



## INFLAMMATORY DENTIGEROUS CYST: A RARE CASE REPORT

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### ABSTRACT

Dentigerous cysts are the benign odontogenic cysts arising from the dental follicle of unerupted tooth. It is the second most common cyst and is mostly associated with impacted mandibular third molar. Dentigerous cyst associated with premolars and deciduous tooth is very rare. We report a rare case of inflammatory dentigerous cyst present in 10 years old male patient with a brief review.

#### Key words:

Cemento-enamel junction (CEJ),  
reduced enamel epithelium (REE),  
tooth

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## INTRODUCTION

Dentigerous cysts are benign odontogenic cysts arising from the crown of impacted teeth. [1] They are formed by the fluid accumulation between reduced enamel epithelium and crown, with attachment at the CEJ of impacted tooth. [2, 3] These are the second most common odontogenic cysts. [4] Dentigerous cysts can occur at any age, but most occurrences are in the second and third decade of life and are rare in the first decade of life. Males are more commonly affected than females and are mostly associated with impacted mandibular third molar, first and second premolar and canines. [5, 6]

Dentigerous cysts are usually asymptomatic and are mostly diagnosed by routine radiography. Patient may give a history of slowly enlarging swelling. Pain is present in the cases that are secondarily infected.[7]

#### Case report

A 10 years old male patient presented with a chief complaint of swelling on right side of face with slight facial deformity since one month. Intraoral inspeitory findings revealed a solitary swelling, oval in shape, measuring 1x1 cm, with smooth and well defined borders associated with carious 85, with normal surface color as that of overlying mucosa. [Fig 1] Swelling was extending from the lower border of the body of

mandible to parasymphysis region of the mandible. Swelling was non tender & painless, hard in consistency.



Fig 1 intraoral examination revealing decayed 85

Radiographic findings using Intraoral Periapical Radiograph, revealed a well defined radiolucency, associated with periapical region of 85 and surrounding the CEJ of impacted 45. [Fig 2] Based on the clinical and radiographic features provisional diagnosis of radicular cyst was made and dentigerous cyst was included in the differential diagnosis.

Lesion was aspirated which revealed a clear yellowish cystic fluid. [Fig 3] The case was operated through intra oral approach under local anesthesia and cyst was enucleated with

removal of the unerupted right mandibular second premolar. The excised tissue was sent for histopathological examination. Gross examination of specimen revealed, tissue measuring 2x2 cm in diameter, red in color, firm in consistency & there was a cystic cavity without any papillary projections or nodules attached at the CEJ of 45. Grossly decayed mandibular deciduous 2<sup>nd</sup> molar was also present. [Fig 4]



**Fig 2** Intra oral periapical radiograph showing well defined radiolucency involving the periapical region of 85. 45 is completely enveloped within the radiolucent area.

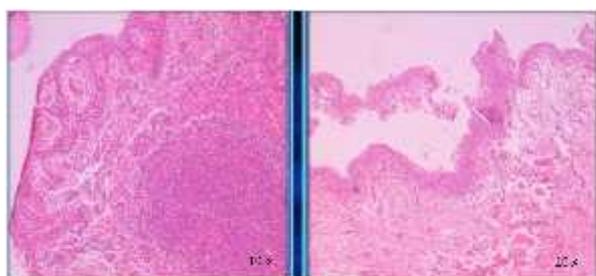


**Fig 3** FNAC revealing yellowish cystic fluid



**Fig 4** gross specimen showing 85 and cyst attached at the CEJ of 45

Microscopic examination revealed non keratinized stratified squamous epithelium, with thickened cystic wall. The proliferating epithelium was showing arcading pattern. The underlying fibrocollagenous connective tissue stroma was dense and composed of severe chronic inflammatory cell infiltrate, chiefly lymphocytes. [Fig 5]



**Fig 5** photomicrograph showing non keratinized stratified epithelium showing arcading with subepithelial chronic inflammatory cell infiltrate chiefly composed of lymphocytes.

Based on the clinical, radiographic and histopathological examination, final diagnosis of inflammatory dentigerous cyst associated with impacted right mandibular second premolar was made.

## DISCUSSION

Dentigerous cysts are benign odontogenic cysts related with crowns of impacted permanent teeth. [5,8] These cysts are mostly discovered by routine radiography or by swelling of affected region in the jaw. The pathogenesis of dentigerous cyst is slight controversial. Three possible mechanisms for pathogenesis have been proposed by Benn and Altini. They suggested that dentigerous cyst form a dental follicle and become secondarily infected, source of infection being non-vital tooth. The second mechanism could be formation of radicular cyst at apex of non-vital primary tooth followed by eruption of its permanent successor into radicular cyst which results in a dentigerous cyst of extrafollicular origin. Also, it is suggested that follicle of permanent tooth may get secondarily infected by periapical inflammation of a non-vital predecessor or some other source leading to a dentigerous cyst. Previous reports of dentigerous cysts related with non-vital deciduous tooth support this mechanism. [6] Present case also indicated that infection of the second primary molar could be the source of inflammation of the dentigerous cyst. Impacted tooth surrounded by dentigerous cyst may show enamel hypoplasia based on the time of beginning of a dentigerous cyst. [9] Enamel hypoplasia is seen when dentigerous cyst begins at an early stage of development of the affected tooth but in cases when the cyst forms after the completion of tooth development, enamel hypoplasia is not a significant association. [10, 11]

In the present case, the impacted premolar did not show enamel hypoplasia and it may be said that the cyst developed after complete crown formation.

Recommended treatment for dentigerous cyst is mostly marsupialization, if the involved tooth might be brought into its normal position in the arch. [12, 13] Enucleation of cyst with removal of the associated tooth is recommended if it shows arrested development or is extensively displaced. [13] In our case, enucleation of the cyst along with the affected tooth was done.

## CONCLUSION

Dentigerous cyst is most commonly associated with impacted third molars. In the present case we reported a rare case of inflammatory dentigerous cyst associated with mandibular second premolar. The case was successfully treated with no complications post operatively.

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