Dentigerous Cysts of Inflammatory Origin-A case report
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Abstract
The purpose of this case report is to describe the management of dentigerous cyst in mandibular left posterior region associated with unerupted second premolar seen in 10 year old female patient. Radiographic examination revealed well defined radiolucency associated with second premolar and the non vital deciduous molar. The cyst cavity was lined with nonkeratinized squamous epithelium, and odontogenic epithelial islands were seen in subepithelial connective tissue. Treatment was planned to enucleate the cyst along with non vital left mandibular second deciduous tooth and unerupted second premolar.

INTRODUCTION
Dentigerous cyst is the second most common cyst of the oral cavity after radicular cyst. A dentigerous cyst is one that encloses the crown of an unerupted tooth by expansion of its follicle and is attached to the neck of the tooth (Shear, 1992). It accounts for 24% of all the true jaw cyst with frequency of 1.44 cyst for every 100 unerupted tooth in general population and it is usually associated with any of the unerupted tooth but mandibular third molars are most commonly associated.

It is also been reported that progressing inflammation from the root apex of the deciduous tooth brings about the development of the dentigerous cyst around the unerupted permanent tooth. This finding suggests that the teeth treated with RCT for pulpal and periapical infection may become involved in development of dentigerous cyst.

One such case of inflammatory dentigerous cyst seen in left mandibular posterior region associated with pulpally treated deciduous tooth is presented in this article, which was treated by enucleation of the cyst along with the unerupted mandibular second premolar.

CASE REPORT
A 10 year old girl reported to the department of pediatric dentistry, Darshan dental college and hospital, with chief complaint of swelling in the lower left posterior region of the face which was noticed since from 1 month. Other wise the child was physically healthy with no significant medical history.

Intraoral examination revealed a pulpally treated mandibular left deciduous second molar with circumscribed swelling of about 2 X 3 cm extending from the distal side of first deciduous molar to the mesial side of the permanent first molar region in the mandibular left side along the vestibule (Figure 1). On palpation swelling was painless and firm.

Radiographic examination revealed well defined radiolucency in the region of second deciduous molar surrounding the second premolar tooth bud (Figure 2). An aspiration biopsy was done which presented a straw coloured fluid. Provisional diagnosis of dentigerous cyst was made.

Figure 1
Figure 1. intraoral view of the swelling

Figure 2
Figure 2. radiograph showing well defined radiolucency surrounding the second premolar tooth bud
Surgical enucleation of the cyst was planned and patient was operated under the local anesthesia. Intra orally buccal flap was reflected and the lesion was exposed by removing the expanded thinned out bone, followed by enucleation of the cyst (Figure 3a & 3b).

Cystic sac enclosed the second premolar tooth firmly at the cervical margin (Figure 4). Along with enucleation of the cyst extraction of the pulpally treated second deciduous tooth was also done.

Fallowing proper hemostasis, flap was repositioned and sutured after making sure that there existed no pathological tissue (Figure 5). Provisional diagnosis of dentigerous cyst was confirmed as the cyst was enclosing the unerupted second premolar. Sutures were removed after 7 days.
The cystic lesion was submitted for the histopathological examination which revealed cyst cavity to be lined with nonkeratinized squamous epithelium, and odontogenic epithelial islands were seen in subepithelial connective tissue along with presence of inflammatory cellular infiltration in the epithelial lining (Figure 6). Follow up of the case after 2 months showed good healing of the surgical site and the bone (Figure 7a & 7b).

**DISCUSSION**

Occurrence of Dentigerous cysts according to shear is usually in 3rd and 4th decade, in contrast to this finding Y Shibata et al showed that the age of discovery of the dentigerous cyst was generally 9–11 years. Our patient was also 10 year old; this difference in the age wise prevalence of dentigerous cyst may be attributed to the difference in the ethnicity of the population examined.

Dentigerous cyst is seen associated with 3rd mandibular molars, but in our case the cyst was associated with unerupted mandibular second premolar and the same finding were reported in the previous study on the japanese, where lower premolars is the most common site of occurrence of dentigerous cyst.
According to Benn and Altini (1996), three feasible mechanisms exist for histogenesis of the dentigerous cyst. Developmental dentigerous cyst forms from dental follicle and becomes secondarily inflamed and the source of inflammation is usually a non-vital tooth. The second type develops from Radicular cyst which forms at apex of a non-vital deciduous tooth. The permanent successor erupts into radicular cyst and results in dentigerous cyst that is extrafollicular in origin. Third type is due to periapical inflammation from non-vital deciduous tooth or other source which spreads to involve follicle of permanent successor, as a result of inflammatory exudate, dentigerous cyst formation occurs as seen in our case.

It is been suggested that marsupialization of the cyst lining is the treatment of choice for dentigerous cyst in children in order to give a chance to the unerupted tooth to erupt, but in our case cystic sac was surrounding the unerupted premolar and was firmly attached to it. So it was decided to do enucleation of the cyst. Two months post operative result showed good prognosis of the case.

**CONCLUSION**

As dentigerous cysts are asymptomatic they can attain considerable size with out the notice of the patient and this warrants the early clinical and radiographic detection of the cyst so that early treatment strategies will prevent or decrease the morbidity associated with the same.

**References**

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