



DENTIGEROUS CYST ASSOCIATED WITH ECTOPICALLY PRESENT TEETH INVOLVING MAXILLARY SINUS IN A 9 YEAR OLD CHILD – A CASE REPORT

Viral Parmar^{*1}, Sahil Timbake² and Swapnil Garde³

Post-Graduate Students, Sinhgad Dental College and Hospital, Pune, Maharashtra India.

*** Corresponding Author: Viral Parmar**

Post-Graduate Students, Sinhgad Dental College and Hospital, Pune, Maharashtra India.

Article Received on 13/07/2016

Article Revised on 03/08/2016

Article Accepted on 23/08/2016

ABSTRACT

A dentigerous cyst is amongst the most common pathologies associated with unerupted teeth and known to cause displacement of developing tooth bud in ectopic position. We report a rare case of dentigerous cyst arising from an unerupted premolar and incisor which had invaded a part of the maxilla in a 9-year-old child. The clinical features, radiographic presentation and the treatment modality are described.

KEYWORDS: dentigerous cyst, ectopic teeth, enucleation, Caldwell-Luc approach, marsupialisation.

INTRODUCTION

Tooth development occurs as a result of ectomesenchymal interaction. Abnormality in following results in ectopic tooth formation and ectopic eruption which results in formation of pathologies such as cyst or tumor.

Cysts are classified as odontogenic and non-odontogenic. Further odontogenic cysts are classified as inflammatory and non-inflammatory.^[2]

Dentigerous cysts surrounding impacted teeth often displace these teeth into ectopic positions. In the maxilla, these teeth are often displaced into the maxillary sinus. The dentigerous cyst progresses slowly and may exist for several years without being noticed.^[3] When the maxillary sinus is invaded, symptoms usually occur late in the process. The sequelae of these cysts and ectopic teeth vary and may cause obstruction of the sinus. Standard treatment for dentigerous cyst include enucleation and extraction of causative ectopic tooth. For large cyst first marsupialisation followed by enucleation of cyst is usually carried out. We have reported a case of dentigerous cyst associated with ectopically placed teeth in maxillary sinus.

CASE REPORT

A 6 year old patient reported to oral and maxillofacial surgery department with history of swelling for 1 year in right cheek. General examination revealed no abnormal finding. Medical history was not relevant. On physical examination it was found that the swelling was associated with right maxilla which increased in size over a year. On intraoral examination swelling was

present which obliterated right maxillary vestibule extending from right lateral incisor region till second primary molar region (fig. 1). It was associated with egg shell crackling.



FIG 1: Intraoral photograph revealing swelling in right maxillary vestibular region

Computed tomography and orthopantomogram showed a well-defined unilocular radiolucency involving the apices of right maxillary primary teeth and multiple ectopically positioned teeth in right maxillary antrum region and expanding buccal cortex. There was considerable displacement of permanent teeth especially upper right canine which was located near floor of orbit. (FIG 2, 3).



FIG 2: orthopantomogram

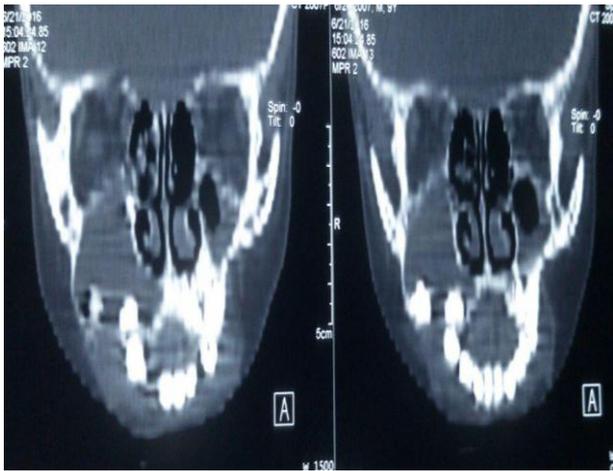


FIG 3: CT scan

Cyst was enucleated using Caldwell-Luc procedure under general anesthesia and the ectopically positioned 11 and 13 teeth were extracted at same time (fig 4). Biopsy sample was sent for histopathological examination and it was confirmed that it was dentigerous cyst associated with ectopically erupted teeth. Patient underwent follow up of 3 months and along with removable prosthesis with 11 and there was no evidence of recurrence clinically as well as radiographically. Removable plate aided in healing and would also help in development of alveolar bone and esthetics.

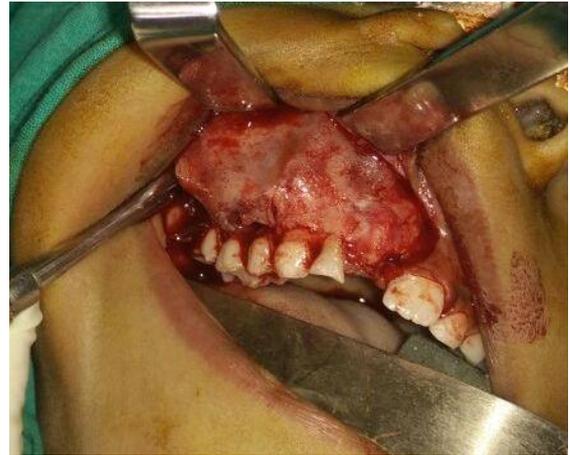


FIG 4: Intraoperative photographs

DISCUSSION

It is rare to have dentigerous cyst in regions other than oral cavity. Amongst the other sites maxillary sinus is seen to be common site. There are many theories proposed for ectopic eruption of teeth which include infection, trauma, developmental anomalies and pathologies such as dentigerous cyst as in this case. Dentigerous cyst develops by the accumulation of fluid either between the reduced enamel epithelium and the enamel or in between layers of the enamel organ. This fluid accumulation occurs as a result of the pressure exerted by an erupting tooth on an impacted follicle.^[9] The second type is inflammatory origin and occurs in immature teeth as a result of inflammation from a non-vital deciduous tooth. The origin of the dentigerous cyst can be overlying necrotic deciduous tooth.^[6] The resultant periapical inflammation will spread to involve the follicle of an unerupted permanent successor; inflammatory exudates ensue and result in dentigerous cyst formation.

Ectopic teeth in sinus can cause obstruction in sinus canals and can cause sinusitis but here ectopic tooth was not interfering with drainage of sinus.^[5] Dentigerous cyst in maxillary sinus can cause pressure on nasal and orbital walls and results in symptoms like epiphora, diplopia, orbital proptosis.^[8]

Various diagnostic radiographs are prescribed for dentigerous cysts such as panoramic radiograph, waters view. But exact position of ectopic tooth, extent of lining of cyst is accurately visualized in CT scan and it is also helpful in treatment planning.^[1] Dentigerous cyst is reported to be associated with mandibular third molar most commonly, but it can also be associated with canine, premolar, odontome like structure. Differential diagnosis for dentigerous cyst can be odontogenic keratocyst, radicular cyst, ameloblastoma, pindborg's tumour, residual cyst etc.

Treatment option for dentigerous cyst is enucleation of cystic lining with extraction of causative tooth. In cases of cyst involving maxillary sinus enucleation is done using Caldwell-Luc approach. Marsupialisation of cyst is also advised for promoting eruption of ectopically erupted teeth. Also endoscopically assisted approach for sinus can also be taken as it is less traumatic than Caldwell- luc procedure.

CONCLUSION

This case report describes a cystic lesion in a young patient that was successfully managed with Caldwell-Luc surgery. In this case patient did not have such a history or anatomical malformation. There was also no abnormal findings in the dentition or occlusion. This suggests that it is a probably developmental in origin. Regular follow up is needed for this case along with evaluation of this case for prosthetic rehabilitation for optimal and functional occlusion to be achieved.

REFERENCES

1. M. C. Buyukkurt, M. M. Omezli, O. Miloglu. Dentigerous cyst associated with an ectopic tooth in the maxillary sinus: a report of 3 cases and review of the literature: *Oral Surg Oral Med Oral Pathol Oral Radiol Endod.* 2010; 109: 67-71.
2. Kevin Arce, Christopher S. Stref, Kyle S. Ettinger. Pediatric Odontogenic Cysts of the Jaws: *Oral Maxillofacial Surg Clin N Am*, 2016; 28: 21–30.
3. Srinivasa Prasad T, Sujatha G, Niazi TM, Rajesh P. Dentigerous cyst associated with an ectopic third molar in the maxillary sinus: a rare entity. *Indian J Dent Res.*, 2007; 18: 141-3.
4. Buyukkurt MC, Tozoglu S, Aras MH, Yolcu U. Ectopic eruption of a maxillary third molar tooth in the maxillary sinus: a case report. *J Contemp Dent Pract*, 2005; 6: 104-10.
5. Di Pasquale P, Shermetaro C. Endoscopic removal of a dentigerous cyst producing unilateral maxillary sinus opacification on computed tomography. *Ear Nose Throat J*, 2006; 85: 747-8.
6. Luciano Alberto de Castroa, Sergio Ricardo Campos Maiab. *Revista Portuguesa de Estomatologia, Medicina Dentária e Cirurgia Maxilofacial: revportestomatolmeddentcir maxilo fac.* 2012; 53(1): 24–28.
7. Saadetin dagistan, binali cakur, a dentigerous cyst containing an ectopic canine tooth below the floor of the maxillary sinus: a case report: *journal of oral science.*
8. Utkan kamil akyol, ilknur akyol salman. A case of an extensive dentigerous cyst in the maxillary sinus Leading to epiphora and nasal obstruction: *the journal of emergency medicine*, 2012; 43(6): 1004–1007.
9. D. S. R. Pramod, Jeevendra Nath Shukla. Dentigerous cyst of maxilla in a young child: *Natl J Maxillofac Surg.* 2011 Jul-Dec; 2(2): 196–199.