VSPM'S DENTAL COLLEGE INTERDEPARTMENTAL SCIENTIFIC ACTIVITY 2017-18

VISA


Clinical
Radiological

VSPM'S INTERDEPARTMENTAL SCIENTIFIC ACTIVITY COMMITTEE MEMBERS

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FOREWARD

It gives me immense pleasure to introduce the second edition of VISA magazine for the year 2017-2018. VISA team has achieved humongous success in providing a platform for the post graduate students to bring together rare cases and discuss comprehensive management by two or more departments.

It was observed during this year that the VISA cases got better in terms of presentation and the students and staff members are taking utmost effort to make the discussion an effective way for better learning.

This magazine is a compilation of these interesting cases and serves as a good read for everyone.

I once again congratulate team VISA and the post graduate students for sincerely continuing the activities for this academic year as well.

Dr. Usha Radke

Dean

VSPM DCRC

FROM THE DESK OF THE VICE DEAN

I congratulate the team VISA for taking out the second edition of the proceedings this year. This marks the culmination of yet another successful year of interdepartmental activities.

The purpose of VISA is to foster closer coordination between all the departments while showcasing the best of cases that would ultimately aid the clinicians and the end beneficiaries being the patients.

Wishing the team VISA a very successful 2020

Dr. Ramkrishna Shenoi

Vice dean

VSPM DCRC

FROM THE EDITOR'S DESK

Dear Readers,

I am pleased to present the second issue of VSPM's InterdepartmentalScientific Activity (VISA). VISA was started in 2016 with the aim of encouraging interdepartmental case discussions. The post graduates as well as staff members have enthusiastically participated in all the VISA activities in its second edition. This year cases were also presented in collaboration with the department of plastic surgery and ENT from NKPSIMS.

VISA develops holistic learning attitude and helps in planning and management of cases requiring interdepartmental interventions. We hope to hold many such interesting sessions in the future also.

On behalf of the VISA committee, I take this opportunity to thank the management and our respected Dean for supporting us in all our endeavours. I dedicate this issue of VISA magazine to the patients whose service is our prime motto. I also congratulate all the post graduates who have presented these cases

Warm regards

Dr. Usha Shenoy

Co-convener VISA committee

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COMPREHENSIVE MANAGEMENT OF RADICULAR CYST

Presented by
Dr.Ahmed Bashir Holy (Conservative Dentistry and Endodontics)
Dr. Nikhil Moriwal (Oral and maxillofacial surgery)

Introduction: Traumatic injuries to the teeth are relatively common, usually involving the anterior teeth of patients.

"Cyst is a pathological cavity that may be filled with fluid, semi-fluid or gaseous contents, but never pus and it may or may not lined by epithelium." Most cysts of the jaws arise from odontogenic epithelium.

Radicular cysts is an odontogenic cyst of an inflammatory in origin. Also called as apical periodontal cyst, periapical cyst, root end cyst.It is the sequel of the periapical granuloma. It is the second most common pulp-periapical lesion. It is a true cyst and often fluid filled.

Radicular cysts arise from the epithelial rest cells of Malassez in the periodontal ligaments. Caries or trauma to the teeth leading to necrosis of pulp and followed by chronic apical periodontitis and periapical granuloma. Activated T cells in the periapicalgranulomas produce lymphokinesthat acts on the rest cells of Malassez causing proliferation and altered differentiation of leading to cyst formation.

Epithelial proliferation follows irregular pattern. As this proliferation increase in size by division of cells on the periphery, cells in central portion of mass become separated further from the nutrition. Central cells degenerate, becomes necrotic and liquefy.This creates an epithelium-lined cavity filled with fluid. Once begun, size of cyst increases by various mechanism like osmosis, local fibrinolysis and continued epithelial proliferation.

Asymtomatic and present no clinical evidence of their presence. Commonly seen between ages of 20 and 60 years.Commonly involved in maxillary anteriors. Associated tooth is non-vital or shows deep carious lesion or a restoration which is seldom painful or even sensitive to percussion.'Rarely causes expansion of cortical plates.

Resembles granuloma with larger size with well circumscribed radiolucency seemingly attached to the root apex. Associated with resorption of bone which may or may not be accompanied by resorption of root. Exhibits thin, radiopaque line around the periphery of the radiolucent area, and this indicates a reaction of bone to slowly expanding mass.

The treatment options for radicular cyst can be conventional root canal therapy when lesion is localized and small and surgical treatment like enucleationwhen lesion is large. When the involved tooth is hopeless, enucleation of the cyst followed by extraction of involved tooth is recommended.[4]

Larger the lesion, worst the prognosis of the tooth. In following case reports, a characteristic radicular cyst, was successfully managed with root canal therapy (RCT) followed by apicoectomy along with surgical enucleation.

CASE REPORT

Chief complaint: A 22-year-old male patient reported to the Department of Conservative Dentistry and Endodontics with the chief complaint of discolouration in upper left anterior region of the jaw.

There was a history of trauma to the upper anterior teeth 2 years back.Patient was apparently alright 2 years back when he had fall. After which patient was asymptomatic. Few months later patient observed discoloration in upper left anterior teeth and reported to Department of conservative dentistry and Endodontics.

Past medical and dental history- No relevant history

Clinical examination:

- No extraoral swelling.
- No facial asymmetry.

Intraoral examination:

- Supernumerary tooth was seen palatal to 11 and 21.
- Severe discolouration with 21

Electric and thermal pulp vitality testing:

- Negative responses in 21 & 22.
- Delayed response in 23.
- Percussion test: Negative
- Mobility: Absent

Radiographic examination: It shows Unilocular radiolucent lesion at the apical region wrt 21, 22 measuring about 1.5 cm × 2 cm. Bone resorption adjacent to the lesion was seen.

Provisional diagnosis: From the history, clinical examination and investigation, a provisional diagnosis of Radicular cyst was made

Differential diagnosis:

- Peri-apical granuloma
- Dentigerous cyst

Treatment plan: Root canal treatment followed by Surgical Enucleation.

Treatment: The entire endodontic treatment was performed under strict aseptic conditions. After rubber dam application, the isolated teeth along with the clamps and the surrounding sheet were swabbed with 5% povidone-iodine. The access cavities were prepared in the affected teeth. Working length determination. Establishment of glide path and BMP was done using rotary Protaper Universal files (Size F5-6/50).

Straw-colored fluid discharge was present in tooth 21, but no discharge was noted in tooth 22. Once frank drainage ceased, canals were thoroughly irrigated with normal saline followed by 5% sodium hypochlorite was used to irrigate the chamber and root canal.

Instrumentation was extended beyond the apex by approximately 1–2 mm as suggested by Bhaskar for conservative management of cystic lesions up to a maximum of 5 mm.A 24-G needle attached to a 3-mL syringe was extended beyond the confines of the root canal into the periapex of tooth 21. Intracanal aspiration was performed while applying simultaneous digital pressure on the buccally.

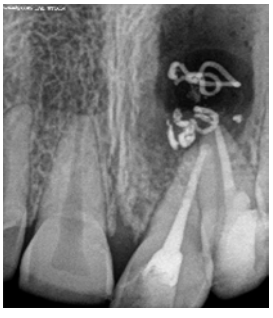
In tooth #10, instrumentation was performed to achieve a final. An endodontic irrigation needle with side vents (ProRinse; Tulsa Dental Specialties, Dentsply International, Tulsa, OK) was placed in the apical third of the canal, and the solution was delivered slowly into the canal.

The canals were then dried using paper points while simultaneously compressing the swelling using digital pressure.

A premix of calcium hydroxide and iodoform (Metapex; META Biomed Co Ltd, Chungbuk, Korea) was placed as an intracanal medicament, and the access cavities were temporarily sealed with Cavit G (3M ESPE Dental Products, St Paul, MN).

While placing calcium hydroxide as intra canal medicament, it got extruded into periapical lesion.Patient was kept under observation for 2 weeks.

On a subsequent visit, the patient was comfortable with no swelling or pain. No exudate was observed in the canal. After irrigation with sodium hypochlorite and 17% EDTA was used with intermittent rinse of normal saline. A final rinse was done with normal saline.



Canals were dried. This was followed by Orthograde MTA placement in both the teeth. A moist cotton pellet was placed above the barrier for 2 days, and the final set was ascertained with gentle tapping of a finger

plugger. The remaining canal was obturated with injectable thermoplasticized gutta-percha (Calamus Dual, DentsplyMaillefer) and Sealapex sealer. The access cavity was restored with composite resin.

Then patient was refered to department of Oral and Maxillofacial surgical enucleation of cyst.

Discussion: Rationale for Nonsurgical root canal therapy: Even when surgical treatment is the likely definitive approach, nonsurgical therapy before the procedure may be recommended.

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

Consderation for cases with accidental extrusion of calcium hydroxide in to periapical tissues: In case of large chronic periapical lesions, intentional pressing of calcium hydroxide beyond the root canal and into the periradicular tissue has been supported by some researchers. They claimed that calcium hydroxide enhances the healing and osseous repair by direct effect on inflamed tissues. However, this hypothesis was rejected by other researchers and not widely used as extrusion of calcium hydroxide beyond the apex can lead to damaging effects.

In Endodontics, barium sulfate (BaSO4) is added to calcium hydroxide paste as a radiopaque agent. Extrusion of calcium hydroxide paste containing barium sulphate beyond root canal can obscure the apex, and is not easily resorbed over time [2].

Therefore, the healing process might be delayed when using calcium hydroxide paste including barium sulfate, or in this condition the radiographic interpretation of osseous healing might be difficult.

Rationale for MTA Root end filling: The ideal root-end filling material –seals the contents of the root canal system within the canal preventing egress of any bacteria, bacterial byproducts, or toxic material into the surrounding periradicular tissues.

MTA (ProRoot MTA; DENTSPLY, Tulsa Dental, Tulsa, OK), a material developed specifically as a root-end filling. MTA is a nonresorbable, biocompatible material and dimensionally stable over time. It is able to induce regeneration of the PDL complex, specifically cementogenesis over the root-end filling itself.

In some conditions in which anatomic access and retrofilling are difficult during periradicular surgery. Therefore the root end filling material can be placed via an orthograde technique, while nonsurgical retreatment is performed.

The clinician may elect to resect the root end and expose the previously set MTA, rather than placing new MTA, as a root-end filling material.

Rationale for Root end resection: Most cases involve some form of bacterial participation and the only definitive means of eradicating such an irritant is physical removal through root-end resection. Good access and visualization. Approximately 75% of teeth have canal irregularities (e.g., accessory or lateral canals) in the apical 3 mm of the tooth. An apical resection of approximately 3 mm perpendicular to long axis of the root should include most accessory and lateral canals and thus eliminate most residual.

Surgical procedure:

A) Pre-operative work up

- Endodontic treatment with 21 22.
- All routine investigations.
- Radiographic evaluation.
- Pre-anesthesia fitness.
- Pre operative antibiotic prophylaxis.
- Informed & written consent.

B) The surgical enucleation of the cyst was planned under local anesthesia where bilateral infraorbital and naso palatine nerve block was given.Leubke-Ocshenbein or submarginal incision with bilateral oblique releasing incisions was placed to expose the lesion. The cyst encasing the tooth was enucleated and soft tissue curettage was performed.Cyst lining was gently dissected to prevent palatal perforation and nasal perforation superiorly. Apicectomy was performed with 2 endodontically treated teeth. Surgical cavity was irrigated and closed using 3-0 vicryl. Enucleated tissue specimen were sent for histopathological examination.




C) Histopathology report: H&E stained section shows non keratinized stratified squamous epithelium with connective tissue capsule showing dense chronic inflammatory cell infiltrate chiefly lymphocytes, deeper part shows boneytrabeculae. Suggestive of Radicular cyst in anterior left maxillary region.

The healing was uneventful and the patient has been followed up for two months with no evidence of recurrence as seen in recent radiograph.

Discussion: A proper surgical plan is important for the selection of flap design, adequate exposure of field, ease in surgery and finally good closure resulting in good healing. The incision and flap design is one of the important steps in periapical surgery. Each type of incision is associated with complications like wound dehiscence, gingival recession and scarring. These complications must be anticipated and incorporated into pre-surgical planning. A good flap design with less aesthetic consequences and adequate access will help in minimizing intra-operative complications and improve post-operative healing.

Leubke-Ocshenbein /submarginal incision: The horizontal component of the submarginal incision is in attached gingiva with one or two accompanying vertical incisions. Generally, the incision is scalloped in the horizontal line, with obtuse angles at the corners.The incision is used most successfully in the maxillary anterior region or, occasionally, with maxillary premolars with crowns. Because of the design, prerequisites are at least 4 mm of attached gingiva and good periodontal health.

Advantages:

- The major advantage of this type of incision is esthetics.
- Compared with the semi-lunar incision, the submarginal incision provides less risk of incising over a bony defect and provides better access and visibility.
- Primary closure easily achieved
- Provides healthy bone over which sutures are placed.

Disadvantages:

- Require adequate width of attached gingiva.
- If underneath bony fenestration or dehiscence present, leads to soft tissue dehiscence.
- Occasional healing by scarring, compared with the full mucoperiostealsulcular incision.
- Muscle attachments and frenum present anatomic obstructions and hinders the reflection of flap.

Platelet-rich fibrin - A Natural fibrin matrix: PRF was first developed in France by Choukroun et al. for specific use in oral and maxillofacial surgery. This technique requires neither anticoagulant nor bovine thrombin (nor any other gelling agent).

The PRF protocol is very simple: A blood sample is taken without anticoagulant in 10-mL tubes which are immediately centrifuged at 3000 rpm for 10 minutes.

Amongst the various growth factors that PRF contains, platelet derived growth factor (PDGF), Transforming growth factor beta (TGF b-1 & b-2), and insulin like growth factor (IGF), epidermal growth factor, vascular endothelial factor, and fibroblast growth factors are believed to play a major role in bone metabolism and potential regulation of cell proliferation. PDGF is an activator of collagenase which promotes the strength of healed tissue. TGF-B activates fibroblasts to form procollagen which deposits collagen within the wound. PRF facilitates healing by controlling the local inflammatory response.

Conclusion: Radicular cysts are odontogenic inflammatory in origin and formed in the periapical area of a tooth having infected necrotic pulp. Radio graphically, radicular cysts appear as an osteolytic lesion at the periapical region of endodontically involved teeth. Various treatment options have been recommended depending on the size and location of cyst.In large lesions endodontic treatment is followed by surgical enucleation however some authors propose nonsurgical management of small lesions. The major advantage of submarginal incision is esthetics. Compared with the semi-lunar incision, the submarginal incision provides less risk of incising over a bony defect and provides better access and visibility. From the presented case, it can be concluded that PRF is efficacious clinically and radiographically in the treatment of intrabony defect. PRF is an autologous preparation and found to be clinically effective and economical than any other available regenerative materials.

AN UNUSUAL CASE OF ODONTOGENIC KERATOCYST IN A YOUNG FEMALE

Presented by
Dr. Geeta Karyakarte (Oral Pathology)
Dr. Athar Shiekh (Oral surgery)

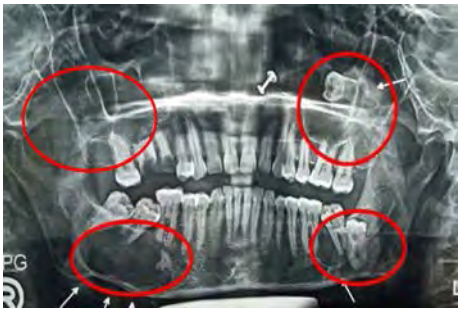
INTRODUCTION: The term Odontogenic Keratocyst was introduced by Philipsen in the year 1876. OKC is a distinctive form of developmental odontogenic cyst that deserves special consideration because of its specific histopathologic features and clinical behaviour. OKCs constitute about 3% - 21.5% of odontogenic cysts. Occurrence of multiple OKCs has been associated with various syndromes, chiefly the Gorlin-Goltz syndrome. Occurrence of multiple OKCs has also been ossicated with other syndromes such as the Ehler Danlos syndrome, Orofacial digital syndrome, Noonan syndrome and Simpson Golabi Behmel syndrome. After careful ruling out of these syndromes, our was a very rare case of Non syndromic multiple OKCs. Very few case reports have been published in literature regarding the occurrence of multiple OKCs without any associated syndrome. Some of which were published by Auluck et al. in 2006, Habibi et al. in 2007, Sholapurkur et al. in 2008, Bartake et al. in 2011, Parikh in 2012, Guruprasad et al. in 2012.

Prognosis of multiple OKCs without any syndrome is tricky. These multiple lesions may be the first manifestation of the syndrome or otherwise it may be because of the multifocal nature of OKC. Other features of related syndromes must be ruled out before designating the lesion as a non syndromic OKC. Regular follow up of the patient must be carried out to check for recurrences.

Case: A 32 year old female reported with a chief complaint of pain and pus discharge from upper right back region of jaw since 1½ years. Patient was apparently alright 1½ years back. Then she started experiencing pain in upper right back region of jaw. The pain was dull, aching and relieved on taking medication. Patient also noticed pus discharge from the same region around 1½ yrs ago. After one month she noticed pus discharge from right lower posterior region of jaw and started having associated pain in the region. There is no H/O any detrimental habit. Past medical and dental history were not significant.

On clinical examination, the patient's built, gate and other vital statistics were normal. Palor, icterus, clubbing or edema were absent. Extra-oral examination revealed mild swelling on the left maxillary zygomatic region and left angle of mandible. The profile showed normal lip competency. The overlying skin was normal. TMJ examination was conducted to be normal with no clicking and a mouth opening of 44mm. There was no abnormality seen intra-orally related to the extra- oral swelling. Apart from the swelling the patient was clinically healthy.

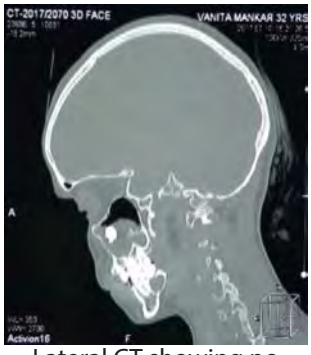
Radiologic examination was carried out with the help of an OPG . Radioluencies were found in the maxillary right, maxillary left, mandibular left and mandibular right regions.



Multiple radiolucencies seen in Maxillary right, Maxillary left, Mandibular left and Mandibular right regions of jaw.

The clinical and radiological features were suggestive of Multiple Odontogenic Keratocysts and Gorlin-Goltz syndrome had to be ruled out.

Investigative procedures were carried out to rule out Gorlin-Goltz syndrome and those required as requisites for surgical excision. The investigative procedures to rule out the syndrome were Skin examination, Lateral head CT and chest X ray. The results were normal i.e., there were no signs of basal cell carcinomas on skin, lateral head CT showed no abnormality in Sella turcica and chest X ray showed no bifid ribs. This it suggested absence of Gorlin- Goltz syndrome. The other investigations for surgical excision were Heamogram, Blood glucose, KFT, LFT, CT scan. The tests were normal and the CT scan revealed bilateral lesions causing expansion of mandibular cortex and thinning suggestive of odontogenic cyst. Tooth with associated cyst was noted within left maxillary antrum that was obliterated.



Lateral CT showing no abnormality in Sella Turcica.

Chest radiograph showing normal bones in thorax

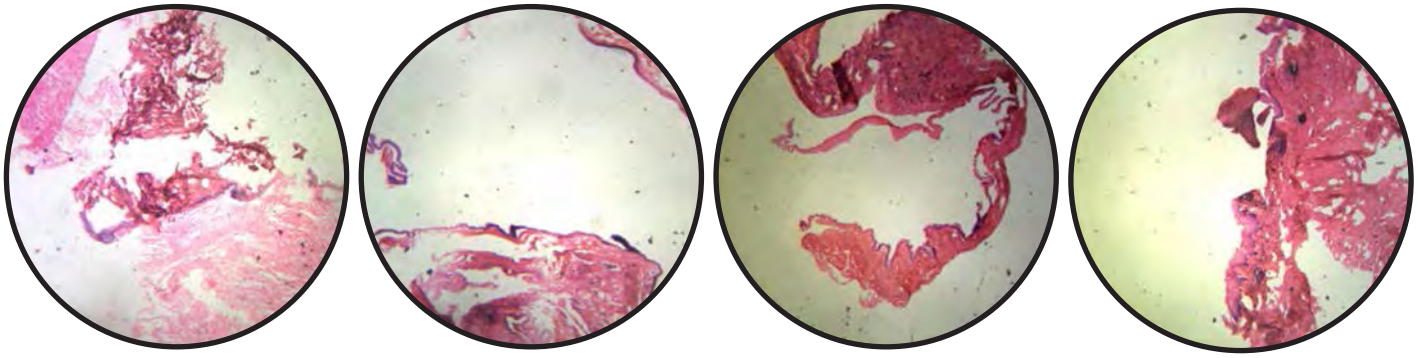
CT scan showing bilateral lesions causing expansion of mandibular cortex and thinning suggestive of odontogenic cyst. Tooth with associated cyst is noted within left maxillary antrum that is obliterated.

An incisional biopsy was taken from left maxillary vestibule which was too small to arrive at a definitive diagnosis.

Based on the clinical, radiological examination and the investigations, a surgical treatment was planned. Surgical excision was done in all the four quadrants along with extraction of molars in maxillary right and mandibular left side.

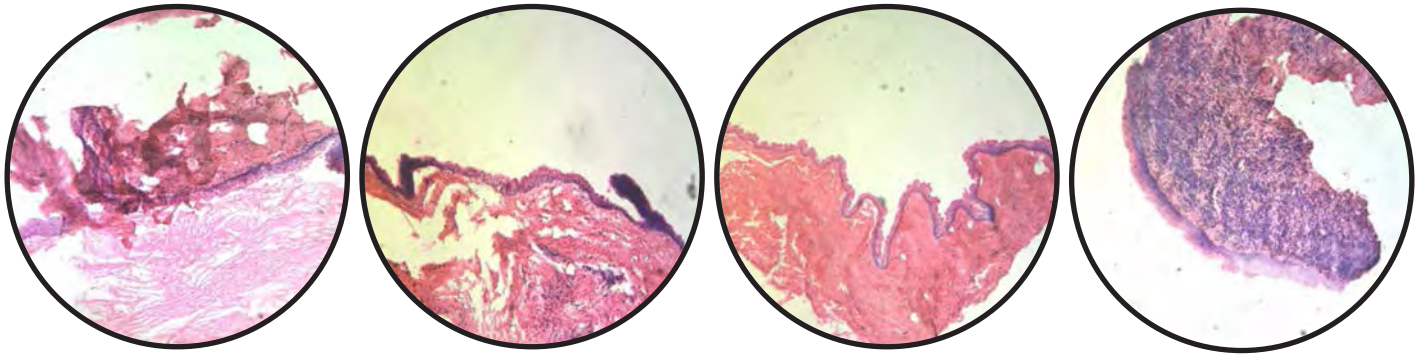
On gross examination, specimens from maxillary left side were designated as A, specimens from maxillary right side as B, mandibular left side as C and D (C consisted of extracted teeth), mandibular right side as E.

Microscopic finding revealed similarities in H & E stained sections of specimen A, B, D and E. While specimen A, B and D showed characteristic lining of Odontogenic Keratocyst with parakeratinized corrugated stratified squamous epithelium of uniform thickness and connective tissue capsule, Specimen E along with characteristic lining in some areas also showed areas where parakeratinized stratified squamous epithelium had lost its characteristic appearance of OKC. It showed rete-peg formation and chronic inflammatory cell infiltrate was seen in the connective tissue capsule. The connective tissue caplsule in sections of all specimens showed satellite cysts and odontogenic epithelial islands.



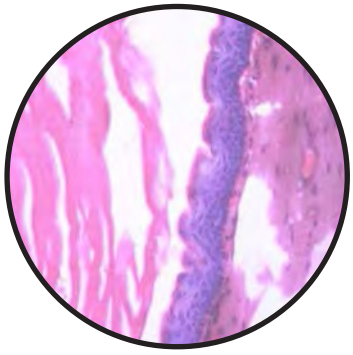
Specimen A Specimen B Specimen D Specimen E

H & E stained sections (4X) - Sections show cystic lumen filled with keratin and epithelial lining which is surrounded by connective tissue capsule.

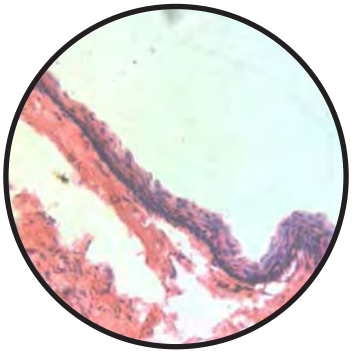


Specimen A Specimen B Specimen D Specimen E

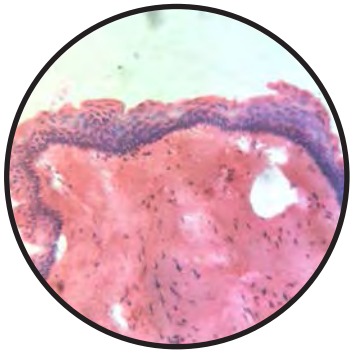
H & E stained section (10 X) - Section shows characteristic lining of Odontogenic Keratocyst with parakeratinized corrugated stratified squamous epithelium of uniform thickness and connective tissue capsule.



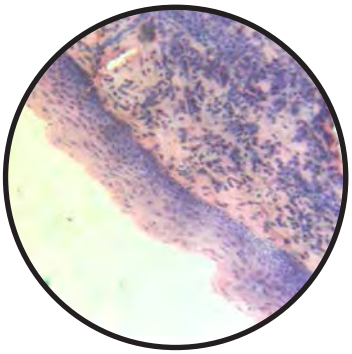
Specimen A



Specimen B

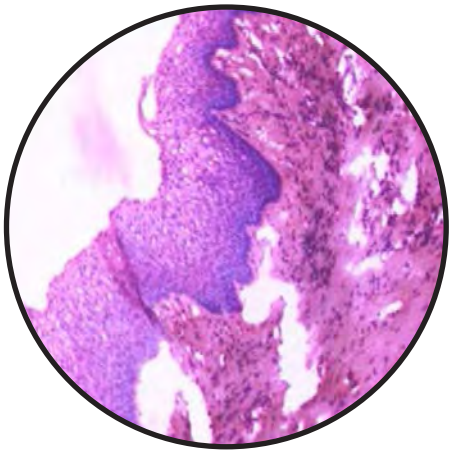


Specimen D

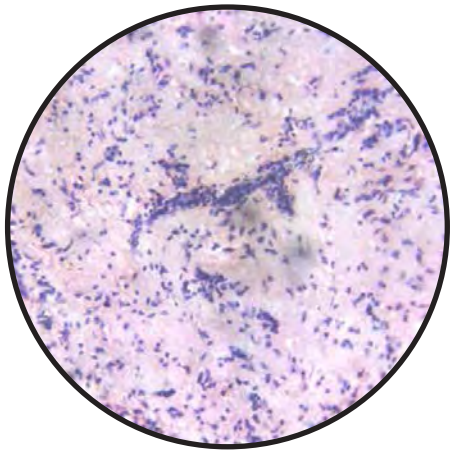


Specimen E

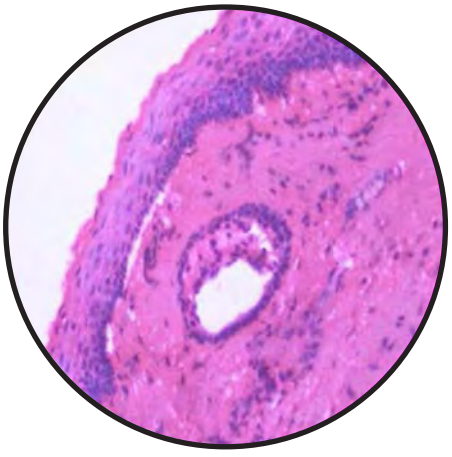
H & E stained section (40X) shows surface corrugations of characteristic OKC lining . Epithelium is 8 to 10 layers thick, parakeratinized and showing corrugated surface. Basal cell layer shows cuboidal to tall columnar cells with hyperchromatic nuclei. Cystic lumen shows presence of keratin.



H & E stain (40X) – Specimen E - Section shows epithelium that has lost its characteristic appearance of OKC. It shows rete-peg formation. Chronic inflammatory cell infiltrate in the connective tissue capsule.



H & E stain (40X) - Section shows odontogenic epithelial islands within the connective tissue capsule.



H & E stain (40X) –SPECIMEN A Section shows of the presence of a satellite cyst in the connective tissue capsule

In accordance with the clinical, radiological, investigative and histopathological evaluation, a final diagnosis of Non Syndromic Multiple Odontogenic Keratocysts was made.

Discussion: The OKC was first described in 1876 and named by Phillipsen in 1956. OKC is a distinctive form of developmental odontogenic cyst that deserves special consideration because of its specific histopathologic features and clinical behaviour. OKCs constitute about 3% - 21.5% of odontogenic cysts. It was renamed as Keratocystic odontogenic tumour in WHO 2005 classification. However, it has regained its classification as a cyst and named as Odontogenic Keratocyst again in the 2017 WHO classification of Odontogenic cysts and tumours.

Frequency of occurrence is 3 to 11% of all odontogenic cysts. It has a wide age range with a peak frequency in the 2nd and 3rd decade of life. Predilection for males with a ratio of about 1.79 :1 (Frossell. Posterior mandible most commonly affected. Smaller OKCs are usually asymptomatic. Large OKCs may be associated with pain, swelling or drainage.

OKC arises from remnants of the dental lamina – cell rests of Serres. (usually found in a dormant state). It may also arise from the extension of basal cells of overlying oral epithelium. (by radioactive labelling to estimate mitotic activity).

Multiple OKCs usually occur as a component of syndromes such as:

- NBS – Nevoid Basal cell carcinoma syndrome or Gorlin Goltz syndrome
- Orofacial digital syndrome
- Noonan syndrome
- Ehler-Danlos syndrome
- Simpson-Golabi-Behmel syndrome

1. Nevoid Basal Cell Carcinoma Syndrome (Gorlin Goltz Syndrome Clinical manifestations include:

- Basal cell carcinomas (BCCs), which may appear very early (2 years of age)
- Multiple odontogenic keratocysts (OKCs) that generally develop in the first, second and third decades
- Palmar and/or plantar pits
- Ectopic calcifications of the falx cerebri.
- Bifid, fused, splayed, or missing ribs
- Bridging of sella turcica

These manifestations are considered as the major criteria for diagnosis

Multiple OKCs are usually seen with cutaneous, skeletal, ocular and neurologic abnormalities as a component of nevoid basal cell carcinoma syndrome . NBS is associated with mutation in the PTCH gene [9q (22.3-q31)]. Mutation within PTCH occurs in sporadic OKCs as well as those associated with NBS. It is suggested that a "two-hit" mechanism may underlie the variable expression of NBS and sporadic OKCs. In NBS, the basal cell carcinomas and keratocysts arise as a consequence of a "first hit" of allelic loss of PTCH within the precursor cell. The development of basal cell carcinoma and keratocysts in the absence of NBS reflects two somatic hits in which there are mutations of PTCH within locally susceptible cells that ultimately result in allelic loss. The absence of all the manifestation of NBS may be due to variability of the PTCH gene expression as mentioned by Auluck et al.

The patient did not show bifid ribs, skin abnormalities, palmar plantar pits, calcification of flax cerebri or bridging of sella turcica. After ruling out the clinical and radiological features of the syndrome it was concluded that the patient did not have Gorlin-Goltz syndrome.

2. Orofacial digital syndrome Dysmorphic features of the head include

- Facial asymmetry
- Frontal bossing
- Hypertelorism
- Micrognathia

- Broadened nasal bridge
- And facial milia.

Lesions of the mouth include:

- Median pseudo-clefting of the upper lip
- Clefts of the palate and tongue
- Lingual hamartoma
- Hyperplasia of oral frenula.
- Thickened alveolar ridges and abnormal dentition.

The digital abnormalities include:

- Syndactyly
- Brachydactyly
- Clinodactyly,
- Preaxial or postaxial polydactyly

All of the clinical signs were ruled out. The patient did not have Orofacial digital Syndrome. All of the clinical signs were ruled out. The patient did not have Orofacial digital Syndrome

3. Noonan's syndrome

The principal clinical features of this syndrome include (Collins & Turner, 1973).

- Ocular hypertelorism
- Down-slanting palpebral fissures
- Ptosis
- Squints
- Low set ears
- Webbed neck
- Low posterior hairline
- Proximal pectus carinatum
- Vertebral abnormalities
- Congenital heart lesion (most commonly pulmonary stenosis), renal abnormalities
- Short stature
- Mild mental retardation

Oral features of this syndrome may include(Gorlin et al., 1976)

- Micrognathia
- High arched palate
- Dental malocclusion
- Dental anomalies
- Bifid uvula
- Rarely cleft palate

All of the clinical signs were ruled out. The patient did not have Noonan's syndrome

4. Ehler- Danlos syndrome: The characteristic features of this syndrome are

a) Hypermobility of the joints.
b) Hyperelasticity, fragility and softness of the skin.
c) Deficient healing of wounds.
d) Ecchymosis caused by minor traumas.

Besides the cutaneous and articular anomalies, the patients may show cardiovascular complications (such as aneurysms and mitral valve prolapse), gastrointestinal complications (hernias and gastrointestinal diverticulosis), and ocular defects.

The oral manifestations of EDs include the following:

a) The mucous membrane is fragile, which may bleed on instrumentation and which sutures cannot hold.
b) Dentinal aberrations like pulp stones, short and deformed roots.
c) A high incidence of caries in the deciduous teeth
d) Spontaneous fractures of teeth have been reported.
e) Early onset of generalized periodontitis is one of the most significant oral manifestations of the syndrome
f) A supple tongue. Approximately 50% of those with this syndrome can touch the end of their noses with their tongue (Gorlin's sign)
g) Hyper mobility of the TMJ, with increased incidence of dysfunction may be seen in some cases.

All the clinical signs were ruled out. The patient did not have Ehler Danlos syndrome

5. Simpson-Golabi-Behmel syndrome

- Simpson–Golabi–Behmel syndrome (SGBS) is an X-linked overgrowth disorder characterised by:
- Pre-and postnatal overgrowth, "coarseness" of face with
- Macrostomia
- macroglossia and dental malocclusion
- highly arched palate
- Supernumerary nipples
- Polydactyly and fingernail hypoplasia
- congenital heart defects
- Diaphragmatic hernia
- Enlarged viscera, including hyperplasia of the endocrine pancreas

All the clinical signs were ruled out. The patient did not have Simpson-Golabi-Behmel syndrome

Review of previous related literature:

1) Auluck et al. in 2006 discussed a 22 year-old female patient with multiple recurrent KCOTs in all four quadrants with a complaint of pus drainage over the previous week without pain or facial swelling. The patient had no any other features associated with NBCCS.
2) Habibi et al. in 2007 studied Iranian populations and showed that 8.1% of 83 cases with KCOTs, were associated with NBCCS and 7.6% of them had recurrence, but none of the cases with multiple KCOTs were non-syndromic.

3) Sholapurkur et al. in 2008 presented a 24 year-old male case with multiple non-syndromic KCOTs in both jaws with chief complaint of a slow growing swelling with pain since 3 years and drainage since 15 days. Lesions were cyst-like radiolucencies associated with impacted teeth on panoramic radiograph.
4) Bartake et al. in 2011 reported a 20- year-old case with multiple recurrent KCOTs without any other noticeable features indicative of Gorlin syndrome. No recurrence occurred after 3- year follow up.
5) Parikh in 2012 reported a 19- year-old case with two KCOTs in both jaws without any other concomitant syndromic features. The complaint was swelling for one year and pain for three months. Panoramic radiograph revealed two radiolucencies with corticated borders associated with impacted teeth.
6) Guruprasad et al. in 2012 discussed a 16- year-old patient with multiple KCOTs and a complaint of slow progressing swelling in both jaws without any other features of syndrome.
7) Brannon in 1977 reported that 5.8 percent of 312 cases of OKCs, had multiple cysts without any syndromic manifestations.

Conclusion: This was a rare case showing multiple OKCs without the association of any syndrome. Multiple OKCs have been known to occur in non-syndromic cases though it is very rare. (5.8%) These multiple lesions may be the first manifestation of the syndrome or otherwise it may be because of the multifocal nature of OKC. Nevertheless, other features of related syndromes must be ruled out before designating the lesion as a non syndromic OKC. Regular follow up of the patient must be carried out to check for recurrences.

A PATIENT WITH MISSING MAXILLARY AND MANDIBULAR ANTERIORS: A CASE REPORT

Presented by
Dr. Varsha Vaswani (Dept of Orthodontics)
Dr. Rahul Tekale (Department of Prosthodontics)

Introduction: An individual's facial and dental appearance influences their personality and social interactions to a great extent.[8] n. The shift in the dental midline compounded with the loss of a maxillary central incisor can lead to disastrous assymetries in the smile.(7)

Excluding third molars, the reported prevalence of hypodontia ranges from 1.6 to 6.9%, depending on the population studied. Most affected individuals lack only one or two teeth, with permanent second premolars and upper lateral incisors the most likely to be missing. (1)

The high demand for aesthetic restorations by today's patients has challenged dentists to plan and deliver their treatment in a more organized and systematic manner and needs .

2 treatment options exit: To open space for a prosthetic replacement of the missing lateral incisor mostly with an implant-borne crown or to completely close the space by mesialization of the posterior teeth with the canine substituting the missing lateral incisor.

Selecting the appropriate treatment approach is a complex decision depending on the patient's existing malocclusion, growth pattern, profile, smile line, and the size, shape, and color of the canines(5)

This article describes a patient with multiple dental anomalies, including a missing maxillary right lateral incisor , left maxillary central incisor and right mandibular lateral incisor and root canal treated canine, requiring combined orthodontic and prosthodontic management.

Diagnosis and etiology: A man, age 23 years reported to the department of orthodontics and dentofacial orthopedics with the chief complaint of poor esthetics due to spacing in maxillary anterior teeth.The patient reported a history of trauma to the maxillary right canine 5 years of ago, resulting in loss of vitality of the affected teeth for which root canal treatment was done 2 years back.

On clinical examination, facial profile was convex and the frontal view was almost symmetrical there was a skeletal Class II pattern with average vertical facial proportions (Fig 1). The lips were competent , with an average nasolabial angle,and reduced incisor show on smiling. The temporomandibular joints were symptomless. The molar relationships were end on on both sides . Overjet was 3mm and overbite was 4 mm. Both upper and lower arches were asymmetrical with missing permanent teeth: a missing maxillary right lateral incisor , left maxillary central incisor and right mandibular lateral incisor and root canal treated canine. Upper incisor inclination was average whereas lower teeth were proclined .Maxillary dental midline could not be assessed.

(Fig 1)

The cephalometric analysis, when compared with the standard norm, showed a skeletal Class II jawbase relationship (ANB, 5.0) The mandibular plane angle was reduced (MP-FH plane, 19.0). The maxillary incisors were upright(U1-FH plane, 102.0), but the mandibular incisors were (L1-MP, 90.0). As a result, the interincisal angle was significantly increased.

Treatment Objectives: The patient was diagnosed as having an Angle Class II malocclusion with prognathic maxilla and orthognathic mandible and horizontal growth pattern and a spaced arch due to a missing maxillary right lateral incisor , left maxillary central incisor and right mandibular lateral incisor. The treatment objectives were (1) to achieve an acceptable occlusion with a good functional occlusion, (2) to control the available spaces with mesialization of the maxillary canines and left lateral incisor and slightly distalising right central incisor.

The initial plan involved mechanical eruption and alignment of the maxillary right canine aiming to substitute the maxillary right canine for maxillary right lateral incisor. the maxillary left lateral incisor will substitute for maxillary left central incisor and canine will be reshaped as lateral incisor..crown cutting temporary restorations were placed to maintain spaces created for final prosthesis

Other objectives included alignment of both dental arches, and correction of end on molar relation ,centerline discrepancy with maintenance of the Class I incisor and class II molar relationships. Space in the lower right lateral incisor region was planned to be closed to correct the incisor proclination and maintaining proper overjet and overbite and finally esthetically enhance the smile with Emax crowns.

Treatment progress: Oral prophylaxis was done before commencement of the fixed orthodontic procedure. MBT 0.018 mm slot orthodontic brackets were placed on all the maxillary teeth except the right maxillary canine which was bonded with an attachment due to insuffient tooth structure and was later extruded by piggy back to increase the crown height.

The central incisor brackets were placed on the laterals, the lateral incisor brackets on the canines and canine brackets on the premolars to give them the same torque and tip value of the teeth they would replace.

With the help of coil spring between the right central incisor and left lateral incisor the right central incisor was shifted further right to match the dental midline with facial midline.later coil spring was shifted between left canine and lateral incisor to shift the lateral incisor in place of left central incisor.

The patient was then refered to dept. of prosthodontics for canine build up and reshaping of canine and lateral incisor of left side.

After reshaping orthodontics treatment was continued and all spaces were closed .lower incisor proclination and end on molar relation relation was taken care of with the help of class III mechanics.

The brackets were debanded in upper arch and upper and lower impressions were made with irreversible hydrocolloid. Casts were poured and wax mock up of the anterior teeth was done. The shade selection was done based on the patient's skin tone and and matched with natural adjacent teeth. The shade selection was done using both Vita Classical and Vita 3D Master shade guides (Vident).

All the above information was then communicated to the laboratory, and the final all-ceramic crowns and veneers (IPS e-max, Ivoclar Vivadent) were fabricated.

Try in: The procured restorations were then tried in the patient's mouth. During the try-in procedure, the marginal fit of the restorations, shade match, incisal display, smile line, and arch form were all evaluated Lower arch was then debonded and finishing was done.

Final cementation: As the patient was well satisfied with the aesthetic outcome, the restorations were cemented using dual cure resin cement.




Retention protocol: Upper and lower impressions were then made again using alginate impression material. Hawley's wrap around retainer in upper arch and lingual bonded retainer in lower arch were given.


Discussion: Conventional space closure for missing maxillary lateral incisors is a viable and safe procedure that provides satisfactory esthetic and functional long-term results.The main advantage of being that the entire treatment is finished with the orthodontic treatment, and this approach allows the hard and soft tissue architecture to remain in a natural state that can better respond to the changes over time.(6)

Progress in restorative treatment with individual tooth bleaching, thin porcelain veneers, and hybrid composite resin buildups demonstrate that quality treatment can be obtained when space closure is combined with esthetic dentistry. Planned teamwork with a skilled prosthodontist is fundamentally important for the final outcome.(6)

On the other hand, the canine will need reduction in the incisogingival and mesiodistal dimensions, with flattening of the labial surface, steepening of the lingual convexity, and bleaching and composite bonding or veneering to mimic the replaced tooth. The dimensions of the premolar must be increased mesiodistally and incisogingivally, and the lingual cusp will need to be reduced(6)

A summary of several clinical studies shows that the overall survival rate of IPS e.max in the oral environment is 96.6 %.The all-ceramic system delivers high-strength and highly esthetic materials for the Press technique and for CAD/CAM technology.

With IPSe.max choice of cementation options; crowns and bridges may be seated using not only the adhesive technique, but they can also be incorporated with a self - adhesive or conventional cementation material. The highlights of e max are :

- Lifelike shade behaviour for highly esthetic solutions
- Long-lasting restorations due to high strength
- Versatile use and wide range of indications
- Impressive esthetic results–irrespective of the colour of the prepared tooth

Retention is a matter of primary importance in the closure of spaces of missing maxillary incisors. Different steps may be taken to secure maximum post treatment stability, such as (1) overcorrections of tooth movements, (2) paralleling the roots, (3) gingivectomy/fibrotomy/frenectomy, (4) careful fit of removable retainer, and (5) bonde retainers. In this cases proper attention was paid to retention and patient is on follow up.

Conclusion: A missing central incisor does provide an esthetic challenge to the dental professional. Orthodontic intervention along with a prosthetic camouflage is imperative to develop a harmonious balance between the functional and esthetic needs, and to obtain a predictable outcome.

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ESTHETIC REHABILITATION OF AGGRESIVE INTRAORAL CARCINOMAS

Presented by
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Dr. Manish Zade & Dr. Ajay Mehta (Department of plastic surgery)

Introduction: The oral cavity uniquely serves a multitude of varied functions which are critical to an individual's ability to lead a normal, integrated existence as a member of society. These functions include: articulation, mastication, deglutition, oral competence, taste, and oral hygiene. In addition, the oral cavity functions as a conduit for respiration and aids in the protection of the airway. The preservation or restoration of these Functions is crucial to the oral cancer patient's return gainful employment, normal social activities, nor- mal body weight, and healthy outlook on life. The range of the surgical options available for reconstruction of the oral cancer patient has changed markedly over the past decade. Predictable bony and soft -tissue restoration of the oral cavity can be performed using composite free flaps with a very high rate of success, enabling the surgeon to anatomically reconstruct complex three-dimensional oromandibular defects and reliably restore mandibular continuity at the time of ablative oncologic surgery. Primary placement of enosseous dental implants has permitted a rapid restoration of a highly stable and functional osseodental unit.

The impact of major ablative surgery for cancer in the head and neck region can be devastating for the patient. Efforts should be taken to restore form, function and Esthetics to achieve total rehabilitation of the patient which requires reconstruction of anatomic defects created by ablative surgery to restore aesthetic appearance and physiologic function.

Case 1: A 34-years-old man was referred to our department with his chief complain of ulcerative growth over left side of mandible.

The patient presented with slight extraoral induration near lower lip on left side, with the ulcero-ploliferatve growth was noted intraorally it extending from corner of mouth upto the retromolar region and including upper and lower gingivobuccal sulcus intraorally, blanching was noted in the buccal labial and palatal mucosa. The patient also gives history of reduced mouth opening and burning sensation since 1 year.

Patient 1 - Extraoral picture

Patient 1 – Intraoral Picture

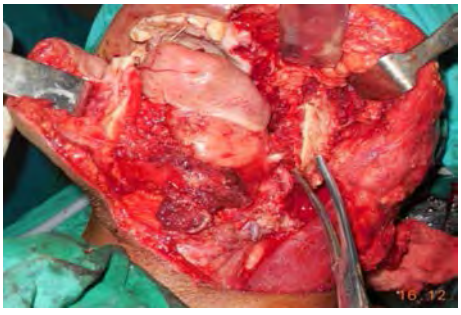
Routine laboratory investigations were within normal range. Contrast Enhanced Computerized tomography scan showed that the lesion is extending to the alveolus and involving the buccinators muscle with loss of fat planes and there is erosion of the alveolar bone of mandible on the left side. The CT report revealed heterogeneously enhancing soft tissue mass lesion is noted with epicenter in lower left gingivobuccal sulcus measuring 5x4x3.5cm with few areas of necrosis noted within.

Multiple heterogeneously enhancing necrotic enlarged lymph nodes are noted in left level IA and IB, II and III.

Biopsy was obtained from the lesion which was suggestive of well to moderately differentiated squamous cell carcinoma.

The patient was posted for surgery under general anesthesia (Nasal intubution) for wide local excision with segmental mandibulectomy followed by reconstruction with free fibula flap. The apron incision was taken and the procedure started with neck dissection and lymph node dissection was performed till level 3. Lesion was excised along with the part of involved lower lip and segmental mandibulectomy was performed preserving the anterior border of ramus.

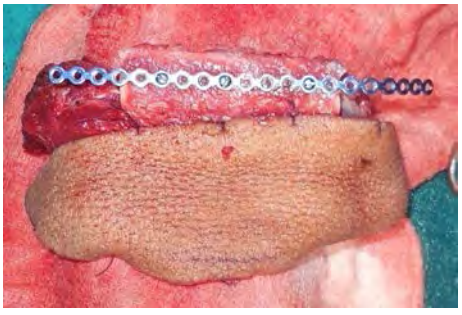
Patient 1 – incision markings



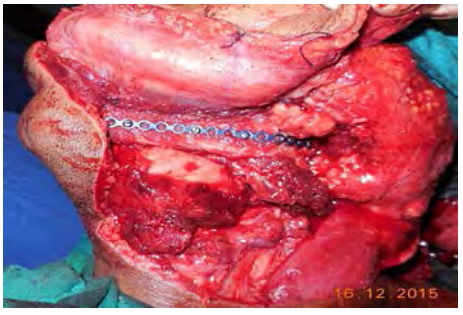
Patient 1 – after resection

The team of plastic surgeons harvested the free fibula flap from right leg with the skin paddle and peroneal vessels after that the fibula was moulded to shape of the mandible and the reconstruction was done with the help of plates and screws the fibula was secured in its place and microvascular anastomosis was done with the facial artery and vein then the skin paddle was converted into the intraoral mucosa and the closure was done.

Harvesting fibula flap



Moulding of fibula flap



Reconstruction with free fibula flap

Excellent results were obtained with complete surgical excision and reconstruction. The wound healed uneventfully and patient was stable. The patient was discharged and is on follow up and the flap is viable.

1 month follow up

1 year follow up

Case 2: A 32-years-old man was referred to our outpatient department with his chief complain of swelling over left side of chick with intraoral growth.

The patient presented with Extraoral Swelling which was also associated with the ulcero-ploliferatve growth was noted intraorally it extending from corner of mouth upto the retromolar region and including upper and lower gingivobuccal sulcus intraorally it was also extending upto the palate involving molar teeth but not extending to the midline, blanching was noted in the buccal labial and palatal mucosa. The patient also gives history of reduced mouth opening and burning sensation since 1 year.

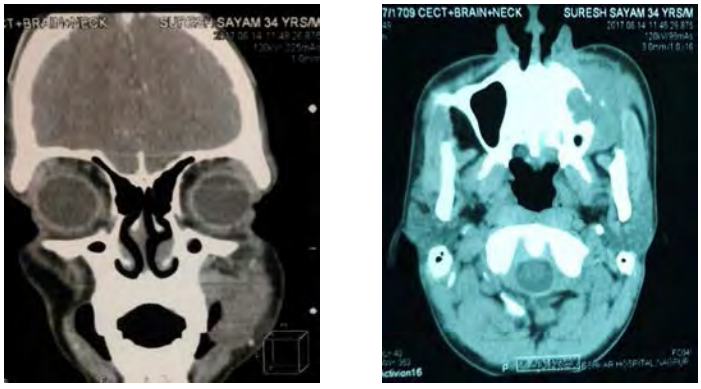
Extraoral Picture

Intraoral Pictures

Routine laboratory investigations were within normal range. Contrast Enhanced Computerized tomography scan showed that the lesion is extending into the maxillary sinus. The CT report revealed heterogeneously enhancing soft tissue mass lesion is noted with epicenter in left gingivobuccal sulcus measuring 4x3x3.5cm with few areas of necrosis noted within.

Extensions anteroposteriorly the lesion reaching upto subcutaneous plane with loss of fat planes with buccinators muscle. Superiorly the lesion is protruding into the left maxillary maxillary sinus with erosion of its floor. Posteriorly the lesion is in relation with left masseter muscle with maintained of fat planes.

Multiple heterogeneously enhancing necrotic enlarged lymphnodes are noted in left level IB (18X16mm), II and III.



CECT Images

Biopsy was obtained from the lesion which was suggestive of well differentiated squamous cell carcinoma

The patient was posted under general anaesthesia for wide local excision with maxillectomy and marginal mandibulectomy followed by reconstruction with free fibula flap. The procedure started with elective tracheostomy the weber fergusson incision with lynch extension was taken then we started with neck dissection and lymphnode dissection was performed till level 4. Lesion was excised along with the part of involved upper lip and left maxilla was excised along with it the orbital plate was preserved as the lesion was also extending upto the mandible and erosion of bone was noted intraoperatively decision was taken to do the marginal mandibulectomy up to first molar tooth.

Incision markings

After Resection

After this fibular graft along with the peroneal vessels and skin paddle was obtained and the fibula was moulded to the shape of maxilla and then the flap was secured with the plates and screws microvascular anastomosis was done and the skin paddle was converted into the intraoral mucosa and sutured in its place.

Harvesting Fibula Flap

Reconstruction with Fibula

Excellent results were obtained with complete surgical excision and reconstruction. The wound healed uneventfully and patient was stable. The patient was discharged and is on follow up and the flap is viable.

Post Operative follow up 1 month

Post operative OPG

Flap Intraoral

Post Operative Follow up 3 months

RAPID ORTHODONTICS: A CASE REPORT

Presented by
Dr. Anshuka Agrawal (Department of Periodontics)
Dr. Varsha Vaswani (Department of Orthodontics)

CASE I: Every year, there is an increasing number of adult patients seeking orthodontic treatment and a short treatment time has become a common demand among these patients. The American Association of Orthodontists has reported that the average length of orthodontic treatment can range between 18 to 30 months depending on treatment modalities and individual patient variation (AAO, 2007).

Dental crowding and/or protrusive dental relationships frequently require the extractions of two maxillary and two mandibular premolars. A critical stage in the correction of dental crowding or protrusion is the retraction of the canine teeth through the first premolar extraction spaces

Accurate and precise control of tooth movement can be optimized with the proper use of mechanics; however, the rate of tooth movement depends on the reaction of the surrounding tissue to that force. To date, several techniques have been proposed to accelerate the rate of tooth movement and reduce the treatment time.

Orthodontic tooth movement is directly associated with bone remodeling and the biological response plays a central role in controlling the rate of orthodontic tooth movement (Sandstedt and Oppenheim, 1930).

Periodontal accelerated osteogenic orthodontics (PAOO) is a clinical procedure that combines selective alveolar corticotomy, particularte bone grafting, and the application of orthodontic forces.

his procedure is theoretically based on the bone healing pattern known as the regional acceleratory phenomenon (RAP).PAOO, as claimed by distinguished authors, helps in an increase in alveolar bone width, shorter treatment time, increased posttreatment stability, and decreased amount of apical root resorption.

H M Frost (1981), found that the acceleration in orthodontic tooth movement was due to a temporary stage of localized hard-tissue remodeling that resulted in rebuilding of the injured sites to a normal state through recruitment of osteoclasts and osteoblasts via local intercellular mediator mechanisms involving precursor supporting cells, blood capillaries and lymph. This was phenomenon was named the "Regional Acceleratory Phenomenon" (RAP)

. A new micro-invasive technique called micro-osteoperforation, is a new perspective to accelerated orthodontics When clinicians create micro-osteoperforations in the alveolar bone, cytokine cascade is activated, resulting in a marked increase in osteoclast activity and bone remodelling. When an orthodontic force is applied immediately following micro osteoperforation, the teeth will move toward the tension side and pass easily through the remodeled area.There is hardly any discomfort to the patient post-operatively, and there is zero recovery time with no post-operative restrictions

The purpose of this article is to describe a case report that comprises the PAOO procedure

Diagnosis and treatment procedure: Two case reports one of a 18-year-old female with a Class I severely crowded malocclusion and and another of a 17-year-old female with a Class II Div 1 malocclusion. Patients had reported to the department of Orthodontics with the chief complaint of poor esthetics due to malaligned teeth. Patient underwent premolar extractions followed by leveling and alignment and consolidation of spaces from canine to canine but the patients needed shorter treatment time and thus accelerated orthodontics was planned for these cases and patients were explained about the treatment procedure and a written consent was signed by them.

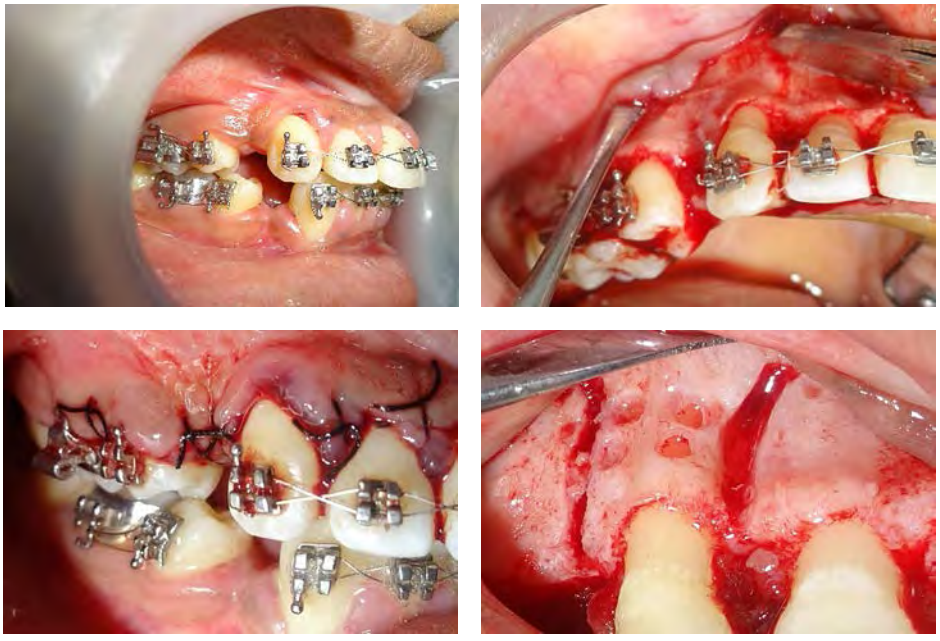
Pre surgical records consisted of intra-oral photographs CBCT Scans, alginate impressions and IOPA with the extraction site on the micro-osteoperforation site after stent preparation.

Two surgical procedures were performed on either side of patients mouth and the sides were selected randomly.

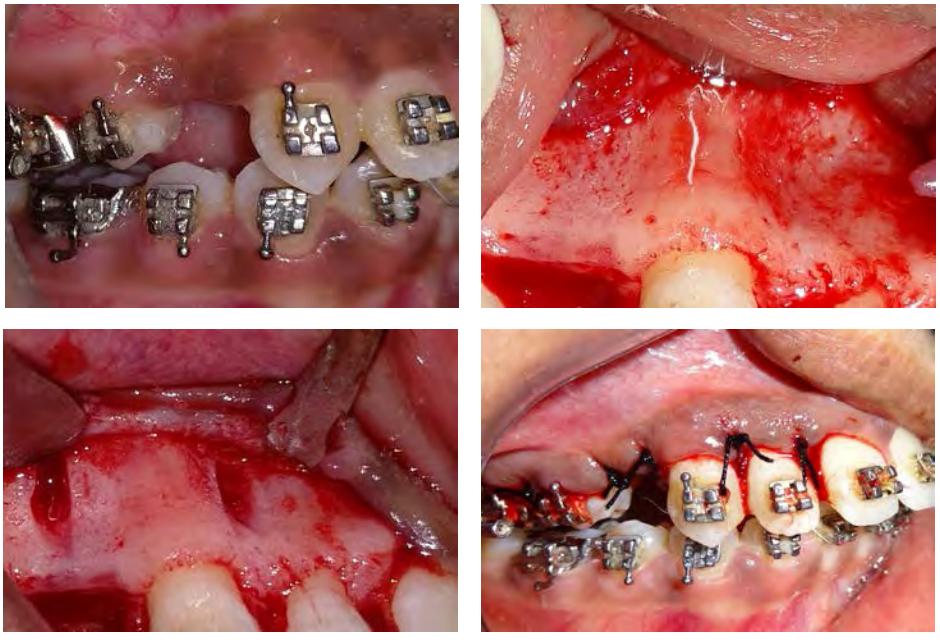
Surgical Procedure (Corticotomy):

- Before opting for the periodontal surgical technique and beginning with the procedures, a complete medical review of the patient is done to rule out any systemic and local factors that may interfere with the surgery.
- A thorough clinical and radiographic evaluation for the patient is done to evaluate the periodontal status of the patient.
- A meticulous phase 1 therapy involving scaling and root planing and oral hygiene instructions to the patient is given.
- A full-thickness mucoperiostal flap is reflected under local anesthesia, after an intracrevicular incision that connects the releasing incisions, buccally .
- Special care is taken not to perforate the flaps, and any interdental tissue that remained interproximally is left in place. The flap is reflected beyond the apices of the teeth if possible.5
- Post reflection, the area is thoroughly debrided, and curettage is done to remove any inflammed tissue, if present.
- By the use of no. 2 round bur in a high speed handpiece, decortications were made in the alveolar bone.
- Vertical corticotomy cuts stopping just short of the alveolar crest are made between the roots of the teeth; This groove extended from a point 2–3 mm below the crest of the bone to a point 2 mm beyond the apices of the roots.These cuts are connected beyond the apices of the teeth wit a scalloped horizontal corticotomy cut, and numerous corticotomy perforations are made in cortical layer.4,5
- Grafting was done in most areas that have undergone corticotomies. The volume of the graft material used was dictated by the direction and amount of tooth movement, the pretreatment thickness of the alveolar bone, and the need for labial support by the alveolar bone. The graft material used was decalcified freeze dried bone allograft. A typical volume used was 0.25–0.5 mL of graft material per tooth. The decorticated bone acts to retain the graft material .
- Preservation of vital structure is taken into consideration.
- Bone grafting material, such as demineralized bone matrix or DBM; along with xenograft extender, along with antibiotics is placed over the activated bone.
- Excessive graft material should not be placed to avoid interference with the repositioning of the flap.
- The sutures that approximate the tissues at the midline were placed first to ensure the proper alignment of the papillae. The remaining interproximal sutures were placed next followed by the closure of any vertical incisions. No packing was required. The sutures were left in place for 1 week.

- The application of icepacks to the affected areas also was suggested to decrease the severity of any possible postoperative swelling or edema.
- The sutures were left in place for 1 week .The surgery usually does not result in facial bruising. During this time, chlorhexidine mouthwash is prescribed.
- The patient is then subjected to the orthodontic treatment to explore the advantage of the bone activation done through the above procedure.



CASE 2



Surgery 2 (Micro Osteoperforation): It was performed two days after corticotomy procedure. A stent was made in the extraction site according to the length of the buccal vestibule and an IOPA was take to assess the proper horizontal and vertical position of the ostoeperforations.

1.3x 7mm mini orthodontic implants were used with an implant driver to carry out the procedure. Local anaesthetic spray was used prior to starting the procedure. the micro osteoperforations were placed between the canine and extraction space and between lateral incisor and canine.

No flap reflection was required and bleeding was controlled by pressure technique.post op medication was also priscribed on SOS basis. 0.016x0.022 SS wire was used for canine retraction as patients were on 0.018MBT slot with NiTi

Case 1



Case 2


Current status


Case 1

Case 2

Discussion: In 1959, Kole proposed performing surgical osteotomies in the alveolar process to weaken the cortical bone and facilitate orthodontic tooth movement. In 1960, Heinrich Kole set the stage for the subsequent evolution of refined decortication-facilitated orthodontics.In 1989, orthopedist Harold Frost the regional acceleratory phenomenon (RAP). This was further described by Yaffe et al in 1989.

Corticotomy Facilitated Orthodontics procedure was first introduced by Suya in 1991

In 2001, Wilco suggested a novel surgical technique, periodontally accelerated osteogenic orthodontics (PAOO).For treatment of Angle Class I crowding, Wilcko et al described a "periodontally accelerated osteogenic orthodontics" procedure. This technique includes buccal and lingual flaps, bone bur decortication, bone grafting, and fixed orthodontic treatment. This technique reduces treatment time versus conventional techniques by 30% to 50%.

Gantes et al 1990 and Iino et al 2006 compared this combined surgical and orthodontic treatment with conventional orthodontic treatment.

In 1989, orthopedist Harold Frost recognized that surgical wounding of osseous hard tissues

results in striking reorganization activity adjacent to the site of injury in osseous and soft tissue surgery.

He collectively termed these physiologic healing events the regional acceleratory phenomenon (RAP). This was further described by Yaffe et al in 1989.In orthopedic surgery, striking remodeling activity occurs adjacent to the site of injury. Frost described this reaction as regional accelerated phenomenon (RAP), which speeds up the healing stage. The phenomenon is a transient burst of localized remodeling process following surgical wounding of cortical bone. It was suggested that osteoclasts which resorb bone and osteoblasts that form new bone at each stage normally do not exist in sufficient numbers to heal the bone following surgery. The RAP effect mainly occurred in long bones that recruits these cells.

Periodontally Accelerated Osteogenic Orthodontics: Activation of RAP starts with accelerated resorptive activity which will lead to further bone regeneration. However, local factors such as infection, occlusal trauma, and bone geometry may quantitatively affect the bone regeneration stage. It is this phenomenon that might be responsible for the increasing mobility immediately following periodontal surgery.

In 2001, Wilco suggested a novel surgical technique, periodontally accelerated osteogenic orthodontics (PAOO).It differs from prior techniques by the additional step of alveolar bone grafting. It is this additional step that is believed to be responsible for the increased posttreatment alveolar bone width.Surgery invokes an RAP, wherein both hard and soft tissue reorganization is potentiated, leading to a transient catabolic

condition. For bone, this transient osteoporosis means increased mobilization of calcium, decreased bone density, and increased bone turnover, all of which would facilitate more rapid tooth movement. Osteoporosis provides a favorable environment for increasing the rate of tooth movement without increasing the risk of root resorption in rats.Goldie RS, King GJ.(1984)

Moreover, it has been demonstrated that the residual soft tissue matrix has the ability to induce remineralization after the cessation of tooth movement. Nyman S et al 1982 PAOO does not just cut into the bone, but decorticates it—that is, some of the bone's external surface is removed. The bone then goes through a phase known as osteopenia, where its mineral content is temporarily decreased. The tissues of the alveolar bone release rich deposits of calcium, and new bone begins to mineralize in about 20 to 55 days.While the alveolar bone is in this transient state, braces can move teeth very quickly, because the bone is softer and there is less resistance to the force of the braces.

Research has shown that after the alveolar bone heals and the teeth are in their new desired positions, additional alveolar bone has formed. After PAOO, the alveolar bone is apparently not only as strong as it was before the procedure but there is actually more to it-which is advantageous if the profile needs to be built up to improve patient's facial esthetics.

In our cases, at the end of 4 weeks, significant canine movement was observed .At the end of 8 weeks, mid treatment photographs ,impressions and CBCTS were repeated.

The results showed significantly accelerated tooth movement at the rate of 1.6- 1.8 mm compared to 0.8-1 mm by conventional technique.

Conclusion: Different surgical techniques of accelerated orthodontics having their own pros and cons have been introduced till date and have given successful results in reducing the treatment time .Corticotomy although being a highly efficient technique has a biggest disadvantage of being invasive and thus less preferred by the patients and clinicians in private practice. So, a new technique which is less invasive and equally helps reduce the treatement time had been proposed but not many studies have been done supporting the same.

EVALUATING KNOWLEDGE AND AWARENESS OF DENTAL STEM CELLS AMONGST DENTAL PROFESSIONALS OF NAGPUR CITY, MAHARASHTRA- A CROSS-SECTIONAL SURVEY

Presented By
Namrata Bhoyar (Department of Public Health Dentistry)

Introduction: Stem cells are immature, unspecialized cells, which can differentiate into specialized cell Dental stem cells are the cells extracted from dental tissues. Four different sources of dental stem cells are dental pulp, apical papilla, dental follicle and periodontal ligament. Dental pulp stem cells(DPSCs) exhibit multipotent differentiation capacity into various cell lineages such as adipocytes, osteocytes, chondrocytes, and myocytes in vitro.DPSCs can differentiate into odontoblasts, neural cells, and can be used in in cardiac repair by improving angiogenesis. In India, application of stems cells in dentistry is at a nascent stage and various surveys had shown that there is limited awareness and knowledge regarding their application. Considering these facts our study has been carried out for the same Purpose.

Aim: To assess the knowledge and awareness regarding dental stem cell amongst dental Professionals

Objectives:

1) To study the current state of knowledge regarding dental stem cells amongst Dental Professionals.

2) To study the level of awareness regarding dental stem cells amongst Dental Professionals.

Hypothesis: Many dentist are unaware regarding stem cells and its practical use in dentistry.

Materials and methods: A questionnaire based study amongst 200 dental professionals (BDS and MDS) from Nagpur city has been conducted in the month of November 2016. 200 participants were consists of 110 interns,50 postgraduates and 40 private practitioners from the Nagpur city.The study was approved by an institutional ethical committee.questions were as follows

1] Do you have any knowledge about dental stem cell?

a) Yes b) No

c) Little bit d) Never heard

2] Which one is the easy source to obtain stem cells for therapeutic purpose?

a) Umbilical cord b) Bone marrow

b) Dental pulp d) Don't know

3] What are sources of dental stem cells?

a) Dental pulp stem cells b) Stem cells from human exfoliated deciduous teeth

c) Periodontal ligament d) All of the above

4] Which are best deciduous teeth to obtain sufficient number of vital stem cells?

a) Incisor
b) Molar
c) Canine
d) Don't know

5] Does length of the root has any effect on no. of stem cells present in that tooth?

a) Yes
b) No
c) May be
d) Don't know

6] Do know the procedure of isolation and preservation of dental stem cells?

a) Yes
b) No
c) Little bit
d) Willing to know

7] What we can do with the isolated dental stem cells?

a) Regenerative teeth procedures
b) Can be used to treat many systemic and genetic diseases
c) Biomedical research
d) All of these

8] Life span of preserved dental stem cells-

a) Life long
b) 10 years
c) 25 years
d) Don't know

9] Which is the best period of life for stem cell banking?

a) Childhood
b) Adulthood
c) Both
d) Don't know

10] Can dental stem cells be used to develop non dental organs?

a) Yes
b) No
c) May be
d) Don't know

11] Are there any stem cell banks in India?

a) Yes
b) No
c) May be
d) Don't know

12] Do you think that dental stem cell banking will be useful to regenerate dental tissues?

a) Yes
b) No
c) May be
d) Don't know

13] Are you aware of Indian Council Medical research guidelines regarding dental stem cells?

a) Yes
b) No
c) Little bit
d) Willing to know if guided properly

14] What you do with extracted deciduous tooth ?

a) Throw away
b) Prepare tooth models for dental workshops
c) Give it to the patient
d) Use to obtain stem cells

15] How many workshop or conferences you attended regarding dental stem cells?

A) Single
b) many
c) Willing to attend in future
d) Never attended

16] Have you ever recommended your patients to save their dental stem cells?

a) Always
b) No
c) Sometimes
d) Never thought of it

17] Which is the most reliable method for the study of stem cells?

a) To be included in the curriculum
b) Workshops to improve knowledge about stem cells
c) Conferences
d) Internet

18] Are there any ethical concerns regarding use of stem cells in dentistry?

a) Yes
b) No
c) Unsure
d) don't know

19] Do you in person think that dental stem cell can change the face of medicine in future?

a) Yes
b) No
c) Can't say
d) Don't know

20] Is it your social responsibility to educate society about dental stem cells?

a) Yes
b) No
c) May be
d) Don't know

Results:

1) 64% doctors know that there are stem cell bank in india.
2) While evaluating AWARNESS among the participants it was seen that only 6% participants used extracted deciduous tooth to obtain stem cells.
3) Many people never attended workshop on dental stem cells but most of the people are willing to attain in future.
4) 80% dentist thinks that dental stem cells can change the Face of medicine in future
5) 83% participants think that it is their social responsibility to educate society about dental stem cells.

Discussion: Similar type of studies were carried out by

1. Mamatha B. in 2015 to evaluate Knowledge and Attitude of Dentists at V.S. Dental College and Hospital, Bengaluru, India
2. Dr. Ankita Goyal in 2013 to evaluate knowledge, awareness and attitude regarding stem cells among dental practitioners in udaipur city, rajasthan

Their studies concluded that dentists had a positive attitude towards stem cells in dentistry, however, knowledge was inadequate. Hence, dentists should be sensitized to the knowledge of stem cells and their potential applications and clinical use.

Conclusion: There is positive attitude towards dental stem cells, although the knowledge about this is limited especially in interns .Participants are willing to yield more knowledge about dental stem cells through workshops and conferences. Including this topic in the regular curriculum for dental students will increase the awareness about dental stem cells preservation in society and this will lead to change the face of future dentistry.

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{3} M Jamal, S Chogle, H Goodis, SM Karam.Dental Stem Cells and Their Potential Role in Regenerative Medicine. J Med Sci 2011; 4: 53-61

{4} Sloan A J, Waddington R J. Dental pulp stem cells: what, where, how?International Journal of Paediatric Dentistry 2009; 19: 61–70.

AN UNUSUAL CASE OF CARCINOMA LARYNX

Presented by
Dr. Neha Naranje (Department of Oral Medicine and Radiology)
Dr. Prajakta Golhar (Department of ENT)

Introduction: The differential diagnosis of a neck mass covers a broad spectrum of diseases. It differs according to age where congenital swellings are more common in young individuals while inflammatory and neoplastic in young adults and late adults respectively. Also certain swellings are specific to locations like midline swellings, swellings in anterior and posterior triagles.This article is about a neck swelling which was initially diagnosed as bacterial sialadenitis and later got diagnosed as carcinoma of larynx.

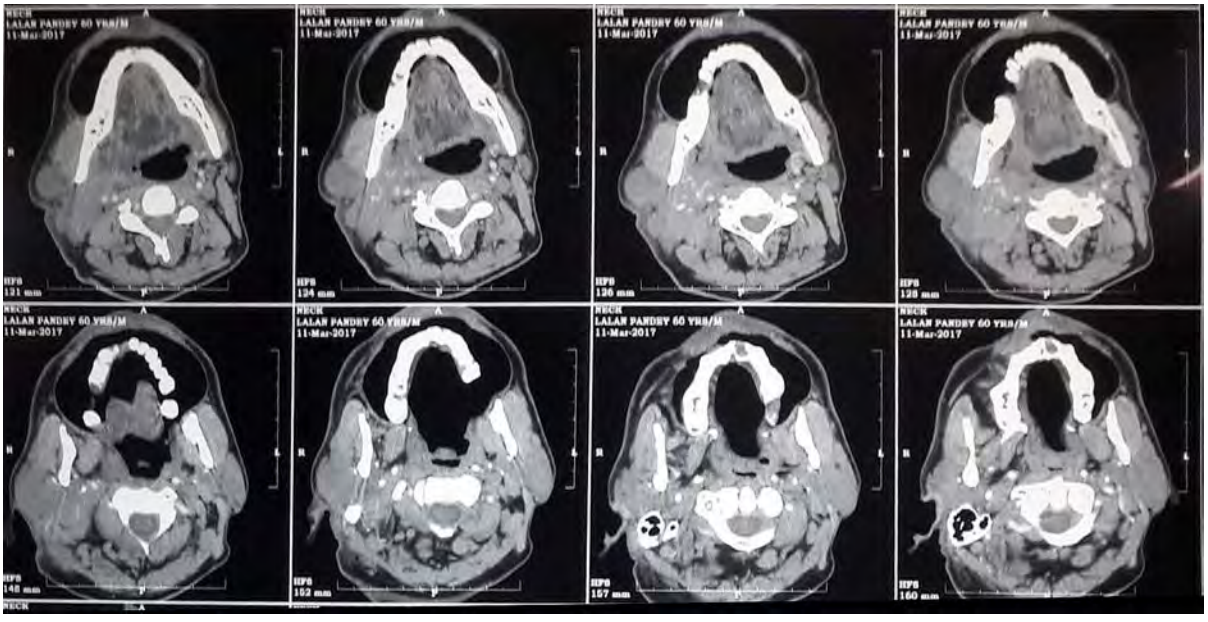
Case report: A 60 year old male, farmer by occupation had visited the Department of Oral Medicine and Radiology, with the chief complaint of pain and swelling over the right lower half of face and neck since 1 and half month. Patient was apparently alright 1 ½ month back ,when he noticed diffuse swelling in the right lower half of the face which later extended to same side of neck in 2 to 3 days. After about a week, patient experienced pain of gradual onset, intermittent in nature and moderate in intensity. Pain radiated to temple region and back of neck. Pain aggravated on consumption of food and relieved on its own after about 5 to 10 minutes.

So the patient visited a private practitioner who prescribed him with antibiotics and analgesics for 7 days and recalled him. However, no relief in pain and swelling was obtained. Thus a fine needle aspiration cytology was performed which was suggestive of bacterial sialadenitis. Patient continued to take several course of antibiotics and analgesics for around a month. However, no relief was obtained. H/o fever 10 days back. No h/o increase or decrease in salivation. No h/o change in taste, pus discharge or bleeding, hot fomentation or balm application.

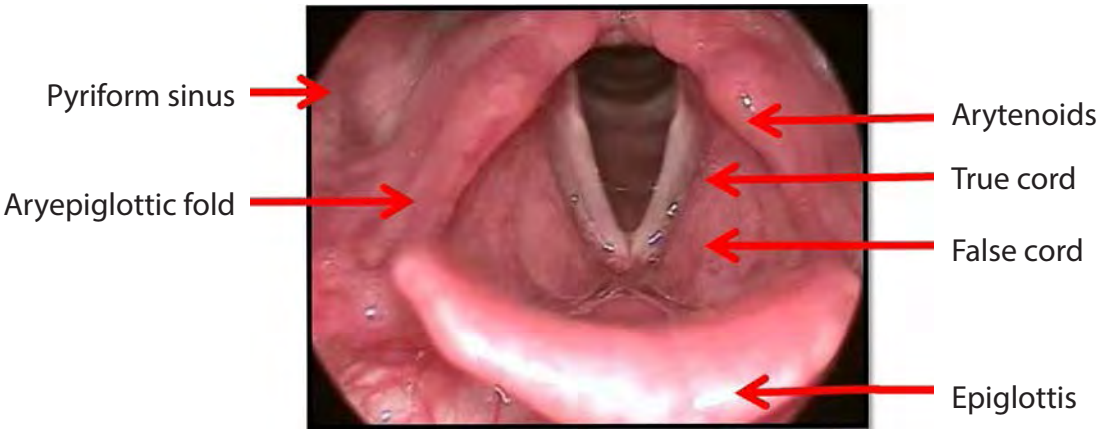
Right and left sub-mandibular lymph nodes were palpable. On salivary gland examination there was no swelling intra-orally. Openings of parotid glands on both sides were normal. On milking of parotid glands -clear saliva on both sides was seen.

USG guided FNAC report showed sparsely cellular smears revealed some large and small clusters composed of benign epithelial cells and some adipocytes along with few fragments of fibrous stroma present in the background containing lymphocyes, some macrophages, few neutrophils and many RBC'S. The Features were suggestive of chronic sialadenitis.

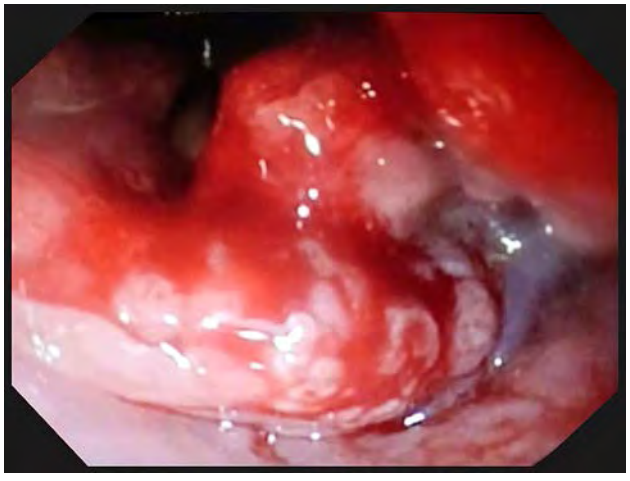
- After the about one month, the patient revisited to the department where with the use of both intra oral and extra oral USG probe, a mass was suspected to be present at the pharyngeal region. So, patient was advised to perform contrast enhanced computed tomography which was suggestive of nodal mass in the laryngeal region which further got confirmed with laryngoscopy guided biopsy as ca larynx. (CaSupraglottis right side with secondaries in neck) cT3N3Mx, Stage IV a.



Hopkin's Rod 70^0 endoscopy



Upper GI Endoscopic Biopsy: Friable laryngeal mass seen. Biopsy take and sent for HPE which confirmed well differentiated squamous cell carcinoma.



Patient took radiotherapy for the same and under follow up.

Discussion: Certain swellings are specific to location like thyroglossal cysts, thyroid swelling, laryngeal swelling,laryngeal swelling, submental lymph nodes, dermoid cyst and chondroma of thyroid cartilage are seen on midline of neck region while thyroid lobe swelling, pharyngeal pouch, branchial cyst, submandibular gland pathology, parotid gland swelling, laryngocele are seen in anterior triangle of neck. Similarly in posterior triangle lymphadenopathy, carotid artery aneurysm, carotid body tumour, cystic hygroma and cervical rib are seen. There are various investigation available for evaluations of these swellings like ultra sonographic test differentiate solid mass from a cystic mass. Sialography localizes the mass inside or outside the salivary gland. Radionuclide scanning: mass has functioning or non functioning tissue. Computed tomography differentiate solid masses from cystic masses, locate a mass within a glandular structure or identify it as a free nodal lesion and differentiate congenital vascular lesions from the lymph nodal chain. Magnetic resonance imaging (MRI)identify submucosal disease on t2-weighted images.

Neck swelling in the following case was initially presented as bacterial sialadentitis which delayed the further analysis. However with the help of intra oral USG probe a suspicion was raised of a pharyngeal mass which on ct and laryngoscopic guided biopsy evaluation finally diagnosed the mass as carcinoma of larynx.

So, if patient is suspected of having inflammatory cause, a trial of antibiotic therapy is carried out and the patient is kept on observation. Antibiotic therapy should not exceed 2 weeks (acceptable as a clinical test). If the swelling in question persists or increases in size after a trial course of antibiotics, additional investigation is necessary like fine-needle aspiration biopsy, endoscopy and guided biopsy or open excisional biopsy. Histopathology examination is the final diagnostic test of preference.

Conclusion: Neck swellings can have variety of presentation, however with the specific diagnostic approach it can be certainly diagnosed and managed.

COMPUTERIZED OCCLUSAL ANALYSIS AND SPLINT THERAPY FOR MANAGEMENT OF TEMPOROMANDIBULAR JOINT DISORDER

Presented by
Dr. Tazeen Raees (Department of Prosthodontics)
Dr. Kunal Sarate (Oral Medicine Diagnostics and Radiology)

INTRODUCTION: The T-Scan system developed by Tekscan (Boston, MA, USA) uses computers to analyze dynamic occlusion, allowing both qualitative and quantitative occlusion analysis to be performed simultaneously and with great precision.

It can measure the sequence of tooth contact and quantitative changes in relation to time, locate excessive occlusal forces, and register the amount of time from early contact to equilibrium of occlusal forces.

Therefore, the T-Scan system provides information that cannot be obtained by traditional methods of occlusal measurement and evaluation

CASE REPORT: An 18 year old female patient was referred to the Department of Prosthodontics, VSPM DC with the chief complaint of pain in pre auricular area with radiating pain in the temporal region of left side since 3 months. History of present illness was as follow: she was apparently alright 3 months back then she started experiencing symptoms of pain and clicking in left side of her jaw. The pain was moderate in intensity, intermittent in nature and often radiated to the left temporal and pre and post auricular regions. The pain aggravated on mastication and while opening the mouth wide(yawning). Patient could also hear clicking sounds from the left side of her jaw during the opening and closing of the jaw.The mouth opening was initially upto 4 fingers but due to the pain she could not open it wide. With time (i.e over the period of 3 months), the severity of symptoms kept on progressing until when patients mouth opening was reduced only to 2 fingers and a severe pain was felt on the left side of jaw, that is when the patient visited our dental OPD. No h/o trauma over face or jaw. No h/o pain in 3rd molar region. No h/o similar such complaint in the past. Stress history was evaluated but it was not contributory. Local examination showed face was bilaterally symmetrical. TMJ-Movements were bilaterally synchronous but restricted. Inter incisal distance was 24 mm, deviation was noted towards left side with a midline shift of 2mm. Deflection was absent. On palpation, clicking was appreciated over left TMJ and tenderness was absent. Examination of the muscles of mastication reveled that tenderness was present in left lateral pterygoid muscle on functional evaluation while temporalis, masseter & medial pterygoid muscles were normal.

On the basis of above mentioned clinical findings and case history provisional diagnosis of anterior Disc Derangement with reduction on the left side was given

- **Medical History** – Not significant
- **Past Dental History** – Not significant
- **Habits** - No deleterious habits

Extraoral examination

- **Palpation:** Tenderness on left and temporomandibular joint, masseter, anterior temporalis and sternocleidomastoid muscles and back of the neck.
- **Deviation:** Jaw deviation towards left side while closing the mouth.
- **Clicking:** Opening and closing Click present on left side.
- **Limited mouth opening:** Approx 23mm
- **Pain Intensity:** 8/10

Intraoral examination

- Teeth Present
- Generalised Fluorosis
- Occlusion – Canine Guided occlusion
- No sign of tooth wear

Occlusal View

Occlusal View

Occlusion

Protrusion

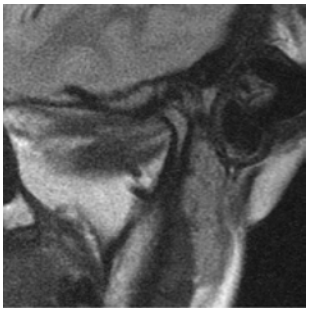
Left lateral

Right lateral

Investigations

- OPG

- TMJ Cross sectional view

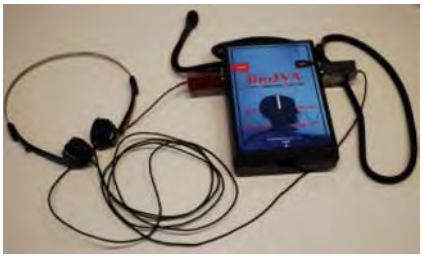


- MRI Scan

- Joint Vibration Analysis
- Anterior Deprogramming Test

Joint Vibration Analysis:

It is a precise, quick, non-invasive, passive device that objectively records all the vibrations of the underlying tissue during function, distinguishes which side the vibration originates on, creates a visual image of the vibration and measures its intensity.



- The JVA revealed that the patient had Pipers Classification – 4a i.e. Medial Pole Click which was Antero-medial disc displacement.

Features of Pipers Stage 4a

1. Presence of opening and reciprocal click
2. On MRI disk is displaced
3. Mouth opening - Variable from normal to restricted and deviated
4. Pain source - Compression of retrodiskal tissue, and muscle pain

Anterior Deprogramming Test

It is done to diagnose if the cause of muscle pain is occlusal interference.

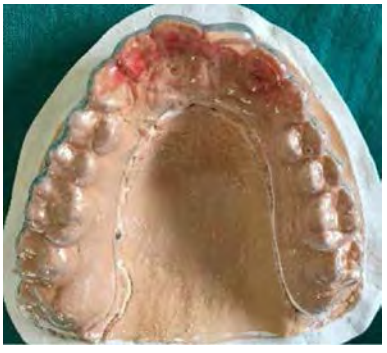
Treatment Plan

1. Supportive Therapy
   Soft food diet
   Moist heat application
   Isometric Exercises
2. Muscle Relaxants
3. Definitive treatment – to achieve occlusal stability through T- scan followed by stabilization splint
   According to treatment plan we followed these steps;

1. Initial T scan

To eliminate gross interferences and balance the forces.

To coincide centric occlusion with maximum intercuspation (CO=MIP)



2. Fabrication of stabilization splint

To achieve a musculoskeletal stable position of the condyles on the disc.

3. **Splint delivered to the patient**

   Adjusted for even centric contacts

4. **Final T scan for Disclusion time reduction of posterior teeth less than 0.4s.**

5. **Follow up of 6 months**

   Patient's mouth opening – 30mm (approx)

   Pain intensity – 2/10

Conclusion

- The presented case illustrates that muscular TMD symptoms responded well to occlusal adjustment therapy that was guided by precise closure and excursive timing measurements.
- Stabilization splint allowed the articular disc to obtain its antero-superior position over the condylar head.
- Successful treatment of TMDs using biometric devices such as T-scan, JVA helps in the elimination of the cause of the disease and not just symptom relief.

COMPREHENSIVE MANAGEMENT OF DIGIT SUCKING HABIT

Presented by
Dr. Ketki Guddhe (Pedodontics and preventive dentistry)

Introduction: Oral habit is a part of normal development in children. Habits are learned patterns of muscle contraction with complex nature. Oral habits are repetitive act seen commonly from infancy and should finish automatically as age advances.

Definition: Gellin (1978): The term digit sucking is synonymous with finger sucking or thumb sucking. It is defined as the placement of the thumb or one or more fingers in varying depths into the mouth. **Moyer:** Repeated and forceful sucking of thumb with associated strong buccal and lip contractions.

Case Report: A five year old girl reported to the department of Pediatric and Preventive Dentistry in the month of march 2017 with parents concerned about her finger sucking habit. The child was the only child of her parents and was very talkative and joyous personality. Also good at academics. No notable medical history.

Child's mother revealed that the child started the thumb sucking habit right after 1 hour of the birth, they ignored the habit upto 5 years of age. The frequency was more than 8-10 hrs/day. Upto the age of five years they noticed gap between her upper and lower anterior teeth and also proclination of upper anterior teeth, So they reported to department of Pediatric and Preventive Dentistry VSPM DC RC for the same.

Extraoral Examination:

- Symmetrical face with convex profile.
- Lips: incompetent
- TMJ: bilaterally synchronous movements
- Lymph nodes: not palpable

Intraoral examination:

1 Soft tissue examination
Labial mucosa – Pink with shiny surface
Buccal mucosa – Pink with shiny surface
Floor of mouth – Normal
Tongue – Soft deposits present
Gingiva – coral pink in color, soft
Frenal attachment – Normal
Tonsils – No enlargement & inflammation

2 Hard tissue examination
Number of teeth present = 24
Dentition = mixed
Teeth present = 55, 54, 53, 12, 11, 21, 22, 63, 64, 65, 26, 71, 72, 73, 74, 75, 81, 82, 83, 84, 85
Dental age = 5 years
Occlusion = Mesial step on both sides
Overjet / Overbite = 8mm of open bite



3 Molar relationship:
Primary molar: mesial step on both sides.
Permanent molar: Angle's class I on both sides
Canine relationship: Class I on both sides.
Overbite

4 Maxillary arch
U shaped arch form
Completely erupted permanent 1st molars
Erupting right and left central as well as lateral incisors.

5 Mandibular arch
U shaped arch form
Completely erupted permanent 1st molars
Erupting right lateral incisor
Callus formation was seen over the thumb of left hand

Treatment: Treatment plan included parents counseling regarding motivating the child to stop the habit. Also aversive treatment was prescribed. On the second visit, the patient was willing to discontinue the habit by treatment. A modified blue grass appliance was planned. Molar bands were fabricated and adapted on maxillary molars. Alginate impression was taken and casts were poured with dental stone, over which molar bands were transferred. Stainless steel wire (0.9 mm) was adapted over the palate extending from either side of molars. Acrylic beads were made in laboratory using dental monomer and polymer. Later, beads were inserted into stainless steel wire over palatal rugae area. No contact was established by beads with palatal tissues.The wire was soldered to molar bands by protecting the beads. The appliance was cemented using luting cement. The patient was instructed to roll the bead with tongue whenever she feels like sucking her thumb. The patient was kept on followup every month for checkup. The child was comfortable with the appliance and played by rolling the beads with the tongue.

A 4 month followup showed reduction in the openbite also the the frequency of thumb sucking was reduced to 1-2 hrs/day, but the patient reported with broken appliance after 4 month. So again a new appiliance was fabricated and delivered. Follow up after seven months showed further reduction of openbite along with complete ceasation of habit.



Follow up after seven months

CASE 2

A nine year old girl reported to the department of Pediatric and Preventive Dentistry in the month of December 2017 with parents concerned about her finger sucking habit. The child was ranked the first between two siblings. Child was shy and reluctant to talk. Poor at school work. No notable medical history. Mother revealed that the child was practicing finger sucking habit regularly for 8-9 hrs/day during waking hours and unconsciously during sleep.

Child's mother revealed that the child would stop sucking her fingers if reminded, but was not practically possible to monitor all the time as she had another child to take care who was of 2 years old.

Extraoral Examination:

- Symmetrical face with convex profile.
- Lips: competent
- TMJ: bilaterally synchronous movements
- Lymph nodes : not palpable

Intraoral examination:

1) Soft tissue examination
- Labial mucosa – Pink with shiny surface
- Buccal mucosa – Pink with shiny surface
- Floor of mouth – Normal
- Tongue – Soft deposits present
- Gingiva – coral pink in color, soft
- Frenal attachment – Normal
- Tonsils – No enlargement & inflammation

2) Hard tissue examination
- No. Of teeth present = 24
- Dentition = mixed
- Teeth present = 16, 55, 54, 53, 12, 11, 21, 22, 63, 64, 65, 26, 71, 72, 73, 74, 75, 36, 81, 82, 83, 84, 85, 46
- Dental age = 5 years
- Occlusion = Mesial step on both sides

3) Molar relationship:
- Primary molar: flush terminal plane on both sides.
- Permanent molar: Angle's class I on both sides
- Canine relationship: Class I on both sides.
- Overjet: 2.5mm
- No crossbite seen.

Maxillary arch:
- U shaped arch form
- Completely erupted permanent 1st molars
- Erupting right lateral incisor.

Mandibular arch:
- U shaped arch form
- Completely erupted permanent 1st molars
- Occlusal caries with 75
- Tongue tie
- Callus formation was seen over the middle and ring fingers of her left hand.
- Impression models

Treatment plan:
- Behavior managementRestorative phase which include restoration of carious tooth. Orthodontic phase include interception of habit by constructing palatal crib habit breaking appliance Surgical phase- frenectomy.

- In the 1st visit parental counseling was done;Parents asked to motivate the child to stop the habit.Parents asked to give equal attention as that given to her younger sister.Parents asked to help the child in her school work.Ill-effects of thumb sucking habit pointed out to the child.
- In the 2nd visit Calcium Hydroxide pulpotomy with 75 under rubber dam application and the tooth was restored with glass ionomer cement.
- In the 3rd visit Molar bands fabricated and adapted on permanent maxillary 1st molars. Alginate impression taken and casts poured with dental stone over which molar bands transferred.Palatal crib fabricated with 19 gauge stainless steel wire and soldered over the bands.

  Aliakbar Bahreman. Early- age orthodontic treatment. pg no.131.
- Cementation of the appliance done.The child was emphasized that the appliance is not punitive.cThe patient was told that if her friends tease or ask about the appliance they can be told that it is for the purpose of "straightening my teeth". The parents were alarmed about potential problems in speaking or eating during the first 24 to 48 h, which are usual and self correcting. Parents were asked to give the child as much as emotional support as possible.
- After 2 month follow–up, The parents reported discontinuation of habit by the child within few days of placement of the appliance. Patient was asked to wear the appliance for next 6 months to avoid relapse of the habit.

  Maguire JA. The evaluation and treatment of pediatric oral habits. Dent Clin North Am. 2000; 44(3): 659–69.

Discussion:

- Blue grass appliance

  Developed as a non- punitive alternative to crib appliances in treating chronic digit sucking.

  The appliance is provided to children as a distractive toy which they can roll with their tongue instead of digit sucking.

  Although the appliance prevents the placement of the finger against the palate, its primary goal is not to impede digit sucking but to create a counter conditioning response to the original conditioned stimulus for thumb sucking.

  Haskell B. S., Mink J. R. An aid to stop thumb sucking: the 'Bluegrass' appliance. Pediatric Dentistry. 1991;13(2):83–85

- Palatal crib

  Palatal cribs covering the anterior 1/3rd of the palate are positioned according to the length of fingers inserted by the patient in the mouth.

  Cribs act as reminder.

  Posterior transpalatal wire provides further rigidity and prevents constriction of maxillary intermolar width through pressures placed on the fence by the tongue or digit.

  McDonald's and Avery's. Dentistry for the child and Adolescents. First South Asia Edition.


ADENOMATOID ODONTOGENIC TUMOUR
OUR CASE
POSITIVE POINTS:
NEGATIVE POINTS

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