

## CASE REPORT



# Management of inflammatory follicular cyst in a 4.5-year-old male patient - A case report

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## Abstract

We present here a case of inflammatory follicular cyst in the lower border of body of the mandible of a 4.5 years old male. There was associated cortical expansion and facial asymmetry. These cysts are rare at this age. Enucleation under general anesthetic including removal of the unerupted 34 was the treatment of choice. This report attempts to highlight the importance of prompt diagnosis, prevention of dental caries, and importance of making the parents aware of the sequelae of dental caries in children.

**Keywords:** Dentigerous cyst, enucleation, inflammatory follicular cyst, marsupialization

## Introduction

Dentigerous cyst accounts for the second most common odontogenic cyst contributing (16.6–21.3%) of all odontogenic cysts.<sup>[1]</sup> According to Mervyn dentigerous cyst was generally seen in the age group of 9–11 years. And lower premolar being the most common site of occurrence.<sup>[2]</sup>

A normal follicular space is considered to be ranging between 3 to 4 mm, a dentigerous cyst can be suspected when the space is more than 5 mm.<sup>[3]</sup>

In general, a large cyst causes an intraoral buccal swelling; while at the same time, it may cause a springiness of the bone. It has the potential to expand the bone, displacing adjacent teeth and may cause root deformation of developing permanent teeth. A round or ovoid, well-demarcated unilocular, radiolucency with sclerotic border in the corpus of mandible if seen on the radiograph we can suspect it as inflammatory follicular cyst.<sup>[3]</sup>

## Etiopathogenesis

Exact mechanism of inflammatory dentigerous cyst formation remains unclear.

However, according to some authors, two types of dentigerous cyst exist depending on the origin: (1) Developmental and (2) inflammatory.<sup>[4]</sup>

This may be also classified as central, lateral, and circumferential type.<sup>[4]</sup>

According to Benn and Altini - periapical inflammation from a non-vital primary tooth paves, the way for the inflammation to reach the permanent successor resulting in inflammatory follicular cysts.<sup>[4]</sup>

Shear doubted the association of inflammatory etiology in the development of a dentigerous cyst. According to him, the inflammatory process at the apex of the primary tooth triggers the development of follicular cyst around the permanent tooth and should be designated as an inflammatory follicular cyst rather than a dentigerous cyst.<sup>[5]</sup>

The association of the persistent and prolonged inflammation of a primary tooth and the development of a follicular cyst in the permanent tooth has been extensively discussed in the literature.<sup>[5]</sup>

The purpose of this case report is to present the management of inflammatory follicular cyst in a very young patient.

## Case Report

A 4.5-year-old male patient came to the department of pediatric and preventive dentistry with the chief complaint of swelling in the lower left back tooth region since 1 month. There was no relevant medical history. A painless swelling was noticed 1 month back which gradually increased in its size.

Extraoral examination revealed a facial asymmetry with a swelling in the left lower border of body of the mandible.

Intraoral examination revealed grossly decayed first primary molar with an associated swelling of size 7 cm × 5 cm extending from the mesial surface of primary left lower canine to the distal surface of the left second primary molar. The overlying oral mucosa was normal in color and texture [Figure 1].

On palpation, the swelling was hard in consistency and was non-tender. As a part of the routine investigation, an intraoral periapical and orthopantomogram (OPG) were taken OPG revealed coronal radiolucency involving pulp in relation to the first primary molar periapical to first primary molar there was a radiolucency which enclosed a radioopaque structure in it with distinct opaque sclerotic border suggestive of a cyst enclosing tooth bud of permanent first premolar in it [Figure 2].

Surgical removal of the lesion was considered to be ideal. Hence, the patient was referred to the anesthetist for pre-anesthetic checkup and was posted for general anesthesia.

After enucleation, a proper curettage was done and sutures were placed for the approximation of the surgical exposure.

The specimen was send for biopsy. The biopsy result from the department of oral pathology was pointing toward inflammatory follicular cyst.

The patient was recalled after 1 week and sutures were removed [Figure 3].

The patient was followed 6 weeks post-operative and follow-up diagnostic OPG and photographs were recorded OPG revealed a significant amount of bone formation and healing of the surgical site [Figure 4].

### Histopathology

10x photomicrograph shows 2–3 layers of non-keratinized stratified squamous epithelium with connective tissue stroma which appear vascular with endothelium-lined blood vessels and many inflammatory cell infiltrations amidst collagenous stroma and few areas of extravasated red blood cells [Figure 5].

Histopathological features in correlation with clinical and radiographic features suggestive of the inflammatory follicular cyst.

### Discussion

Prevention, early detection, and treatment of dental caries can significantly reduce the complications of the development of inflammatory lesions and can avoid complications. The possible complications that can be predicted from dentigerous cysts include:

1. Permanent bone deformation and pathologic bone fracture;
2. Expansive bone destruction or cortical bone expansion;
3. Loss of permanent successor; and



**Figure 1:** Intraoral photograph revealing swelling in the buccal vestibule extending from the distal aspect of the primary left canine to the mesial aspect of primary second molar



**Figure 2:** Pre-operative orthopantomogram reveals a radiolucency enclosing a radio-opaque structure within it with distinct sclerotic borders in relation to the left first primary molar



**Figure 3:** Post-operative follow-up intraoral photograph (1 week)



**Figure 4:** 6 weeks post-operative orthopantomogram

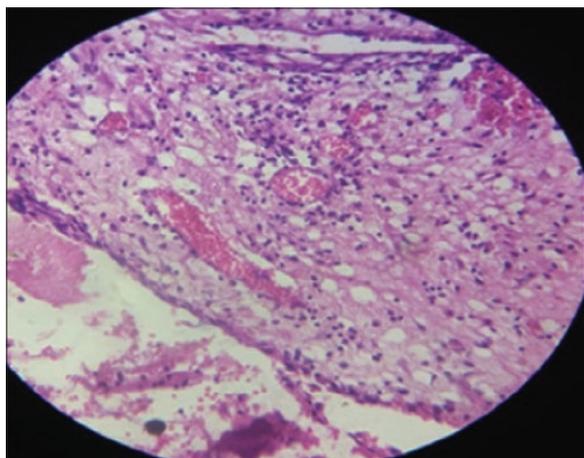


Figure 5:  $\times 10$  photomicrograph

4. And in long-lasting cases the development of squamous cell carcinoma, mucoepidermoid carcinoma, and ameloblastoma.<sup>[6]</sup>

According to Neville the choice of treatment of cyst is based on:<sup>[7]</sup>

- a. The size of the lesion,
- b. Location of the cyst,
- c. Age of the patient,
- d. Dentition affected,
- e. Relationship with surrounding vital structures.

Moreover, the most commonly employed are decompression, marsupialization, and enucleation. Martinez-Perez *et al.*, wherein favor of marsupialization as this procedure relieves the pressure of the cystic fluid, reduces cystic space thereby giving way for the spontaneous eruption of the unerupted or impacted tooth.<sup>[8]</sup>

However, when dealing with very young child Muthray *et al.*<sup>[9]</sup> are in favor of enucleation which is in accordance with the present case report.

In the present study, surgical enucleation was the treatment of choice based on the clinical condition at the surgical site.

## Conclusion

Early diagnosis and appropriate intervention have to be carried out required cases of inflammatory follicular cysts to prevent further infiltration of the cystic lesion to the surrounding regions.

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