

Dentigerous Cyst Associated with Impacted Ectopic Supernumerary Tooth Causing Nasal Floor Elevation in Anterior Maxilla - A Rare Case Report.

¹Dr. Punam Nagargoje, Reader in Department of Oral and Maxillofacial Surgery, in Maharashtra Institute of Dental Sciences and Research (Dental College) Latur.

²Dr. Minal Sonare, Resident in Department of Oral and Maxillofacial Surgery, in Maharashtra Institute of Dental Sciences and Research (Dental college) Latur.

³Dr. Gopal Nagargoje, Lecturer in Department of Oral and Maxillofacial Surgery, in Maharashtra Institute of Dental Sciences and Research (Dental college) Latur.

⁴Dr. Ajay Sorate, Resident in Department of Oral and Maxillofacial Surgery, in Maharashtra Institute of Dental Sciences and Research (Dental college) Latur.

⁵Dr. Paras Doshi, Resident in Department of Oral and Maxillofacial Surgery, in Maharashtra Institute of Dental Sciences and Research (Dental college) Latur.

⁶Dr. Priyanka Bhapkar, Resident in Department of Oral and Maxillofacial Surgery, in Maharashtra Institute of Dental Sciences and Research (Dental college) Latur.

Corresponding Author: Dr. Punam Nagargoje, Reader in Department of Oral and Maxillofacial Surgery, in Maharashtra Institute of Dental Sciences and Research (Dental college) Latur.

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Abstract

Altogether it's a very rare phenomena as only 5 % of dentigerous cyst are developed involving the super numerary teeth which puts the clinician in the diagnostic dilemma. It has propensity to enlarge and involve the surrounding soft tissues. Till now very few cases has been reported with difficulty in breathing because of nasal floor elevation.

we report the case of a 34- year -old male presented with Swelling over middle third of the face along with nasal obstruction on left side. His main concern was difficulty in breathing. CBCT scan showed well defined corticated cystic lesion associated with super numerary tooth suggestive of dentigerous cyst which was confirmed by his to pathological examination.

Surgical Enucleation with extraction of involved tooth was done under general anesthesia and lesion was removed in toto. Patient post operative period was uneventful. Such cases need a thorough clinical, radiographical to determine the boundaries and exact location of an involved tooth which will help us to come to a diagnosis and proper treatment planning.

Keywords: Dentigerous cyst, Impacted tooth, Supernumerary teeth.

Introduction

Paget suggested the term ‘‘Dentigerous cyst’’ in 1853 which is also known as follicular cyst. It is an odontogenic cyst caused by fluid accumulation between the reduced enamel epithelium and the enamel surface around a crown of an unerupted tooth¹. Dentigerous cysts usually found at first to fourth decade of life with slight male predilection. Usually cyst get enlarged from the hydrostatic pressure of its contents.

Most commonly are associated mandibular third molars, maxillary canines, mandibular second premolars and maxillary third molars. Dentigerous cysts which are associated with supernumerary teeth constitute 5%–6% and about 90% of them are dentigerous cysts associated with maxillary mesiodens².

It is usually an incidental finding on routine Radiographs if it is small and asymptomatic³ until they become large enough and destructive to be manifested clinically.

There are various treatment options for dentigerous cyst, ranging from marsupialisation to complete enucleation, including the exodontia of unerupted tooth⁴.

This article reports the case of a large dentigerous cyst associated with ectopic horizontally impacted supernumerary tooth causing left sided nasal obstruction of a 34- year -old male that was successfully treated with enucleation.

Case report

A 34- year- old male patient reported to Department of Oral and Maxillofacial Surgery with complaint of swelling over left side of face since 6 months. Patient noticed swelling over left side of face 6 month back which gradually increase to present size associated with dull aching pain. Patient received medication however no relief was obtained and the condition got worsen over of time with difficulty in breathing through left nostril. Patient took medication for recurrent sinusitis but didn't get any relief. On clinical examination, there was a diffuse swelling over left side of face with gross asymmetry. Obliteration of nasolabial fold was present. Swelling was firm in consistency and tender on palpation. Left nostril obliteration seen.

Intraoral clinical examination revealed there was swelling about of size 4 X 4 cm approximately extending from left central incisor to left first maxillary molar with normal overlying mucosa. Grade I mobility involving left maxillary lateral, canine and premolars and grade II with left Maxillary central incisor. A chair side aspiration showed chocolate brown coloured fluid.

On CBCT imaging, there was a large expansile lytic radiolucent well corticated lesion of size 4 X 4 cm involving left side of maxillary sinus with a horizontally placed unerupted supernumerary tooth leading to thinning of the overlying bone. We also noted presence of impacted mesiodens on right side in anterior maxilla [Figure 1]. We can appreciate the superior displacement of nasal floor on left side. [Figure 2]

Based on the clinical, aspiration and radio-logical findings came to a diagnosis of dentigerous cyst associated with a impacted mesiodens. We planned for the enucleation with extraction of associated impacted teeth under general anesthesia with apicectomy with 22, 23, 24 and 25 and extraction with 21.

Under General Anaesthesia, full thickness muco Perio steal flap was elevated from right first central incisor to left maxillary first molar region. We removed thin overlying bone and cystic lining was identified [Figure3]. The cyst was enucleated along with attached super numerary tooth [Figure 4]. Extraction of 21 and Apicectomy with 22,23,24 and 25 was done. Cavity was packed with Platelet rich fibrin (PRF) along with Gelfoam to aid haemostasis. The Wound was closed using 3-0 vicryl Suture.

On his to patho logical examination revealed it as a dentigerous cyst with mesiodens.

The patient was kept on antibiotic and analgesic coverage for 5 days. The patient was on periodic evaluation and was followed up for 6 months with no fresh complaints. [Figure 5 and 6].

Discussion

Dentigerous cysts account for approximately 16.6% of all jaw cyst and 95 % involving permanent dentition⁵. Daley et al., reported an incidence rate of 0.1–0.6%, whereas Shear found the incidence to be 1.5%. Browne in is study found the frequency of these impacted teeth developing a dentigerous cyst is around 0.5% and 1.1% respectively Mesiodens, first named by Bolk in 1917, is the most frequent type of supernumerary tooth and is situated in the maxillary anterior incisors region⁶. Mesiodens, with an overall prevalence of 0.15-1.9%, when fail to erupt, is responsible for causing a sequelae of patho logical situations like median diastema, dentigerous cyst and delayed eruption⁷⁻⁹.

Occasionally, an unerupted tooth may erupt into the maxillary antrum and the patient will present with local Sino nasal symptoms attributed to recurrent or chronic sinusitis. When it takes extensive nature may cause different potential complications, which are in case of maxillary sinus; sinusitis⁴, in case of orbital involvement

blindness⁵, in case of nasal cavity involvement nasal airway obstruction occurs². In our case, there was a painless facial swelling, unilateral nasal obstruction with Chronic sinusitis as the symptoms.

Radio graphically cyst appears unilocular, well defined corticated radiolucency enclosing the tooth to know the exact location of tooth and level of nasal floor displacement also helps in ruling out solid or fibro-osseous lesions, displays bony details, and gives the exact information about the size, origin, content, expansion of cortical plates, and relationship of lesions to adjacent anatomical structures. In our case there was a large expansile lytic radiolucent well corticated lesion. Hence we advised CBCT which contributed for patient appraisal and the proper Surgical planning.

There have been various treatment modalitis for dentigerous cyst. Depending on the size, involvement of the surrounding soft tissues and location of an associated unerupted tooth influence the type of treatment to be done. It could be marsupialization in larger cyst to avoid damage to permanent teeth, enucleation of cyst along with removal of involved tooth. The resulted bony defects following enucleation of cysts and cyst-like lesion can be left for spontaneous bone healing or it may need a grafting material to fill the defect.

Choukroun et al. was first described the Platelet-rich fibrin (PRF) which is a second-generation platelet concentrate that allows to obtain fibrin membranes enriched with various factors such as platelets and growth factors. Our study was in coincidence with Saluja et al and Gupta et al who announced that PRF was considered one of the most promising bio materials for its easy technique and the wide use in different surgical applications.

In present case, Surgical enucleation of dentigerous cyst along with removal of involved mesiodens with placement of PRF was performed⁸.

We performed a surgical enucleation of dentigerous cyst with removal of involved mesiodens with placement of PRF to speed up the healing process⁸. Complete removal of cyst also resolved difficulty in breathing and sinusitis symptoms.

Conclusion

Dentigerous cyst with impacted mesiodens is a un common phenomenon which is difficult to diagnosed clinically so it is rare entity. To prevent further associated symptoms with involvement of adjacent structure needs a through clinical as well as radio graphical work up for diagnosis and proper treatment planning. Subsequent follow up should be carried out for further evaluation if needed.

Declarations

The manuscript has been read and approved by all the authors, that the requirements for authorship as stated earlier in this document have been met, and that each author believes that the manuscript represents honest work.

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Legends



Figure 1: Orthopantomogram view in CBCT Scan showing unilocular well defined radiolucency associated with impacted Supernumerary tooth

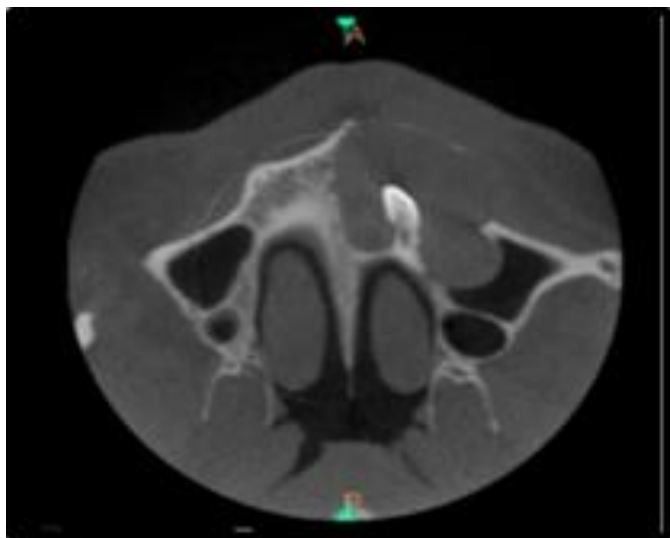


Figure 2: Axial and Sagittal view in cone Beam Computed Tomography to see the extent lesion.



Figure 3: Intra operative lesion with thinning of buccal cortical plate.

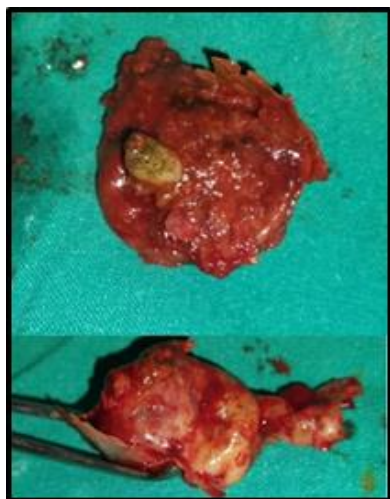


Figure 4: Complete Excision of Lesion showing Supernumerary tooth.



Figure 5: Post operative OPG - 1 month follow up.



Figure 6: Post operative OPG 6 month follow up