

A Rare Case report on Dentigerous Cyst Associated with Impacted Supernumerary Tooth

Jadi Lingaiah¹, Ramtenki Nishanth², Vamshi Krishna Rao K³, Deepak Kumar Phulwani⁴

¹ Professor

² Assistant Professor

Department of
Oral Maxillofacial Surgery

³ Assistant Professor

⁴ Post Graduate Student

Department of
Otorhinolaryngology &
Head and Neck Surgery
Chalmeda Anand Rao
Institute of Medical Sciences
Karimnagar, 505001
Telangana, India.

CORRESPONDENCE :

² Dr Ramtenki Nishanth

Assistant Professor

Department of
Oral Maxillofacial Surgery

Chalmeda Anand Rao
Institute of Medical Sciences
Karimnagar, 505001
Telangana, India.

Email:

andrewnishanth@gmail.com

ABSTRACT

Dentigerous cyst is an odontogenic cyst of developmental origin, formed due to collection of fluid between reduced enamel epithelium and enamel surface of a formed tooth. In a case of dentigerous cyst the history and radiological investigations suffice and leads to diagnosis and a treatment plan. Here, we report a case of a 7 year old boy with painless swelling in right upper jaw since 1 month, on examination and further investigations, it was found to be a case of dentigerous cyst of an impacted maxillary supernumerary tooth, which is a rare entity. During surgical exploration 2 supernumerary teeth were found which were surgically removed with enucleation of the cyst. It is quite rare to see dentigerous cyst caused due to a supernumerary tooth and here in this case, there were 2 supernumerary teeth, thus making it a rare entity requiring a detailed discussion and publication for the same.

Keywords: Impacted supernumerary tooth, dentigerous cyst, trapezoidal flap

INTRODUCTION

Dentigerous cyst is formed due to collection of fluid between reduced enamel epithelium and enamel surface of a formed tooth.

The association of a dentigerous cyst with supernumerary teeth constitutes only 5–6% of all dentigerous cysts.^[1] We report such a case of dentigerous cyst of impacted supernumerary tooth which was treated by enucleation

along with removal of both the impacted supernumerary teeth.

Presence of supernumerary tooth in permanent dentition varies from 0.1% to 3.6% in the general population.^[2] According to Brook Supernumerary Tooth were present in 2.1% of permanent dentitions.^[3] A retrospective study by Asaumi et al. revealed that midline diastema was present in 10% of cases with Supernumerary Tooth.^[4] Dentigerous cysts cause a variety of problems such as

swelling due to bone expansion, impaction of involved teeth, displacement of adjacent teeth and structure, and are sometimes associated with carcinomatous transformation.^[5] Similar complaints of swelling, impaction, displacement of adjacent teeth were seen in our case.



Figure 1: Showing external appearance of cyst.

CASE REPORT

A 7 year-old boy reported to the Department of ENT with chief complaint of a painless swelling in the right upper jaw since 1 month. There was no history of trauma and patient observed a swelling above the right maxillary canine that gradually increased in size over the period of 1 month after which he came to our OPD.

Intraoral clinical examination revealed a firm, diffused swelling above right maxillary canine which was not moveable in any direction. The palatal and labial mucosa were normal.

Differential Diagnosis

On the basis of these clinical findings, differential diagnosis included: Dentigerous cyst, Adenomatoid odontogenic tumour, Nasopalatine cyst, Eruption cyst, Radicular cyst (periapical cyst), Lateralized radicular cyst.

Investigations

Radiographic investigations were carried out to confirm type and extent lesion. The panoramic radiograph (OPG) revealed the lesion extended from the right canine to right first premolar region. A supernumerary tooth was visible in the right aspect of the cyst, resulting in resorption of cortical bone at this region. Computed tomography scans showed a hypodense image, well-defined, associated to

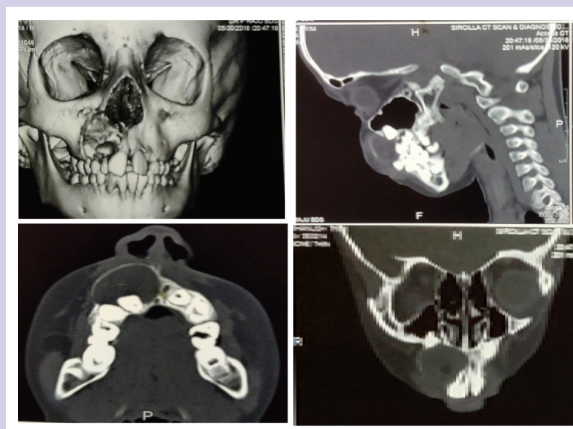


Figure 2: CT scan of Head and Neck showing well defined cyst.

unerupted teeth which was extending towards the floor of maxillary antrum.

Treatment

On the basis of clinical presentation and investigations the final diagnosis was made out to be dentigerous cyst associated with a supernumerary tooth. The lesion was totally enucleated together with both the supernumerary teeth under general anesthesia. Trapezoidal flap was



Figure 3 : Illustrating the incision of Trapezoidal flap.

created after giving an inverted U shaped incision, which is formed by horizontal incision along the gingivae and two oblique vertical releasing incisions.

DISCUSSION

Approximately 16.6% of all jaw cysts are dentigerous



Figure 4 : Showing first supernumerary tooth.

The patient was followed up for 4 months. The post operative period was uneventful. Patient was then sent for orthodontic opinion for malposed teeth.

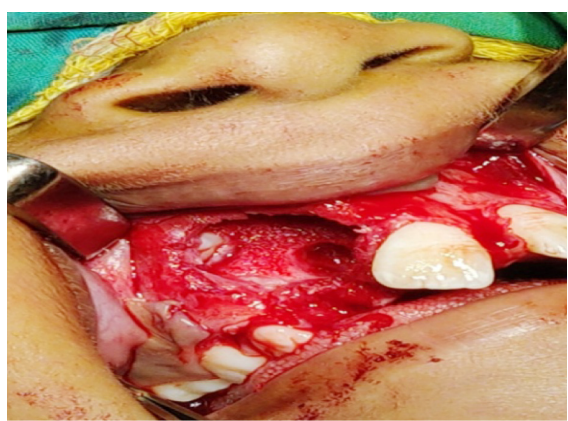


Figure 5: Showing second supernumerary tooth.

cysts. The association of a dentigerous cyst with supernumerary teeth constitutes only 5–6% of all dentigerous cysts.^[1] The cyst is generally found in individuals between 10 and 30 years of age, affecting males predominantly at rate of 1.6:1.^[6,7] Supernumerary teeth often cause developmental and eruption disturbances of adjacent permanent teeth e.g. crowding, displacement, diastema, radicular resorption and dentigerous cyst formation.^[8,10]

Dentigerous cysts are easily diagnosed radiographically because of their radiopaque image. CT tells the exact location of the impacted tooth, the full extent of the lesion and helps to identify erosion of cortical bone and invasion into adjacent soft tissues, so contributing to proper treatment planning.^[11] Radiographically, dentigerous cyst



Figure 6: Extracted supernumerary teeth with enucleated cyst wall.



Figure 7: Post op picture after 2 weeks.

appear as well-defined unilocular or multilocular radiolucency enclosing the crown of an unerupted tooth.^[6]

The standard treatment for a dentigerous cyst is Enucleation along with extraction of the associated supernumerary tooth.^[12,13] Isolated lesions in young patients, where preservation of the teeth is required, marsupialization is the preferred treatment option.^[14] In the present case, surgical removal of the impacted supernumerary teeth and enucleation of the associated cyst was performed.

CONCLUSION

Impacted supernumerary teeth are more prone to pathology as in this case, so to avoid complications like palatal fistula, oro antral fistula early diagnosis and proper treatment plan is necessary.

CONFLICT OF INTEREST:

The authors declared that no conflict of interest.

FUNDING: None

REFERENCES

- Sharma D, Garg S, Singh G, et al. Trauma-induced dentigerous cyst involving an inverted impacted mesiodens: case report. *Dent Traumatol.* 2010; 26:289-91.
- Humerfelt D, Hurlen B, Hummerfelt S. Hyperdontia in children below four years of age: A radiographic study. *ASDC J Dent Child.* 1985; 52:121-4.
- Brook AH. Dental anomalies of number, form and size: Their prevalence in British school children. *J Int Assoc Dent Child.* 1974; 5:37-53.
- Asaumi JI, Shibata Y, Yanagi Y, Hisatomi M, Matsuzaki H, Konouchi H, et al. Radiographic examination of mesiodens and their associated complications. *Dentomaxillofac Radiol.* 2004; 33:125-7.
- Schafer WG, Hine MK, Levy BM. Cysts and tumors of odontogenic origin. *Textbook of Oral Pathology.* 4th ed, WB Saunders, 2003:258-318.
- Zhang LL, Yang R, Zhang L, et al. Dentigerous cyst: a retrospective clinicopathological analysis of 2082 dentigerous cysts in British Columbia, Canada. *Int J Oral Maxillofac Surg.* 2010; 39:878-82.
- Regezi AJ, Sciubba JJ, Jordan RC. *Oral Pathology: Clinical-Pathologic Correlations.* 5th ed. St. Louis: Saunders; 2008:242-4.
- Awang MN, Siar CH. Dentigerous cyst due to mesiodens: report of two cases. *J Ir Dent Assoc.* 1989; 35:117-18.
- John T, Guna Shekhar M, Koshy M, et al. Dentigerous cyst associated with supernumerary teeth: a report of three cases. *J Clin Diagn Res.* 2010; 4:2601-6.
- Stafne EC. Supernumerary upper central incisor. *Dent Cosmos.* 1931; 73:976-80.
- Jiang Q, Xu GZ, Yang C, et al. Dentigerous cysts associated with impacted supernumerary teeth in the anterior maxilla. *Exp Ther Med.* 2011; 2:805-9.
- Garvey MT, Barry HJ, Blake M. Supernumerary teeth: an overview of classification, diagnosis and management. *J Can Dent Assoc.* 1999; 65:612-16.
- Kumar N, Rama Devi M, Vanaki S, et al. Dentigerous cyst occurring in maxilla associated with supernumerary tooth showing cholesterol clefts? A case report. *Int J Dent Clin.* 2010; 2:39-42.
- Jena AK, Duggal R, Roychoudhury A, Parkash H. Orthodontic assisted tooth eruption in a dentigerous cyst: A case report. *J Clin Pediatr Dent.* 2004; 29:33-5.