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## CASE REPORT

### Dentigerous Cyst Associated with Ectopic Canine of the Maxilla: A Case Report

**Rıdvan GÜLER<sup>1</sup>, Bekir İLYAS<sup>1</sup>, Kamil Serkan AĞAÇAYAK<sup>1</sup>**

Dicle University, Faculty of Dentistry, Department of Oral and Maxillofacial Surgery, Diyarbakır, Turkey

#### Abstract

Dentigerous cysts (DC) are the second most common odontogenic cysts affecting the jaw bone that are associated with the crowns of permanent unerupted teeth; mostly single in occurrence and located in the mandible. DC is more usually seen with mandibular third molar and maxillary canine and seldom other teeth are involved. Dentigerous cysts remain asymptomatic and are generally diagnosed incidentally during the routine radiological examination. Enucleation is the standard treatment. In this report, large dentigerous cyst associated with the ectopic canine of the maxilla are presented.

**Keywords:** Dentigerous cyst, Maxillary, Odontogenic cyst, Enucleation

#### Introduction

Dentigerous cyst (DC), also known as follicular cyst, is the second most common form of odontogenic cysts after radicular cyst<sup>1</sup>. The cystic lining is derived from the epithelial remnants of tooth forming organ.<sup>2</sup> Information on the prevalence of this disease is restricted. It is more common among males, and usually occurs in the second and third decade of life. Other common locations of DC are the third molar teeth of the maxilla, the maxillary canines, supernumerary teeth and the premolars of both jawbones.<sup>3</sup>

Dentigerous cysts are usually asymptomatic and found incidentally during the evaluation of an unerupted tooth.<sup>4</sup> If the patient has infection and expansion, they become symptomatic. In the event of infection, it can cause a painful swelling. In the case of an expansion into cortical plates, DC can cause facial asymmetry, and destruction of the adjacent tissues. Histological diagnosis plays a key role in the definite diagnosis.

Those teeth located in the jawbones or in regions other than the alveolar arch are said to be ectopically placed. This may be due to irregularity in the migration of a tooth bud which occurs due to genetic relationship factors causing a budding tooth to congenitally migrate in the initial stages of embryogenesis, or is the result of displacement of the teeth owing to local factors.<sup>5</sup> There are many treatment options of dentigerous cyst. These are enucleation, marsupialization and decompression. These patient proper treatment is enucleation of the cyst and removal of the unerupted tooth. When complete excision of the cyst is achieved, the prognosis is nice and the recurrence rate is low.

#### Case Report

A 30-year-old female patient suffering from swelling of the right maxillary canine region with pain was referred to our department. She was systemically healthy and extra-oral examination was within normal limits. Her mouth opening was normal. On an intra-oral examination, we noted that the maxillary left canine were clinically unerupted. Clinical examination revealed an extraoral swelling on the left side of the face with elevation of the nostril and lateral border of the nose. There was obliteration of the nasolabial sulcus. Panoramic radiograph showed a well defined unilocular radiolucency surrounding canine teeth in the left premolar region of the maxilla. Displacement of the root of the maxillary left lateral teeth was also seen. (Fig.1)



Figure 1 : Preoperative orthopantomograph

**Corresponding Author:** Rıdvan GÜLER

Research assistant

**Address:** Dicle University Faculty of Dentistry, Oral and Maxillofacial Surgery, Diyarbakır/Turkey

**Mobile:** +90(534) 764 49 21

**E-mail:** ridvanguler06@gmail.com

The diagnosis of dentigerous cyst was confirmed with clinic, radiographic and histopathologic findings. Dentigerous cyst histopathology shows a thicker epithelium lining with hyperplastic rete ridges. The fibrous cyst capsule showed a diffuse chronic inflammatory infiltrate. (Fig.3) DC was enucleated and the associated impacted teeth extracted under local anesthesia. The patient tolerated the procedure well. Sutures were removed on the eight day after operation and the postoperative course was uneventful. Post-operative clinical follow-up that was conducted after one and six month of the surgery was uneventful.(Fig.2)



Figure 2 : Postoperative orthopantomograph (6 months)

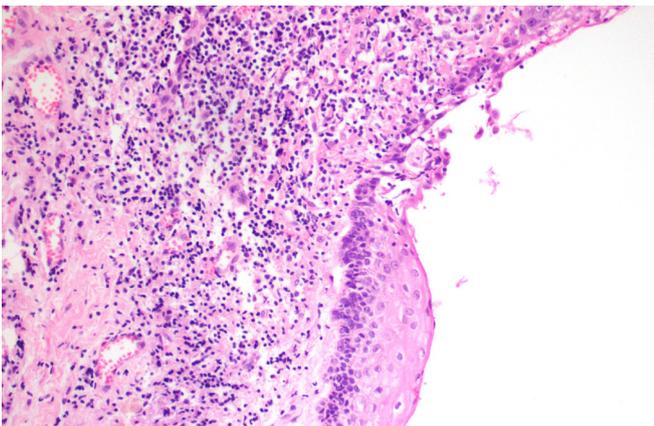


Figure 3 : Histopathologic view of the lesion. (H&E, X200)

### Discussion

A dentigerous cyst is a cyst which generally encloses the crown of an unerupted tooth, expands the follicle, and is attached to the cemento-enamel junction of the tooth. DC are commonly seen in mandibular third molars, maxillary canines, and mandibular premolars, and they infrequently involve deciduous teeth.<sup>6</sup> The incidence of DCs is 14%–20%. The exact histogenesis of DC is unclear, but some histopathological pathways have been described. DC attaches itself to the neck of the tooth and encloses the impacted tooth. The pressure applied by the emerging tooth on the dental sac blocks the venous outflow, causing the serum to rapidly pass through capillary walls. This accumulated fluid exerts an increasing hydrostatic pressure and detaches the dental arc from the crown of the tooth. The enlargement of the DC is associated with the proliferation of the epithelial cells and the osmolality of the fluid within the cyst.<sup>7</sup> These cysts are lined by

nonkeratinized stratified squamous epithelium.

Radiographically, DC are suspected when the size of the follicular space is larger than 5 mm. Panoramic radiograph and upper occlusal radiograph are recommended as first-line diagnostic tools and further evaluation of the lesion by computed tomography examination.<sup>5</sup> Radiographic examination showed as a unilocular radiolucency with a well-defined sclerotic border engulfing the crown of an impacted tooth.<sup>8</sup>

The differential diagnosis of DC includes ameloblastoma, odontogenic keratocyst, odontogenic fibroma, odontogenic myxoma, cementomas and Pindborg tumor. The treatment of DC is enucleation of the cysts and removal of the impacted or unerupted tooth. Large cysts like these can be marsupialized initially to decompress the cystic contents and enucleated more conservatively.<sup>6</sup>

### Conclusion

Dentigerous cysts may cause symptom free large bone defects. It is therefore important to perform radiographic examination of all unerupted teeth.

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