Dentigerous Cyst Associated With Mesiodens: A Rare Case Report
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Abstract
Dentigerous cyst is a developmental odontogenic cyst, which apparently develops by accumulation of fluid between reduced enamel epithelium and the tooth crown of an unerupted tooth. Dentigerous cyst associated with supernumerary tooth and mesiodens is rare. The usual age of clinical presentation of dentigerous cyst due to supernumerary tooth is during the first four decades. We report a rare case of dentigerous cyst in association with mesiodens in a young male.

Key Words: Dentigerous Cyst; Mesiodens; Odontogenic Cyst; Supernumerary Tooth

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Introduction
Dentigerous simply means ‘containing teeth’. (1) A dentigerous cyst is one which encloses the crown of an unerupted tooth by expansion of its follicle and is attached to the neck. (2) Dentigerous cysts are the most common benign odontogenic cysts of developmental type that are usually single in occurrence. However multiple dentigerous cysts are also reported. They are usually associated with an impacted tooth and develop after the complete formation of the crown. They most commonly involve the mandibular third molars or the maxillary canine, followed by the mandibular premolars. The involvement of incisors and supernumerary teeth are rare. (3) This paper report a rare case of dentigerous cyst in association with mesiodens in a young male.

Case Report
A healthy boy of sixteen years presented with a chief complaint of painful swelling on the right side of the face since 8-10 days. Initially the swelling was small with occasional dull pain. The swelling and pain had gradually increased leading to discomfort. His systemic history, trauma and family history were not significant. Extra oral examination showed gross asymmetry of the face due to the swelling on the right side. The swelling was hard, diffuse, tender and of ovoid shape approximately measuring around 4cm x 5cm extending from midline and right lateral wall of the nose, mildly obliterating the nasolabial fold and philtrum of the lip to about 1 cm inferior to the infraorbital margin and outer canthus of the eye. Mild obliteration of right nare was observed. The lips were incompetent. The right submandibular lymph node was palpable and tender. Intra oral examination revealed a well-defined hard, tender and ovoid swelling involving labial and palatal aspect of right central incisor to second premolar with labial and palatal cortical plates expansion leading to obliteration of labial vestibule. Palatally, the swelling extended from palatal rugae and palatal gingiva to the center of the hard palate approximately measuring 3x2.5 cm. There were no visible or palpable pulsations. All the involved teeth were vital and tender. Based on the history and clinical examination, a provisional diagnosis of Radicular cyst involving 11, 12 and 13 was established.

The differential diagnosis of dentigerous cyst with an impacted supernumerary tooth was considered. Routine laboratory parameters were normal. FNAC of the swelling showed straw coloured brownish fluid and on Cytologic examination nonspecific inflammatory cells were noted. Intra oral periapical radiograph, cross-sectional occlusal view (Fig 1) and panoramic radiograph showed a well-defined and unilocular radiolucent lesion approximately measuring 4x3.5 cm, attached to the crown of the unerupted inverted mesiodens in the right alveolar process of the anterior maxilla. Also a supernumerary tooth was noted on the left side of the palate. This radiographic appearance suggested a diagnosis of dentigerous cyst associated with mesiodens.

Figure 1 Occlusal view
Figure 2 CT

Non contrast CT in axial and coronal planes showed fluid filled unilocular lesion along with crown of mesiodens in the maxillary alveolar process (Fig 2). The Surgical resection of the lesion along with removal of mesiodens
and histopathological examination (Fig 3) confirmed the diagnosis of dentigerous cyst associated with mesiodens. The patient is under follow up since six months and no complications are observed.

Figure 7- Photomicrograph (HandE stained specimen with x 10 magnification)

Discussion

A dentigerous cyst can be defined as one that encloses the crown of an unerupted tooth by expansion of its follicle and is attached to its neck. They account for more than 24% of jaw cysts.(4) The substantial majority of dentigerous cysts involves the mandibular third molar and the maxillary permanent canine, followed by the mandibular premolars, maxillary third molars and rarely the central incisors, supernumerary teeth and mesiodens.(2) Dentigerous cyst most commonly occurs in second and third decade of life.

Daley and Winsock have recommended the following guidelines for the diagnosis of a dentigerous cyst: 1) a Pericoronal radiolucency >4 mm in greatest width, 2) histologically, fibrous tissue lined by nonkeratinized stratified squamous epithelium and 3) a surgically demonstrable cystic space between the enamel and the overlying tissue. Of these, the third is the most critical, but all the three must be satisfied.(4)

Mesiodens is known to have a cone shaped crown and a short root as seen in our patient. It is a rare entity with a reported incidence of 0.15 to 1.9% and has a slight male predominance. Most mesiodens are located palatally to the permanent incisors. Only a few lie in the dental arch or labially to the permanent incisors. Resorption of the adjacent roots by mesiodens or its cyst is a rare complication. (5)

Dentigerous cyst is one of the most common developmental odontogenic cysts which is usually detected on routine radiographic examination. Developing dentigerous cyst is difficult to distinguish from normal follicle. The pericoronal radiolucencies more than 4 mm should be considered cystic, until proven otherwise.(6)

Conclusion

Dentigerous cyst rarely involves central incisors, supernumerary teeth and mesiodens. The diagnostic feature of this cyst is the presence of unerupted / impacted tooth in its cavity.

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