed about the situation and unfavourable prognosis
3. Inferior alveolar nerve block was given and rubber dam was placed
4. All carious tooth structure was removed using sterilized round bur (BR40:Mani, Inc., Tochigi, Japan)
5. The working length was established with electronic apex locator (Root ZX; Morita, Tokyo, Japan) and confirmed with diagnostic RVG images
6. Shaping was performed using Endostar E3 Azure File system (Endostar) with the crown-down technique.
7. The root canals were frequently irrigated with 5.25% sodium hypochlorite, normal saline and 17% EDTA as the final irrigant
8. Irrigant agitation was done with the help of manual gutta percha points
9. The master cone, (#25/.06) gutta-percha was inserted to the full working length and apical snug fit was checked.
10. Obturation was done with Gutta Percha and sealer (Sealapex)
11. The tooth was then restored by glass ionomer restorative material and post treatment radiographs were taken.
12. Patient was referred to department of Periodontics for Hemisection

Fig-2 Working Length Determination

Fig-3 Master Cone Radiograph

Fig- 4 Post Obturation Radiograph

Discussion: The hemisection is a useful alternative treatment to extraction to save the multi-rooted teeth by endodontic approach, which includes the root canal treatment of the remaining roots and restoring them with suitable restorative material to splinting it with the adjacent tooth to decrease the risk of displacement followed by a fixed prosthodontic prosthesis to maintain the occlusal balance.

According to Weine et al cases in which pulp is involved, endodontic procedure should be carried out prior to the surgical appointment.

- Relieve the patient of pain.
- Verifies that the root to be retained are negotiable and treatable.
- Prevent a severe exacerbation of a chronically inflamed pulp (due to periodontal disease) due to the trauma caused during amputation.
- Difficult to perform the endodontic therapy

The literature on distal root resection is limited as compared to mesial root in mandibular molars because of its anatomical structure.

The distal root is less curved than the mesial root but it has a definite distal apical inclination. Because of these depressions and a greater curvature of the mesial root, this root probably has more resistance to stress than does the distal root and thus may be a better choice for retention.

Recently, Park et al suggested that hemisection of molars with questionable prognosis can maintain the teeth without detectable bone loss for a long-term period, provided that the patient has optimal oral hygiene.

Shafiq et al have also concluded that hemisection of a mandibular molar may be a suitable treatment option when the decay is restricted to one root, and the other root is healthy and remaining portion of the tooth can very well act as an abutment.

Buhler et al observed 32% failure rate in hemisection cases attributed to endodontic pathology and root fracture while other authors have shown a greater success in hemisection cases in the long-term studies.

Introduction: The word hemisection is derived from hemi-a learned borrowing from the Greek, meaning half, and sect, a word element occurring in loan words from the Latin in which it meant cut. Hemisection usually denote's removal of half the tooth done in two procedures: tooth sectioning, followed by removal of one root.

Case presentation: A 44 -year-old male patient was referred from the Department of Endodontics to Department of Periodontics

with an indication for Hemisection in the Mandibular left region with 36.

Past Medical history: Nonsignificant

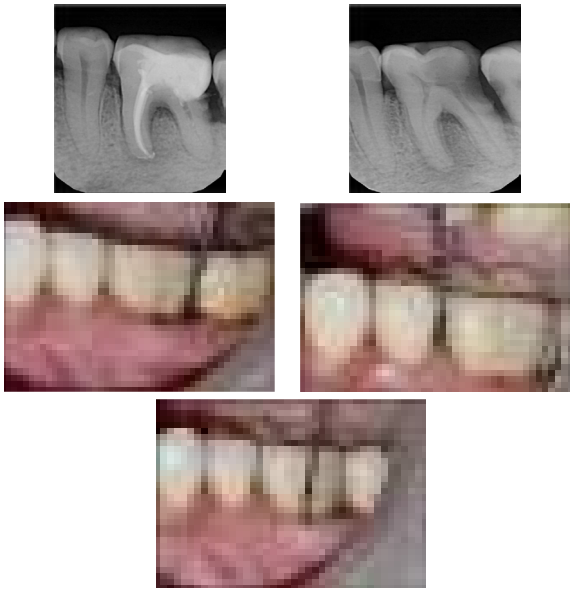
Past Dental History: Completed Root canal treatment 1 week back

Habits: He was having habit of kharra chewing 15 years back.

Intra-oral examination: Generalised mild gingival inflammation present Restoration present with 36 Grade 1 mobility present with 36 Grade 1 furcation involvement with 36 Patient mouth opening was 30 mm Surgical procedure was planned after obtaining all the necessary investigation

Armamentarium - Scalpel blade no.15, Periosteal elevator, surgical curettes, Freezed dried bone allograft, 2 test tubes, gauze sponges, 3-0 black silk sutures, scissors.

Pre-operative photographs



Surgical Procedure: The periodontal prognosis of the mesial root was Good with adequate bone support. After completion of endodontic treatment that also included removal of all carious tooth structures, hemisection of distal root was performed under local anesthesia.

The area was anaesthetized with a local infiltration by using 2% lignocaine with 1:80000 adrenaline.

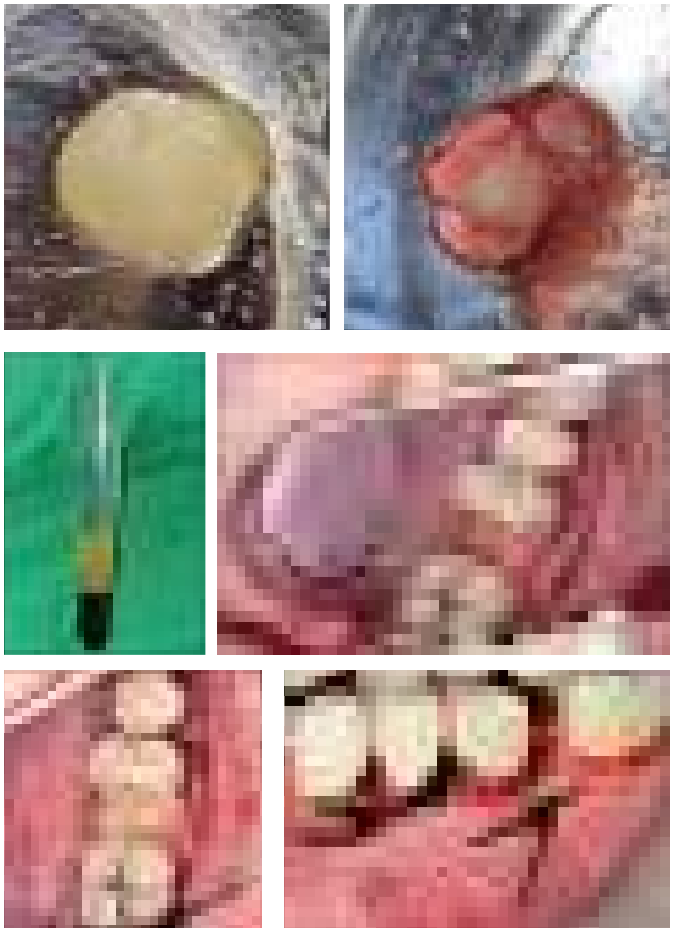
Full-thickness flaps were elevated on the buccal and lingual aspects two tooth mesial and one tooth distal to involved tooth. Upon reflection of the flap, crater-like bony defect along the distal root became more evident. Degranulation was performed using surgical curettes to expose the bone.

After the root is sectioned and removed, granulation tissue can be curetted from the socket and furcation areas, but as much bone as possible should be left to form a matrix for healing.

The distal root socket and crater-like bony

defect were grafted with Freezed dried bone allograft along with Concentrated Growth Factor.

Flap was approximated and sutured with 3-0 braided silk.



Immediate postoperative radiograph showed the well-retained mesial root and extraction socket of the distal root. Sutures were removed after 10 days.

Discussion: Loss of posterior teeth may result in several undesirable sequelae such as mesial drifting, loss of arch length and loss of masticatory function.

As previously discussed, treatment options for an extensively decayed and no restorable molar are limited.

A clinician must decide a treatment option based on the patient's age, medical history, and the ability to maintain oral hygiene.

Consideration of the cost of treatment and available clinical evidence of success of different modalities is indispensable.

In the present case, all possible treatment options were explained to the patient, including hemisection, as the decay was limited to distal root. Since the patient was not too old and he was reluctant to lose his tooth. In addition, his financial conditions made him to reject the option of dental implant.

The long-term success of hemisected molar depends on several interrelated factors: periodontal condition of tooth, root anatomy, maintenance therapy, endodontic and restorative therapy, and the surgical procedure itself.

Conclusion: Conservative management of grossly carious multirooted teeth in young patients not only preserves the dentition but also reduces the financial burden, psychological trauma and occlusal dysfunction associated with tooth loss. Hemisection seems to be a reliable treatment option for saving a nonrestorable molar which otherwise needs to be extracted.

A CASE OF RADICULAR CYST

Presented by:
Dr. Trushita Banubakode (Department of ODMR)
Dr. Ankita Niswade (Department of Conservative dentistry and endodontics)
Dr. Ashwini Bingane (Department of Oral surgery)

A 15 years old male patient residing in Benoda Amravati came with the chief complaint of swelling over left side of mid face since 2 years.

History of present illness:

- Patient was apparently alright 2 years back then he noticed extra oral swelling over left side of mid face.
- The swelling was initially small in size i.e. lemon size and gradually increased to attain the present size.
- Swelling was not associated with pain.
- History of trauma in the same region 2 years back. (due to fall on bench while playing)
- History of paraesthesia over left cheek and left lip region since 11/2 years.
- History of nasal bleed while sneezing occasionally since 1 year.
- For the similar swelling he visited to private dental clinic where he was prescribed with medications but didn't get any relief. (Relevant document were not with patient).
- Since past 2 years swelling was not associated with other symptoms like fever, pus discharge, tooth mobility and tooth ache. So, patient reported to V.S.P.M dental OPD for further management.

Past Medical History:

- Not contributory

Past Dental History:

- Not contributory

Family History:

- Not contributory

Habit History:

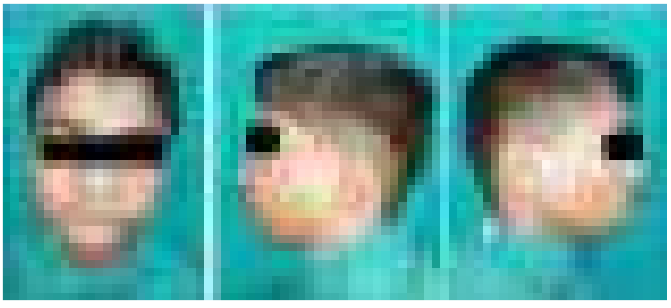
- No addictive or any parafunctional habits present
- Sleep Cycle - Normal
- Bowel and Bladder Movement – Normal

General examination:

Patient was conscious, co-operative and well oriented to time, place and person.

Built: Thin
Gait: Normal
Height: 5'ft
Temperature: Afebrile to touch
Pulse: 78 beats/ minute
Respiration: 16 cycles/minute
Blood Pressure: 108/70 mm of Hg
Pallor: absent
Icterus - absent
Cyanosis: absent
Clubbing: absent

Extra oral examination:



- Face – Bilaterally asymmetrical due to diffuseswelling present over the left side of mid face.
- Extent: A/P: from ala of nose to the level of left outer canthus of eye. S/I: from 0.5 cm below left infraorbital margin upto the occlusal plane.

- Color: Same as that of adjacent skin.
- Skin over the swelling: Normal.
- No visible discharge seen.
- On palpation : All inspectory findings were confirmed on palpation.
- Consistency: hard
- Temperature: Not raised.
- Tenderness: Absent
- No discharge on provocation.
- TMJ Examination: Bilaterally synchronous movements of TMJ, No clicking or popping sounds present, No deflection or deviation present. Mouth opening was adequate.
- Interincisal distance: 48 mm

Muscles of Mastication:

- Muscles of mastication (i.e temporalis, masseter, medial pterygoid and lateral pterygoid) of both right and left side were normal.

Regional Lymph node examination:

- Not palpable.

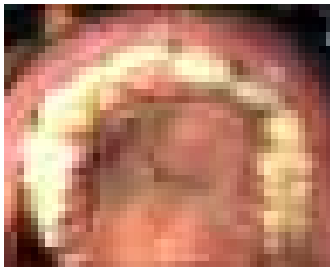
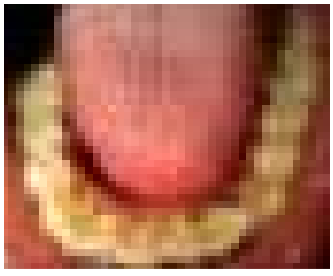
Intra oral examination:

Hard tissue examination:

- Teeth present-

17 16 15 14 13 12 11 21 22 23 24 25 26 27
47 46 45 44 43 42 41 31 32 33 34 35 36 37

- Stains +
- Calculus +

Soft tissue Examination:



10. Buccal mucosa - normal
11. Labial mucosa - normal
12. Tongue -normal
13. Floor of mouth- normal
14. Hard and soft palate- normal
15. Uvula- normal
16. Faucial pillars- normal
17. Gingiva – normal
18. Vestibule - Obliteration seen in left buccal vestibule

Area of chief complaint:

On inspection :

- A single intra oral swelling seen over the left half of the palate extending M/L from midline upto 1 cm away from the marginal gingiva of 22 23 24 25 .
- A/P: 1 cm away from marginal gingiva of 21 upto 2 cm anterior to soft palate.
- Size – 3x4 cm approx
- Shape – roughly oval
- Overlying mucosa – normal
- No visible discharge present

On palpation :

- All inspectory findings were confirmed on palpation.
- Consistency – hard
- Tenderness – Absent
- Discharge on provocation – Absent

On inspection :

- An intra oral swelling is seen in the left buccal vestibule extending.
- A/P from medial half of 23 upto distal aspect of 27.
- S/I 1cm away from the occlusal plane involving buccal vestibule extending inferiorly upto the attached gingiva of 23 24 25 26 27.
- Size : 3x2.5cm approx
- Shape – roughly oval
- Overlying mucosa – inflammed.
- No visible discharge present

On palpation :

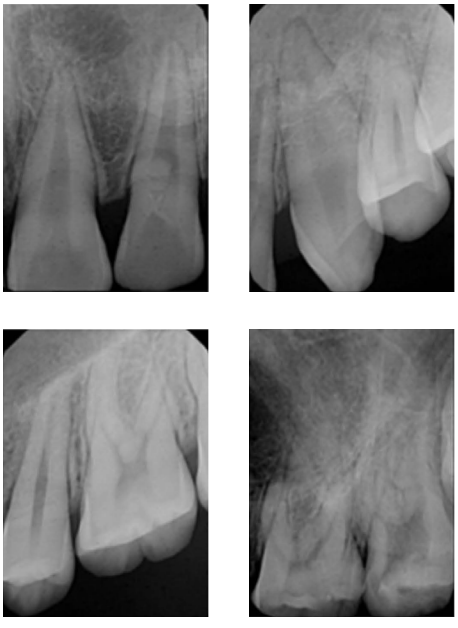
- All inspectory findings were confirmed on palpation.
- Consistency – hard
- Tenderness – Absent
- Discharge on provocation – Absent

Provisional diagnosis:

- Radicular cyst involving left buccal vestibule and hard palate associated with 22 23 24 25 26 27.

Clinical Differential diagnosis:

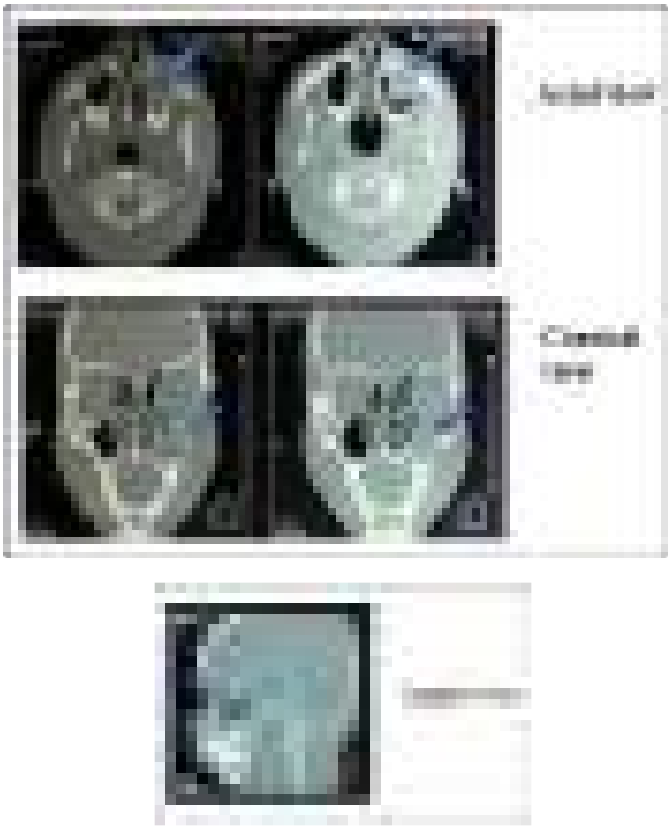
- Benign mucosal cyst of maxillary antrum
- Fibrous dysplasia
- Benign odontogenic tumor
- RVG



Radiographic Investigation

Teeth present – All quadrants 1-8 teeth were present. On comparison with right side there is downward displacement of floor of left maxillary sinus.

CT Interpretation



On comparison with right side in the axial and coronal section a well defined rounded ,expansile radiopaque cystic lesion is noted in the left maxillary region arising from the left superior alveolar margin and protruding into the left maxillary sinus. Outline of the maxillary sinus is maintained. Left maxillary ostium appears to be blocked. The lesion is

causing posterior displacement in the anterior wall of maxillary sinus.

Radiological differential diagnosis: Mucous retention cyst

Intra Oral Examination -Endodotic examination: No relevant clinical endodontic findings were found.

Investigation:

Test	Result	Test	Result
Percussion Test	Tenderness negative	Mobility or epressibility Test	No Mobility
Cold Test	Delayed response	Electric Pulp Test	Delayed response

Radiographic Examination:





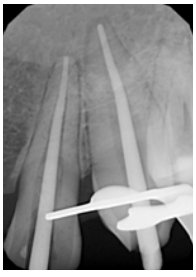
Orthopantomography (OPG)

Treatment Plan: According to the decided surgical treatment plan, non surgical endodontic treatment was planned with 22, 23, 24, 25, 26, 27.

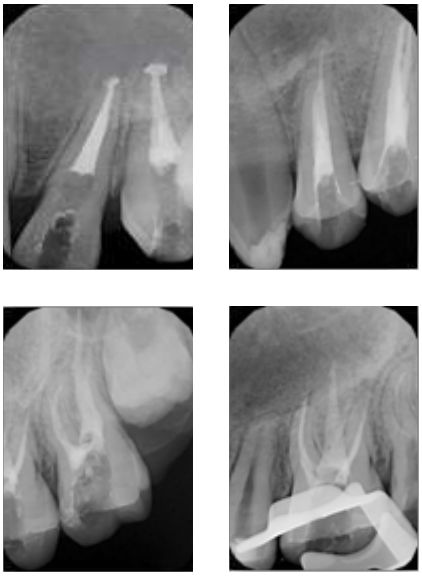
Treatment Procedure:

- Consent
- Patient was informed about the treatment plan and consent was obtained before treatment.
- Local Anesthesia
- Infra-orbital Nerve Block
- Posterior Superior Aveolar Nerve block
- Access Opening - Access opening with 22, 23, 24, 25, 26, 27 was done with sterilized round bur.
- Working Length: The working length was established with electronic apex locator (Root ZX; Morita, Tokyo, Japan) and confirmed with diagnostic RVG images
- Biomechanical Preprations: Shaping was performed usings Protaper Next File system with the crown-down technique
- Irrigation Protocol: The root canals were frequently irrigated with 5.25% sodium hypochlorite, normal saline and 17% EDTA as the final irrigant.
- Irrigant agitation was done manually with gutta percha points.

Master Cone selection: The master cone, gutta-percha was inserted to the full working length and apical snug fit was checked




Obturation:



- Segmental obturation up to 5mm [mster cone – 22= #55 (6%), 23= #60 (6%)] was done using downpack unit to achieve apical seal, and backfill obturation was done with backfill unit of Calamus® Dual 3D Obturation System with 22 and 23.
- Warm vertical compaction is done using gutta percha and sealer (Sealapex) with 24, 25, 26, 27

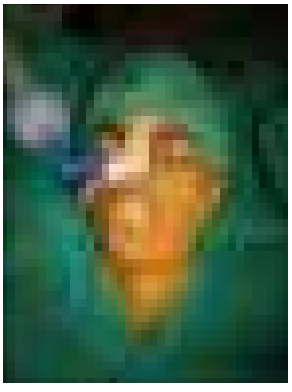
Post obturation restoration: The tooth was then restored by glass ionomer restorative material and post treatment radiographs were taken. Patient was referred to the department of Oral & Maxillofacial Surgery for further surgical management.

Histopathological Examination:

H and E Stained section reveals cystic lumen lined by psuedostratified ciliated columnar epithelium at places the lining epithelium shows metaplastic change to non keratinised stratified epithelium. The connective tissue stroma composed of plasma lymphocytic cell infiltrate , foamy cells, macrophages , large area of spilled mucin.

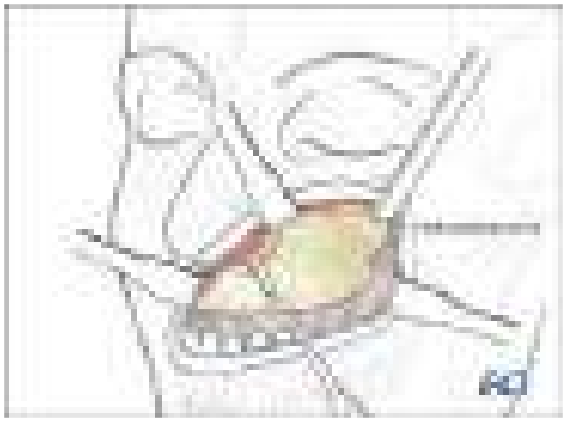
- In accordance with the clinical, radiological and histopathological evaluation, the final diagnosis was Benign Mucocele of maxillary antrum.

Surgical Planning: Under all aseptic precautions patient is posted for surgery under General Anaesthesia. Scrubbing , painting and drapping of patient was done. Left maxillary vestibule region was infiltrated with lignocaine 2% with Adrenaline 1: 200000.

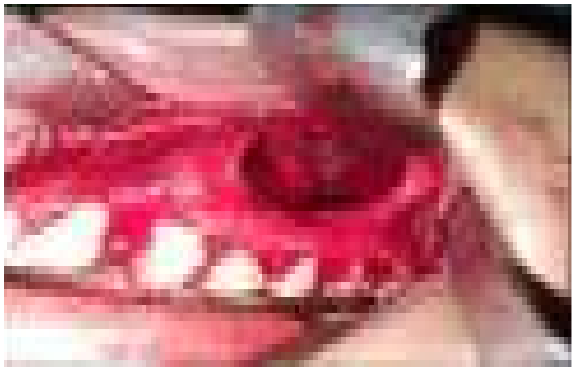


Crevicular incision was taken from right side lateral incisor to left side first Molar with wide releasing incision on right side and triangular flap was raised.

Position of knife in performing crevicular incision



The incision is carried down through the mucosa,submucosa,underlying facial muscles and periostium on to the bony surface to expose the thin bony surface of the anterior maxillary sinus wall and anterior wall antrostomy was done with round bur.



Cystic lining of maxillary sinus was removed in toto.

Total removal of the mucocele capsule ,mucocele lining, and marsupialization was done. Haemostasis achieved and irrigation of sinus was done with betadine.

Gel foam packing was done and left in maxillary sinus.

Suturing was done with vicryl 3-0.

Discussion:

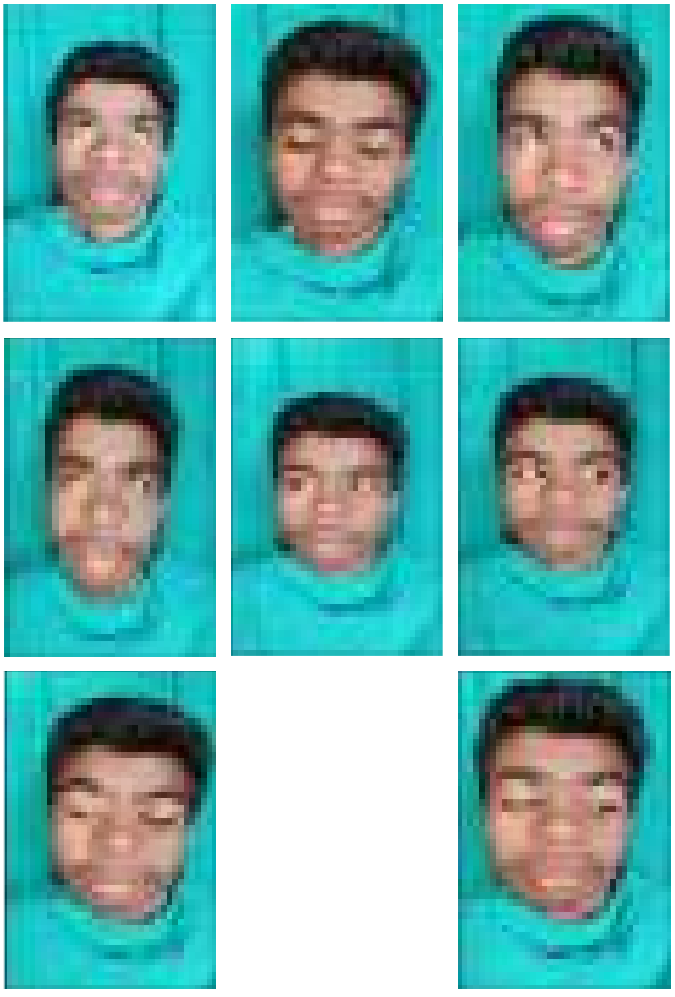
- Mucocele of the maxillary antrum
- Mucocele - Occupies the entire sinus.

Cystic structure filled with mucus and lined by antral epithelium. Associated with blockage of the ostium and may be secondary to chronic sinusitis. Expansile and may destroy and perforate adjacent bone.

- A true antral mucocele completely fills the sinus and is caused by blockage of the ostium, which may be secondary to inflammatory changes associated with chronic rhinosinusitis or allergy or trauma.
- The lesion is a true cyst filled with mucus and lined by the mucoperiosteum of the involved sinus. It causes ballooning expansion with destruction and perforation of the surrounding bone and displacement of adjacent structures.
- This may result in nasal blockage, proptosis and a range of other clinical symptoms which may be mistaken for more aggressive disease.

Frequency:

- Overall, mucoceles are common cystic lesions affecting the paranasal sinuses, but the frontal and ethmoid sinuses are most often affected with only about 10% arising in the maxillary sinus (Natvig and Larsen, 1978).
- Despite this, there are few recent series of cases and true antral mucoceles appear to be rarely encountered. Marks et al. (1997), in what they thought was the largest series at the time, collected only nine maxillary sinus mucoceles over a 10-year period.
- Four of these, however, were associated with trauma or previous surgery, leaving only five true mucoceles.
- Mucocele is more common in the frontoethmoidal region and rarely involves the maxillary sinus. The most common etiology for maxillary sinus mucoceles are untreated trauma, history of prior sinus surgery, facial fractures.
- Antral mucoceles generally involve the lateral sinus wall first, followed by the orbital floor, the hard palate, and less frequently, the medial (nasal) wall.
- Orbital displacement, proptosis, diplopia, ophthalmoplegia, and decreased visual acuity can result if the superior wall of the maxillary sinus becomes dehiscen



In our case as there is no involvement of orbit all eye movements are normal.

Pathogenesis:

- Obstruction of the ostium resulting in accumulation of mucus and cystic growth by an osmotic mechanism, Barsley et al., 1984; Meer and Altini, 2006).
- Obstruction is unknown and relatively few cases are associated with a history of chronic rhinosinusitis through either

infection or allergy, (Marks et al., 1997; Busaba and Salman, 1999).

- Blockage and accumulation of mucus is needed for initiation of cyst development.
- Barsley (1984) suggested that mucus retention increases the protein content and osmolarity of the cyst resulting in expansion by hydrostatic pressure. accompanied by inflammation and activation of boneresorbing factors and osteoclasts which allow bony expansion and destruction of adjacent tissues.

Treatment:

- The recommended treatment is a Caldwell-Luc technique or crevicular incision approach with total removal of the mucocele capsule, mucosal lining and wide nasoantral window.
- But nowadays the traditional method has been replaced by replaced by endoscopic marsupialization with very low recurrence rate at or close to 0% and minimally invasive with a shorter postoperative recovery and less morbidity.
- Marsupialization with establishment of ostial drainage relieves the symptoms of the mucocele and also prevents the reaccumulation of mucus. Thus, a clear understanding of paranasal sinus mucoceles is of utmost importance in early diagnosis and rapid surgical intervention

Conclusion:

- Long-standing benign inflammatory condition of paranasal sinus and blockage of the osteomeatal complex can result in mucocele.
- Though bening in nature regular follow up and close observation can be helpful in planning the surgical intervention to avoid complications that usually arise due to the locally aggressive nature of the tumor.

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CAPILLARY HEMANGIOMA OF LIP, MIMICKING AS PYOGENIC GRANULOMA:A CASE REPORT

Presented by:
Dr. Shravani Mankar (Department of Pediatric dentistry)
Dr. Rucha Gulhane (Department of Oral pathology)

Introduction: Pyogenic granuloma and capillary hemangioma are well-known and commonly occurring benign vascular lesions of the oral cavity. Pyogenic granuloma is a relatively common, soft-tissue tumor of the oral cavity that is believed to be reactive and not neoplastic in nature. Histologically it is called lobular capillary hemangioma. Number of terms are been used to describe vascular lesions and are classified either as hemangiomas or vascular malformations. Hemangioma is the Term that encompasses heterogeneous group of clinical benign vascular lesions that have similar histologic features. It is a Benign lesion, which is a proliferating mass of blood vessels and do not undergo malignant transformation. Capillary hemangioma may be Cutaneous: skin, lips and deeper structures. Mucosal: the lining of the oral cavity. Intramuscular: masticator and perioral muscles. Intra-osseous: mandible and/or maxilla

Chief Complaint: 7 year old female patient complaints of swelling over lower lip in the midline since 1 month.

Medical History – Not Significant

Past Dental History – Not Significant

HOPI: Patient was apparently alright 1 month back, when her mother noticed a swelling over lower lip near the midline. Initially the swelling was small approx pea sized, which was increased gradually over the period of 1 month to attain the present size. H/o of bleeding spontaneously from swelling, swelling was not associated with pain. No H/o pus discharge from swelling. No H/o any trauma and rupture of swelling.

Extraoral Examination:

Soft tissue Examination on Inspection

- Single Swelling over lower lip with well defined borders
- Size: Approx 1 cm in diameter
- Shape: roughly round dome
- Colour :Reddish purple
- Number: 1
- Elevated sessile in appearance

On palpation:

- Consistency: Soft To Firm
- Borders: Well Defined
- Tenderness: Negative
- Discharge: No Discharge on Provocation
- Lymph Nodes : Not Palpable

Intra oral examination:

Soft tissue examination: Normal

Hard tissue examination:

- Mixed dentition
- Cross bite with 21
- Lower anterior crowding
- Stain ++ calculus ++

Molar relationship: Angle's class I on both sides

Canine relationship: Class I on both sides. No posterior cross bite seen

Maxillary Arch:

- U shaped
- Palatally tilted 21

Mandibular arch:

- U shaped
- Anterior crowding
- Space analysis showed adequate space available for the crossbite correction. Moyers analysis, Tanaka Johnson analysis

Patient reported after 15 days: Increase in size of growth. It was firm, pedunculated and red mass.

Consistency: Firm

Borders: Well defined, Pedenculated growth.

Tenderness: Absent

Any discharge: No discharge on provocation.

Lymph nodes: Not palpable.

Investigation:

Haemogram: Hb- 11 gm%, CT- 4 min 30 sec, BT – 1min 10 sec

INR test

Intra-oral and extra- oral photographs

Diagnostic impression (space analysis)

Provisional diagnosis: Pyogenic Granuloma

Differential diagnosis:

1. Fibroma
2. Peripheral giant cell granuloma (PGCG)
3. Peripheral ossifying fibroma
4. Capillary Haemangioma
5. Malignant neoplasm

Treatment Plan:

Emergency phase – Not required

Preventive phase – Oral prophylaxis

Restorative phase and Endodontic phase - Not required

Surgical phase - Surgical removal of pyogenic granuloma

Orthodontic phase - Cross bite correction by Z – spring with posterior bite plane

1st Appointment:

Complete Oral Prophylaxis

2nd Appointment:

Excisional Biopsy: As lesion was small in size (<2cm), excisional biopsy performed. Local infiltration given on lower lip using 2% lignocaine with (1:200000) adrenaline (the dose of LA was calculated based on the weight of child)

Incision - Using scalpel, knife edge (11 no) by placing an incision circumferentially

Extent of incision - Incision given 1mm of normal tissue surrounding lesion.

A 1 mm narrow margin of normal mucosa was removed with the lesion in order to ensure total removal of the lesion and to prevent recurrence

Primary HEMOSTASIS

WIDTH - 9 mm

Length - 11 mm

The excised tissue was fixed in 10% neutral buffered formalin and was sent for routine hematoxylin and eosin (H and E) staining.

Histopathology: A well preserved and fixed Excisional biopsy specimen was sent in the Department of Oral And Maxillofacial Pathology. Biopsy no: 4723/19

Overlying keratinized stratified squamous epithelium which is hyperplastic Underlying fibrocellular connective tissue stroma. Underlying fibrocellular connective tissue stroma is composed of abundant endothelium lined blood capillaries. Endothelium lined blood capillaries engorged with RBCs

Diagnosis: In accordance with the clinical and histopathological correlation, the diagnosis was CAPILLARY HEMANGIOMA (cutaneous type)

Follow-up after 15 days

Follow up after 1 month

Correction of cross bite by z spring and posterior bite plate

Adams clasps made up of 21 gauge stainless steel wire given on second primary molars.

Z- spring made using 23 gauge stainless steel wire.

Posterior bite plane made using self cure acrylic resin to achieve a 2 mm incisal clearance.

Appliance was delivered on recall visit

Instructions to patient: To wear the appliance full-time (day and night) except for eating and teeth cleaning. After each meal and before sleeping, brush her teeth and the

appliance before reinserting it. 7 days follow up.

Discussion: PYOGENIC GRANULOMA, Most common vascular proliferation of the oral mucosa. Reactive lesion that develops rapidly, bleeds easily and is usually associated with inflammation and ulceration. Clinically, it is often lobulated, pedunculated and red to purple and it may be hormone sensitive. Uncommon to find extra gingival PG, but it can appear elsewhere in the mouth, i.e. in areas of frequent trauma alveolar mucosa, buccal mucosa, tongue, upper and lower lip. In present case, based on the clinical feature of swelling provisional diagnosis made as pyogenic granuloma.

Histological types of pyogenic granuloma:

LCH: Proliferating blood vessels that are organized in lobular aggregates although superficially the lesion frequently undergoes no specific change, including edema, capillaries dilation or inflammatory granulation tissue reaction

Non-LCH type: Highly vascular proliferation that resembles granulation tissue

Present case has clinical features of a pyogenic granuloma but had microscopic features of capillary hemangiomas.

Histopathologically: Progression from a densely cellular proliferation of endothelial cells in the early stages to a lobular mass of well-formed capillaries in the mature phase, often resembling the pyogenic granuloma without the inflammatory features.

In present case capillary hemangioma was considered in differential diagnosis due to its cauliflower like growth.

Hemangiona:

- Common soft tissue tumor that often congenital or develop in the neonatal period and grow rapidly
- Usually cover a large site, may be macular or raised and usually resolve progressively in childhood.
- May occur in the oral and maxillofacial region including gingiva, palatal mucosa, lips, jawbone and salivary glands

Surgical excision is generally the treatment of choice for capillary hemangioma. In the reported case, surgical excision was done based on the provisional diagnosis of pyogenic granuloma. For those lesions not amenable to surgery, other therapy such as Intralesional injection of fibrosing agents, Radiation, Electrocoagulation, Cryosurgery, Laser therapy, Sclerotherapy

Potential Complications:

- Heavy bleeding.
- Postoperative recurrence may encounter .
- The case described here demonstrate that there has been no subsequent hemorrhage or other evidence of recurrence.

Conclusion:

- Capillary hemangioma is a lesion that is diagnosed primarily on histological findings.
- Although, it is asymptomatic, its peculiar location may require immediate intervention.
- Early detection and biopsy of such lesions is necessary to institute appropriate management.
- Dentists should therefore be aware of these lesions when making diagnosis and attempts at excision of apparently innocent lesions may result in serious bleeding intra-operatively and post-operatively.

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MANAGEMENT OF ORAL MUCOSAL LESIONS WITH LASERS- CASE REPORTS

Presented By:
Dr. Aishwarya S. Ikhar (Department of Periodontology and Implantology)

Abstract: The development of lasers was based on Einstein's photoelectric amplification theory. The enhanced use of lasers in dentistry has had a significant impact on the diagnosis and management of oral mucosal lesions as a result of recent technological advancements. This case report highlights the impact of lasers'.

Case Reports: Two patients with diagnoses of Hyperkeratosis and traumatic fibroma, were treated with a diode laser (Wavelength of 980 nm; 1.5 W; continuous mode). The patients were followed up to evaluate lesion healing and complete healing of the lesion was rapidly achieved with minimal discomfort.

Conclusion: Soft-tissue lasers are trending in the management of various oral mucosal lesions due to their advantages of providing higher precision, a clean surgical field with minimal blood loss, accelerated wound healing, and fewer postoperative complications. Lasers maintain the potential to add benefits to dental practice even in the COVID-19 era.

The terms precancerous, precursor lesions, premalignant, intraepithelial neoplasia and potentially malignant have been used in the international literature to broadly describe clinical presentations that may have a potential to become cancer.

- A precancerous lesion is a morphologically altered tissue in which oral cancer is more likely to occur than in its apparently normal counterpart.
- A precancerous condition is a generalized state associated with a significantly increased risk of cancer.

Precancerous lesion	Precancerous conditions
Leukoplakia	Oral Submucous fibrosis
Erythroplakia	Actinic keratosis
Palatal lesions in reverse smokers	Lichen planus
	Discoid lupus erythromatosis

Accurately identifying these lesions is an important aspect of the diagnosis. Efforts should be made to establish a definite diagnosis to prevent time elapse in treatment of patients with more serious lesions.

The development of lasers was based on Einstein's photoelectric amplification theory. By 1980's Oral surgeons were first to use them in the dental fraternity but their applications in other general dental purposes are still in the stage of experimentation.

LASER' in an acronym for 'Light Amplification by Stimulated Emission of Radiation'. In 2020, the laser will celebrate its 60th anniversary and has been proven to be an innovative tool in modern dental practice.The concept of using dental lasers for the treatment of periodontal disease elicits very strong reactions from all sides of the spectrum.

Case 1: A 52-year-old male patient referred to our department with a chief complaint of a white patch in the right buccal mucosa over the previous 8 to 9 months. The patient reported a tobacco-chewing habit four to five times a day over the previous ten years. The lesion gradually increased in size. On

intra-oral examination, a diffused exophytic growth is seen on right buccal mucosa of approximately 4 cm × 0.2 cm in size was seen adjacent to the maxillary first molar region [Figure 1a]. The lesion was non-scrapable and non-tender.

Based on the patient's history, clinical presentation, and clinical examination, a provisional diagnosis of nodular leukoplakia was established and a differential diagnosis of VerucousLeukoplakia, Verucous Carcinoma, Hyperkeratosis was established. Ablation of the lesion with a diode laser was planned. Informed consent was obtained from the patient. Preoperative blood examinations included complete blood count (CBC), bleeding time (BT), and clotting time (CT). The lesion was ablated under forceful normal saline irrigation, using a BIOLITEC diode laser (Wavelength of 980 nm; 1.5 W; continuous mode) under local anaesthesia [Figure 1b]. Coronoplasty for the sharp cusps. Complete ablation of the lesion was achieved within one month [Figure 1d], and subsequent healing was noted. No recurrence was noted.

On the histopathological evaluation of the excised lesion, hematoxylin and eosin (H and E) stained section showed Hyperkeratosis.

Figure 1a: A diffused exophytic growth

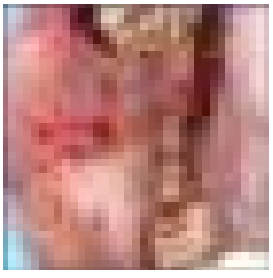


Figure 1b: Ablation of the lesion with diode laser

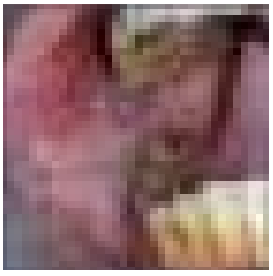
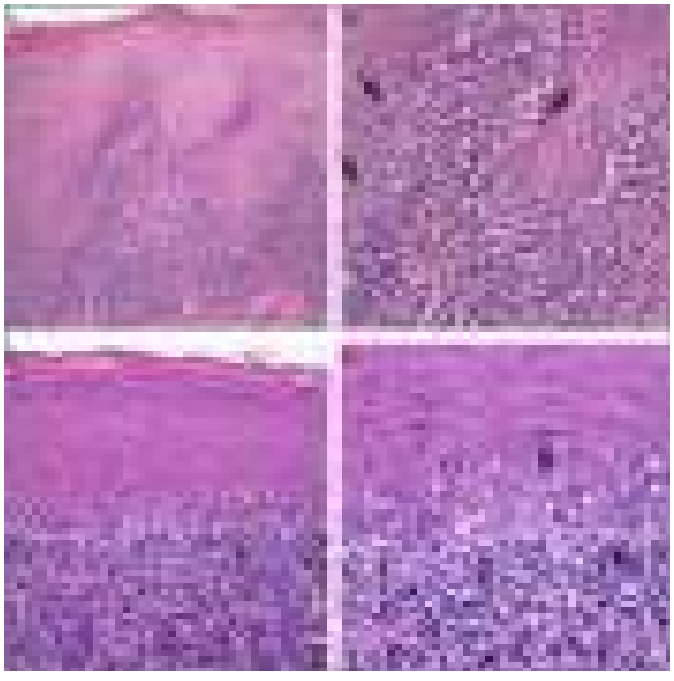


Figure 1c: 7 days recall

Figure 1d: 1 month recall



Photomicrograph of hyperkeratotic lesion showing overlying stratified squamous epithelium. No epithelial dysplasia seen. Underlying fibrocellular connective tissue stroma.

Case 2: A 67-year-old male patient referred to our department with a chief complaint of a Round, soft, painless overgrowth on the left side of the cheek, since 06 months. The patient

reported a history of accidental cheek biting, after which the lesion developed. The growth was painless but gradually increased in size and occasionally interfered with mastication, causing the patient discomfort.

On intraoral examination, a solitary sessile and roughly round growth 7 mm × 5 mm in size was seen in the left buccal mucosa[Figure 2a]. The growth was firm, non-tender, and compressible.

Based on the patient's history, clinical presentation, and clinical examination, a provisional diagnosis of traumatic fibroma was established. A surgical excision of the lesion was planned. Informed consent was obtained from the patient. Preoperative blood investigations included CBC, BT, and CT. The lesion was excised under forceful normal saline irrigation, using BIOLITEC diode laser under local anesthesia [Figure 2b]. Postoperatively, patient was only instructed to maintain oral hygiene to avoid plaque accumulation on the surgical site.

The site healed completely after 07 days [Figure 2d], and no recurrence was noted even after a month [Figure 2e].

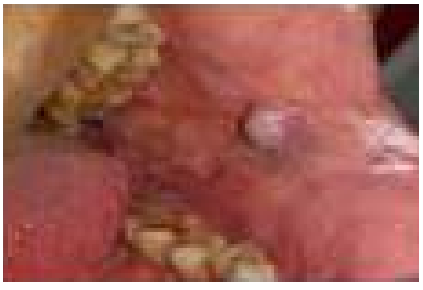
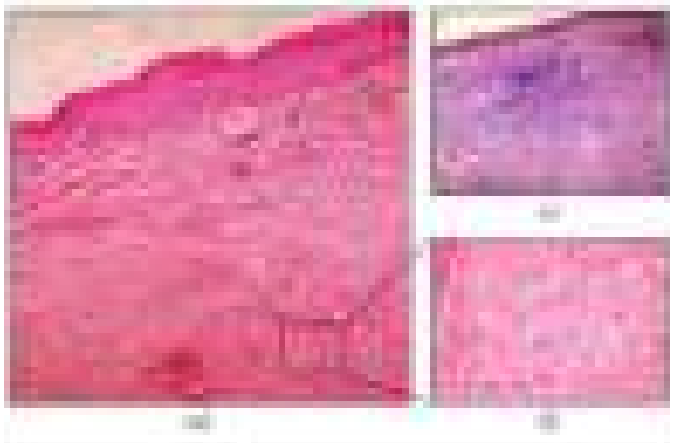


Figure 2a: A soft, painless overgrowth

Figure 2b: Post-operative site

Figure 2d: 7 days recall

Figure 2e: 1 month recall



Photomicrograph showing fibroma with overlying stratified squamous epithelail with fibrocellular commective stroma

Discussion: White lesions of the oral cavity constitute a wide variety of entities with different pathogenesis and clinical features. Congenital non-scrapable white lesions of the oral cavity, most commonly appear early in the life with a history of familial involvement. The keratotic lesions, without a specific pattern that cannot be scraped off can be diagnosed as frictional keratosis. A chronic mechanical trauma, due to fractured tooth, ill-fit denture, etc., at the site of suspected lesion can be detected clinically.

Lasers are effective and conservative treatment tools in the management of oral mucosal lesions. In this case reports, patients showed lesion healing within seven days. Coronoplasty was performed for the sharp cusps, and complete healing of the lesion was rapidly achieved.

The use of soft-tissue lasers in the management of oral mucosal lesions brings several benefits as lasers are well tolerated by patients and provide partial decontamination of the surgical site, shorter surgical times, minimal intraoperative bleeding, less postoperative pain and inflammation, and shorter healing times. Moreover, due to the laser-haemoglobin interaction, the use of diode lasers is considered effective for the management of patients with coagulation disorders. Owing to their coagulation effects, diode lasers promote wound healing by secondary intention. Hence, the use of sutures, which may provide a nidus for plaque accumulation, can be avoided. These benefits render the use of systemic medications for the management of postoperative pain and inflammation.

Conclusion: We enter the next millennium we see that dentistry has advanced by leaps & bounds. Among the various advances, the one which has good scope of improvement is the lasers in Dentistry.

Recent advances in laser technology & research into its potential have set the stage for a revolution in dental practice. Lasers maintain the potential to add benefits to dental practice even in the COVID-19 era, but it is necessary to know how lasers work to utilize these advantages. The great potential of laser light, with undiscovered limits, may provide a different path to face the severe health challenges of this pandemic.

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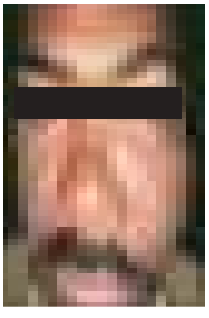
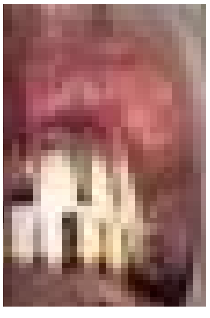
FIBROUS DYSPLASIA- A CASE REPORT

Presented By:
Dr. Rucha Gulhane (Department of Oral & Maxillofacial Pathology)

Abstract: Fibrous dysplasia (FD) is a rare bony disorder in which normal bone is replaced by abnormal fibro osseous tissue. It often involves the long bones, craniofacial bones, ribs, and pelvis. Approximately 30% of monostotic FD (MFD) lesions are found in the cranial or facial bones. In general, FD is found in teenagers, and it usually becomes static after adulthood. FD involves the maxilla almost two times more often than the mandible. It frequently appears in the posterior region of the jaw bone and is usually unilateral. Here, we present an unusual case of symptomatic MFD affecting the anterior region of the mandible in a 44-year-old male with the clinical, radiographical, and histopathological features. The clinical examination showed both the labial and lingual bone expansion in the anterior mandible. The radiographic examination revealed a lesion with both radiopaque and radiolucent features showing a "ground glass" appearance. The diagnosis was obtained after confirmatory intrabony biopsy with the histopathological examination, and it was diagnosed with benign FD. The patient preferred regular follow-up of MFD after discussion. During the regular follow-up, MFD lesion showed no obvious signs of progression or malignancy features.
Keywords: Fibrous dysplasia, Mandible, Middle aged person, Monostotic

- Fibrous dysplasia is a developmental tumour like condition, that is characterized by replacement of normal bone by excessive proliferation of cellular fibrous connective tissue intermixed with irregular bony trabeculae.. It is a benign inter-medullary fibro-osseous lesion. In 1938, Lichtenstein first coined the term "fibrous dysplasia (FD). In general, FD presents in three forms – monostotic, polyostotic, and polyostotic with endocrinopathies, which can be associated with hyperpigmentation and endocrinological disorders and is called McCune–Albright syndrome. Common sites of skeletal involvement are the long bones, craniofacial bones, ribs, and pelvis. Monostotic FD (MFD), although less serious than polyostotic FD (PFD), is of greater concern to the dentist because of the relatively high frequency of occurrence in the jaws.FD is caused by somatic activating mutations of the gene GNAS1 (Guanine Nucleotide binding Protein, Stimulating Activity Polypeptide) in a subunit of the stimulatory G protein. The diagnosis of FD is based on physical, radiological, and histopathological examination.

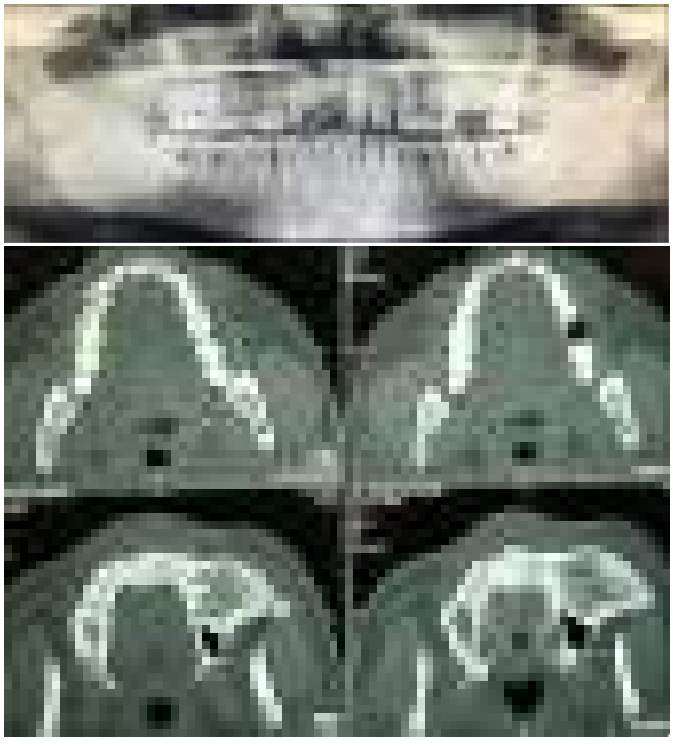
Case Report: A 44 year old male patient with a chief complaint of a swelling over the left side of face since 20 years. The patient reported Tobacco chewing habit 5-7 times a day since 27 years.

The lesion gradually increased in size. On

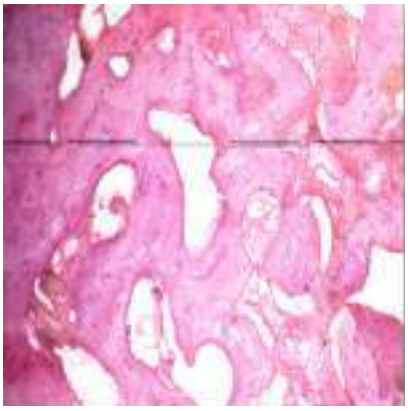
intra-oral examination, Diffuse swelling seen on left side of face with overlying skin: slightly stretched, Size: 5 x 3 cm approx. Shape: Roughly oval. Extend from A-P: Ala of nose to 3cm in front of tragus. S-I: Infra-orbital rim to 2cm above lower border of mandible

Based on the patient's history, clinical presentation, and clinical examination, a provisional diagnosis of Fibroosseous lesion was established and a differential diagnosis of Benign odontogenic tumour and benign bone tumour. Informed consentwas obtained from the patient. Preoperative blood examinations included complete blood count (CBC), bleeding time (BT), and clotting time (CT) IOPA, OPG and CBCT . Incisonal biopsy was performed



CT Revals fibrous dysplasia

The lesion is kept for calcification in 5% nitric acid. On the histopathological evaluation of the e lesion, hematoxylin and eosin (H and E) stained section showed irregularly shaped bony trabeculae some of which are of C shaped in loose fibrocellular stroma. Most of trabeculae are of lamellar bone. Oteoblastic rimming is not seen.



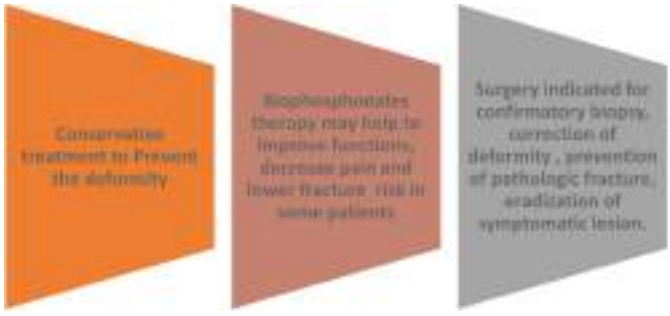
Photomicrograh showing irregularly shaped bony trabeculae some of which are of C shaped in loose fibrocellular stroma. Most of trabeculae are of lamellar bone. Oteoblastic rimming is not seen.

Discussion: Fibrous dysplasia represents a noninherited dysplastic disorder of bone characterized by a solitary or multifocal intraosseous proliferation of fibrous stroma within which trabeculae of woven immature bone are formed. It represents 2.5% of all bone tumors and over 7% of all benign bone tumors.It most commonly occurs as an isolated skeletal lesion (monostotic, 70%) and less frequently affects multiple sites (polyostotic, 30%).

The etiology of fibrous dysplasia is unknown. The defective bone maturation is related to postzygotic point mutation of the GNAS1 gene, which encodes the α subunit of the Gs α-stimulatory protein.Approximately 70–80% of fibrous dysplasias are monostotic. Males and females are affected with about equal frequency. A painless swelling of the affected area is the most common feature.Growth is generally slow, and the patient is often unable to recall when the lesion was noted first. The chief radiographic feature is a fine "ground-glass" opacification that results from superimposition of a myriad of poorly calcified bone trabeculae arranged in a disorganized pattern . The lesions of fibrous dysplasia are not well demarcated.The typical microscopic findings of fibrous dysplasia show irregularly

shaped trabeculae of immature (woven) bone in a cellular, loosely arranged fibrous stroma. As it undergoes progressive maturation it consists of lamellar bone The bone trabeculae are not connected to each other. They often assume curvilinear shapes, which have been likened to Chinese script writing.

The current gold standard for the diagnosis of FD is a histologically proven fibro osseous lesion with poorly defined margins which are confirmed by radiographic findings. There are different treatment approaches including observation, medical treatment, and surgical treatment.



Usually the prognosis is good. The prevalence of regrowth after surgical reduction is difficult to determine, but it has been estimated that between 25% and 50% of patients show some regrowth after surgical shave-down of the lesion. Malignant change usually development of an osteosarcoma, has been rarely associated with fibrous dysplasia. Most examples have been found in patients who had received radiation therapy for fibrous dysplasia. but a few examples of spontaneous sarcomatous changes have been reported. Radiation therapy for fibrous dysplasia is contraindicated because it carries the risk for development of postirradiation bone sarcoma.

Conclusion: Fibro-osseous lesions(FOL) are poorly defined group of lesions affecting jaws and craniofacial bone. The most common FOL is fibrous dysplasia which presents painless bony swelling. This condition is important for the proper diagnosis, treatment and prevention of further complications because of histologic similarities among diverse group of lesions. For obtaining the definite diagnosis, treatment and further management of fibrous displasia, it is mandatory to be carried out imaging studies, histological and laboratory tests.

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