



Dentigerous Cyst Associated with an Impacted Maxillary Canine: Case Report

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ABSTRACT

Odontogenic cyst of jaws usually present as asymptomatic lesions. Dentigerous cysts are the developmental odontogenic cysts which are associated with the crown of impacted teeth. We report a case of dentigerous cyst associated with impacted maxillary canine in a 25 years old male patient.

KEYWORDS

Dental follicle, impacted canine, tooth

Introduction

Odontogenic cysts develop from the odontogenic epithelium or remnants of odontogenic apparatus. Dentigerous cyst encloses the crown of impacted tooth at the level of CEJ and mostly diagnosis is made on the basis of presence of an associated impacted tooth. [1] Mostly, it is found in association with impacted mandibular third molar and maxillary canine. Occasionally supernumerary teeth are associated with the dentigerous cyst. Lining of dentigerous cyst has a potential to transform into ameloblastoma. [2] A case of dentigerous cyst associated with impacted maxillary canine in a 25 years old male patient is presented with a brief review of literature and management.

Case report

A 25 years old male patient presented with a complaint of swelling in the upper front region of the jaw since 15 days. Patient's past history was non contributory. Intraoral examination revealed a solitary swelling which was oval in shape, non-tender and firm in consistency, measuring about 0.5x0.5 cm in size located between 22 and 24. Intraoral periapical radiograph revealed a well defined radiolucency involving the cervical region of crown of impacted 23, extending upto the periapical region of 24. [Fig 2] Routine laboratory investigations were normal. FNAC was done and 1ml of yellowish cystic fluid was aspirated. Based upon the clinico-radiographic and aspiration findings a provisional diagnosis of dentigerous cyst was made. Enucleation of the cyst was done and was examined histopathologically. Gross specimen was measuring approx. 1x1 cm in diameter, brownish in colour, oval in shape with cystic cavity in centre.[Fig 3] Histopathology revealed a thin nonkeratinized stratified squamous epithelium, resembling reduced enamel epithelium lining a cystic lumen. The underlying fibrocollagenous connective tissue stroma was moderately dense and free of chronic inflammatory cell infiltrate. [Fig 4] Based the overall histopathological features, final diagnosis of Dentigerous cyst was made.

Patient was under follow up and no other complication was noted.

Discussion

Dentigerous cysts surround the crown of an impacted tooth and are attached at the neck of the tooth. The term dentigerous means 'tooth bearing'. [3] The cyst is mostly related to permanent tooth, but may occur with supernumerary teeth. Our case presented an association with permanent maxillary canine. The age of occurrence of cyst varies from 5 to 57

years. Some dentigerous cysts present as a small asymptomatic lesions which are shown on routine radiographs, while some present as large cysts causing bony expansion. [4] Present case also reported a painless swelling and was discovered during routine investigation. Radiographically, dentigerous cysts present as well-defined unilocular radiolucencies, with a sclerotic border. Radiographically, three types of dentigerous cyst have been described: Central type, showing the radiolucency around crown of the tooth and the crown is within the cyst lumen. In the lateral type, the cyst is attached laterally along the tooth root, partially surrounding the crown and in the circumferential type; the cyst completely surrounds the tooth as if the whole tooth is placed inside the cyst. [5] Our case was radiographically presenting as a lateral variety of dentigerous cyst. The histological features of dentigerous cysts differ depending on inflammation. Non-inflamed dentigerous cyst reveals a 2-4 cell layer thin epithelial lining of cyst, without any rete ridge formation with the loosely arranged fibrous connective tissue wall. [6] Connective tissue stroma is rich in acid mucopolysaccharides. In cases of inflamed dentigerous cyst, the epithelium is hyperplastic and shows rete ridge formation, and the connective tissue wall shows an inflammatory cell infiltrate. Sometimes, mucous producing goblet cells can be seen in cell lining. [7] Seldom sebaceous glands are seen in the cyst wall. The cystic content consists of yellowish fluid. Two theories have been proposed for the etiopathogenesis of dentigerous cyst. Intrafollicular theory suggests cyst formation by fluid accumulation between the inner and outer enamel epithelium after the crown formation. Another possibility may be owing to degeneration of stellate reticulum at the early stages of tooth development resulting in cysts which are associated with enamel hypoplasia. [8,9] Occasionally it may transform to ameloblastoma, squamous cell carcinoma or mucoepithelioid carcinoma. [10,11]

Conclusion

The prognosis of dentigerous cysts is good. The recurrence rate is low.

Figures and legends

Fig 1 intraoral examination of patient



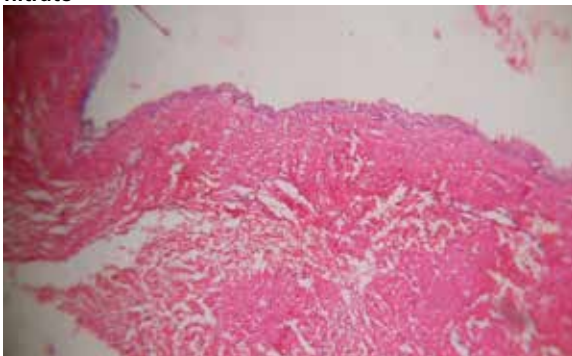
Fig 2 Intraoral Periapical Radiograph of patient showing well defined radiolucency attached to the lateral aspect of the impacted 23 at the level of CEJ



Fig 3 Gross specimen showing a soft tissue brownish in colour with cystic cavity in centre



Fig 4 Photomicrograph showing a thin epithelial lining with moderately dense fibrocollagenous connective stroma which is devoid of any chronic inflammatory cell infiltrate



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