

**INFLAMMATORY DENTIGEROUS CYST: A RARE CASE REPORT****Dr. Ifzah<sup>1</sup>, Dr. Nazia Lone\*<sup>2</sup> and Dr. Mohsin<sup>3</sup>**<sup>1</sup>Ex Registrar, Department of Pediatric Dentistry, Govt Dental College and Hospital, Srinagar.<sup>2</sup>Professor and Head, Department of Pediatric Dentistry, Govt Dental College and Hospital, Srinagar.<sup>3</sup>Consultant, Department of Pediatric Dentistry, Govt Dental College and Hospital, Srinagar.**\*Corresponding Author: Dr. Nazia Lone**

Professor and Head, Department of Pediatric Dentistry, Govt Dental College and Hospital, Srinagar.

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**ABSTRACT**

**Introduction:** A dentigerous cyst is a cyst that encloses the crown of an unerupted tooth by expansion of its follicle and is attached to its neck. It is usually associated with impacted or unerupted teeth with mandibular third molars, maxillary canines and mandibular premolars being the most frequently involved teeth. Rarely, a dentigerous cyst is associated with odontome, deciduous teeth and supernumerary teeth. We hereby report a rare case of a 12-year-old boy with dentigerous cyst associated with deciduous mandibular molars. **Case Report:** A 8 year old male patient reported to the department of Pediatric Dentistry, Govt Dental College and Hospital with the chief complaint of painless swelling in right lower back tooth region since 2 months. . The panoramic radiograph revealed a large, well- defined unilocular radiolucent lesion with sclerotic borders on right side of mandible. **Differential Diagnosis:** Based on the clinical, radiological and histopathological findings a differential diagnosis of dentigerous cyst was made and marsupialization was decided for the lesion. **Treatment:** In our case, marsupialization of the infected cyst was done because of the involvement of permanent teeth in the cyst. **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 primary mandibular molars and impacted second premolar.

**KEYWORDS:** CEJ: Cementoenamel junction, FNAC: Fine needle aspiration cytology, OPG: Orthopantomogram.**INTRODUCTION**

A dentigerous cyst is a cyst that encloses the crown of an unerupted tooth by expansion of its follicle and is attached to its neck. They are the second most common type of odontogenic cysts.<sup>[1]</sup> Dentigerous cyst is caused by fluid accumulation between the reduced enamel epithelium and the enamel surface of a formed tooth and it originates by separation of the follicle from around the crown of an unerupted tooth.<sup>[2]</sup> It is usually associated with impacted or unerupted teeth with mandibular third molars, maxillary canines and mandibular premolars being the most frequently involved teeth. Rarely, a dentigerous cyst is associated with odontome, deciduous teeth and supernumerary teeth.<sup>[3]</sup> Thereby reporting a rare case of a 12-year-old boy with dentigerous cyst associated with deciduous mandibular molars.

**CASE REPORT**

An 8 year old male patient reported to the department of Pediatric Dentistry, Govt Dental College and Hospital with the chief complaint of painless swelling in right lower back tooth region since 2 months. The patient was apparently healthy with no past medical history. Extra oral examination revealed facial asymmetry with a firm hard swelling in the region of right mandibular body. Intraoral examination revealed carious first and second

primary molars on the same side. Intra oral periaical radiograph revealed a well-defined radiolucency, associated with periapical region of 84 and 85 and surrounding the CEJ of impacted 45 and mesial root of 46.

**INVESTIGATIONS**

A wide range of investigations were conducted. A fine needle aspiration cytology (FNAC) was performed at the time of examination. On aspiration, yellow color fluid was obtained which showed abundant acute inflammatory cells along with scattered cystic macrophages and few squamous cells suggestive of an inflammatory lesion. Radiographic investigation was carried out to confirm type and extent of cystic lesion. The panoramic radiograph revealed a large, well- defined unilocular radiolucent lesion with sclerotic borders on right side of mandible. The lesion extended from the distal surface of first premolar to mesial root of first permanent molar premolar. OPG also showed impacted mandibular second premolar. The radiolucent area measured approximately 20mm in width and 11mm in height. (Figure 1)

### DIFFERENTIAL DIAGNOSIS

A differential diagnosis of dentigerous cyst was made based on clinical, radiographic, and histological data, and the lesion was decided to be marsupialized.

### TREATMENT

Inferior alveolar nerve block using 2% lidocaine with 1:80,000 epinephrine was used to achieve the local anesthetic effect. Buccal mucosa was anesthetized by infiltration close to the first molar. Extraction of first and second primary molar was done. A buccal mucoperiosteal flap was elevated and the cyst membrane was fenestrated. The cyst membrane was sutured to the oral mucosa to create a window. Curettage was done and the cyst fluid was evacuated, followed by copious irrigation with normal saline. A pack of gauze soaked with iodoform was placed inside the cavity up to the extraction site. (Figure 2) The specimen was sent for biopsy and patient was recalled after 2 days for the change of dressing. The cavity was irrigated with normal saline then a new smaller pack of gauze soaked with iodoform was applied. Packing was replaced regularly every three days. Follow up was done after every three days for two months. After two months an obturator appliance was delivered to the patient to keep the cavity sterile. Four months after surgery the occlusal surface of the second premolar could be seen and patient was advised to discontinue the use of obturator appliance. (Figure 3)

The biopsy result confirmed the differential diagnosis, which was inflammatory dentigerous cyst.

### DISCUSSION

Dentigerous cyst develops around the crown of an unerupted tooth by accumulation of fluid either between the reduced enamel epithelium and enamel or in between the layers of the enamel organ. This fluid accumulation occurs as a result of the pressure exerted by an erupting tooth on an impacted follicle, which obstructs the venous outflow and thereby induces rapid transudation of serum across the capillary wall.<sup>[4,5]</sup> Radiographically, the dentigerous cyst typically appears as a well-circumscribed, unilocular, usually symmetric radiolucency around the crown of an impacted tooth.<sup>[6]</sup>

The substantial majority of dentigerous cysts involve the mandibular third molar and the maxillary permanent canine, followed by the mandibular premolars, maxillary third molars.<sup>[7]</sup> On occasion, some untreated dentigerous cysts rarely develop into an odontogenic tumor (e.g., ameloblastoma) or a malignancy (e.g., oral squamous cell carcinoma).<sup>[8]</sup>

Recommended treatment for dentigerous cyst is mostly marsupialization, if the involved tooth might be brought into its normal position in the arch and complete removal of the surrounding structure is not desirable.<sup>[9]</sup> Enucleation of cyst with removal of the associated tooth is recommended if it shows arrested development or is extensively displaced.<sup>[9,10]</sup>

Benn and Altini have identified three probable pathogenic mechanisms. They proposed that a dentigerous cyst forms a dental follicle and becomes infected secondary to a 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. Furthermore, periapical inflammation of a non-vital precursor or some other cause may infect the follicle of a permanent tooth, resulting in a dentigerous cyst. This mechanism is supported by previous observations of dentigerous cysts associated with non-vital deciduous teeth.<sup>[11]</sup> The current case further suggested that an infection of the second primary molar could be the source of the dentigerous cyst's inflammation. Depending on when the dentigerous cyst started, an impacted tooth surrounded by a dentigerous cyst may display enamel hypoplasia.<sup>[9]</sup> Enamel hypoplasia is found when a dentigerous cyst arises early in the development of the affected tooth, but there is not a significant relationship when the cyst forms later in the development of the tooth.<sup>[12,13]</sup> The impacted premolar in this example did not have enamel hypoplasia, therefore it's possible that the cyst formed after the crown was fully formed.

Because of the cyst's involvement of permanent teeth, marsupialization of the infected cyst was performed in our case.

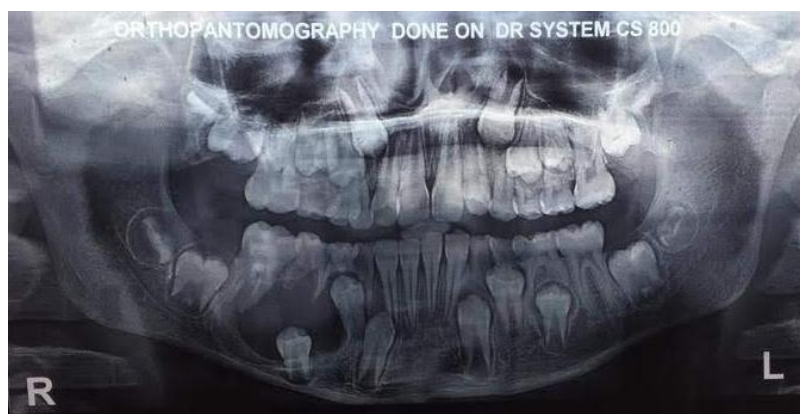


Figure 1: OPG.



**Figure 2: Iodoform pack placed.**



**Figure 3: erupting second premolar.**

## 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 primary mandibular molars and impacted second premolar. The case was successfully treated with no complications post operatively.

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