

Dentigerous cyst associated with mesiodens in maxilla: A rare case report

¹Dr. Punam N Nagargoje, senior lecturer in department of oral and maxillofacial surgery, MIDSR Dental College, Latur.

²Dr. Pravin Andhare, resident department of oral and maxillofacial surgery, MIDSR Dental College, Latur.

³Dr. Amol M Doiphode, professor in department of oral and maxillofacial surgery, MIDSR Dental College, Latur.

⁴Dr. Samruddhi Danve, resident department of oral and maxillofacial surgery, MIDSR Dental College, Latur.

⁵Dr. Gopal L Nagargoje, senior lecturer in department of oral and maxillofacial surgery, MIDSR Dental College, Latur.

⁶Dr. Ruchika Raj, senior lecturer in department of oral and maxillofacial surgery, MIDSR Dental College Latur.

Corresponding Author: Dr. Punam N Nagargoje, senior lecturer in department of oral and maxillofacial surgery, MIDSR Dental College, Latur.

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Abstract

A dentigerous cyst is a developmental odontogenic cyst, which apparently develops by accumulation of fluid between the reduced enamel epithelium and the crown of an unerupted tooth. Through various cases that have been reported, it is observed that 95% of this cyst is associated with permanent dentition while only 5-6% is in association with supernumerary teeth. Mesiodens, a supernumerary tooth situated between the maxillary central incisors, has a prevalence of 0.15-1.9%. Dentigerous cysts associated with impacted mesiodens present an extremely rare entity. Here, a dentigerous cyst in association with impacted mesiodens is reported in a 16-year-old female patient.

Keywords: Dentigerous cyst, mesiodens, supernumerary tooth.

Introduction

Dentigerous cysts are the most common developmental odontogenic cysts (10%), arising in relation to impacted and rarely in association with impacted supernumerary teeth, caused by expansion of the follicle, being attached to its neck.[1]

Supernumerary teeth are present in 0.8% of primary dentitions and in 2.1% of permanent dentitions. Dentigerous cyst are rarely associated with supernumerary teeth.[2] The usual age of clinical presentation of dentigerous cyst with supernumerary tooth is in the first 4 decades. The highest incidence of dentigerous cysts occurs during the second and third decades (Shear, 1992).

Dentigerous cysts around supernumerary teeth account for 5% of all dentigerous cysts, mostly developing around

a mesiodens in the anterior maxilla and palate.[3] Usually, they are asymptomatic and often diagnosed accidentally in routine radiographs until they become large enough and destructive to be manifested clinically. Characteristic histological features include thin epithelial lining backed by loose connective tissue wall simulating ectomesenchyme.[4] Treatment of these cysts ranges from marsupialization to enucleation;[5]

We are reporting a case describing an unusual entity of a dentigerous cyst associated with impacted maxillary mesiodens is presented.

Case report

A 16-year-old female patient reported to the Department of Oral, Maxillofacial Surgery of MIDS Dental College and Hospital, Latur with a chief complaint of pain and swelling over the upper front region of the face since 6 months. The swelling was gradual and progressive as noted by the patient till the time of presentation. There was no history of trauma. No episode of discharge from the site was reported by the patient. Patient has hypothyroidism since 1 year and is under medications for same.

On intraoral clinical examination, a solitary, well-defined, fluctuant, oval swelling was noted in relation to the maxillary right canine region to the left canine and up to anterior part of the hard palate, with regional teeth mobility, measuring approximately 4 cm × 3cm. The overlying mucosa was tensed but without any secondary ulcerative or degenerative changes [Figure 1] Diffuse swelling also present with maxillary labial frenum of size approx. 2cm×1cm extending into labial sulcus. On palpation, the swelling was soft in consistency with a smooth surface. It was tender with no pulsations; no egg-shell crackling was evident. Overlying mucosa was bluish with no rise in local temperature.

CBCT showed presence of impacted mesiodens with cystic lesion surrounding the crown of mesiodens suggestive of dentigerous cyst with mesiodens.[Figure 2] Routine hematological investigations revealed normal values. The swelling was aspirated using a large bore needle and the straw-colored fluid revealed inflammatory infiltrate chiefly lymphocytes and RBCs.

It was planned to treat the lesion with surgical enucleation and removal of mesiodens. An intraoral palatal crevicular incision was placed from maxillary right 1st premolar to left 1st premolar under local anesthesia. A full thickness mucoperiosteal flap was reflected followed by complete removal of lesion along with the impacted mesiodens.[Figure 3] Flap was repositioned and closure with 4-0 vicryl done. Her postoperative period was uneventful. [Figure 4]

The patient is now on periodic evaluation and doing well.

Discussions

Dentigerous cyst is one that encloses the crown of an unerupted tooth by expansion of the follicle which is attached to its neck.[1] It may also occur around unerupted supernumerary tooth; but rarely with primary dentition.[7] In our case, we had the association of dentigerous cyst with impacted mesiodens.

A cystic swelling of the hard palate may be the result of different kinds of cysts: Odontogenic, Non Odontogenic or Bone cysts. Dentigerous cyst is associated with mesiodens usually located in anterior maxilla or palate as in this case it was caused by a maxillary impacted supernumerary tooth, leading to the swelling in the mid palatal region. Hence it should be carefully differentiated from other mid palatal swellings.

Radiographically, these cysts appear as unilocular radiolucent areas involving the crown of unerupted teeth, with well defined sclerotic margins and occasional trabeculations, giving impression of multilocularity.[1] In

our case, we had a unilocular cystic lesion in the anterior maxillary region. However, dentigerous cysts are grossly unilocular lesion and never truly multilocular.[1]

Radiographic examination is indicated for diagnosis of mesiodens. The mesiodens are known to have short roots and conical crowns. Their location, number, direction of the crown, influence on adjacent teeth, resorption of roots, etc., should be carefully observed.[6] Most mesiodens are usually palatal in position to the permanent incisors as in our case. Resorption of root by mesiodens is rarely observed. In our case, we did not see pronounced root resorption, but regional tooth displacement had been noted.

In addition to its potential for bone destruction and because of the multipotential nature of this epithelium derived from the dental lamina, several entities may arise or be associated with the wall of a dentigerous cyst.

The nature of the causative tooth influences the type of surgical treatment required for dentigerous cyst. If the cyst is associated with a supernumerary or wisdom tooth, complete enucleation along with tooth extraction is advisable. Proper clinical examination, radiological evaluation and histopathological confirmation, followed by surgical management and subsequent follow-ups are a key to its successful therapy. As in our case, the cyst was associated with impacted mesiodens; hence enucleation with extraction had been done.[7]



Fig. 1: Pre-Operative intraoral image

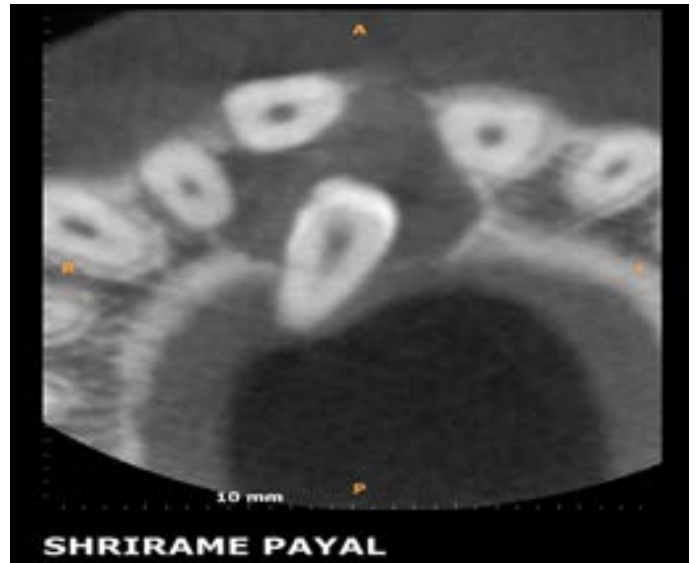


Fig. 2: Pre-Operative radiograph



Fig. 3: Cyst Enucleation along with Mesiodens



Fig. 4 : Post-Operative

Conclusion

A rare case of dentigerous cyst arising from impacted supernumerary tooth and presenting as swelling involving the midpalatine rugae region was described. It should be carefully distinguished from other mid palatal swellings.

References

1. Shear M, Speight P. Cysts of Oral and Maxillofacial Region. 4th ed. Blackwell Publishing Ltd. 2007. p. 59-74
2. Lustmann J, Bodner L: Dentigerous cysts associated with supernumerary teeth; Int J Oral Maxillofac Surg 1988; 17:100 - 102.
3. Von Arx T: Anterior maxillary supernumerary teethA clinical and radiographic study; Australian Dental Journal 1992; 37(3): 189-195
4. Baranwal HC, Verma PK, Dwivedi CD, Srivastava R. Dentigerous cyst associated with an impacted maxillary mesiodens. Eur J Gen 2012;1:50-3.
5. Kiso H, Ando P. Dentigerous cyst associated with a supernumerary tooth in the nasal cavity — A case report. J Maxillofac Surg Oral Med Oral Pathol 2015;27:33-7.
6. Navarro BG, Jané Salas E, Olmo IT, I Muñoz AF, Juarez Escalona I, López-López J. Maxillary dentigerous cyst and supernumerary tooth. Is it a frequent association? Oral Health Dent Manag 2014;13:127-31.
7. Motamedi MH, Talesh KT. Management of extensive dentigerous cysts. Br Dent J 2005;198:203-6