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## A case report on dentigerous cyst of anterior maxilla

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### Abstract

Dentigerous cyst is a common odontogenic cyst associated with an impacted tooth. It develops due to fluid buildup between the enamel epithelium and the crown of the tooth, leading to the dilation of the tooth follicle. This article outlines the clinical presentation, radiographic findings, and surgical intervention employed to address the cystic lesion associated with an impacted tooth in a 9 year old female patient.

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

### Introduction

A cyst is an epithelial-lined cavity which arises from the odontogenic epithelium. Dentigerous cysts are developmental odontogenic cyst [1]. The term “dentigerous cyst” was coined by Paget in 1853 [2]. It constitute about 20% of all jaw cysts [3]. It is always associated with the crown of an impacted, embedded or unerupted tooth and it may also be found enclosing a complex compound odontoma or involving a supernumerary tooth [3].

Although the precise etiology of a dentigerous cyst is still unknown, it appears to arise from the build-up of fluid between the tooth crown and the reduced enamel epithelium [4]. It occur more commonly in 2<sup>nd</sup> and 3<sup>rd</sup> decades of life [5]. The most common sites are the mandibular and maxillary third molar and maxillary cuspid areas [3]. It presents as a gradual painless swelling that may result in the displacement of teeth and bone resorption [6]. Radiographically, it often present as a unilocular radiolucent area encircling the crown of the impacted tooth although it may occasionally exhibit a multilocular pattern in the panoramic radiography [6]. The appropriate treatment is always surgical and can be conservative or radical [7].

### Case report

A 9 year old female patient reported to the department of oral medicine and radiology with chief complaint of swelling in the maxillary right back tooth region since 1 month which was gradual in onset, small in size and increased to current size. No history of pus discharge, fever or trauma. On extraoral examination diffuse swelling noted on the right middle third of face with obliteration of right nasolabial fold [Figure 1]. On palpation swelling was non tender, firm in consistency. On intraoral examination diffuse swelling noted on right maxilla of size approximately (2×2) cm with obliteration of buccal vestibule, Root stumps 54, 75, 74, 85, dentinal caries 16, 55, 64, 65, 36, 83, 84, 46. Based on clinical findings dentigerous cyst of right maxilla in relation to 13 was given. Differential diagnosis of radicular cyst was made. OPG was taken which revealed unilocular radiolucency enclosing the impacted 13.

Enucleation of the cyst was done and sent to histopathological examination which revealed non - keratinized cystic lining with fibro cellular capsule and inflammatory cell infiltrate suggestive of infected dentigerous cyst.



**Fig 1:** Diffuse swelling noted on the right middle third of face with obliteration of right nasolabial fold



**Fig 2:** Swelling noted on the right maxilla with obliteration of buccal vestibule.

### Discussion

The dentigerous cyst or a follicular cyst encloses the crown of an unerupted tooth and is attached to the tooth at the cemento-enamel junction [4]. The exact etiology is unknown. They account for around 20% of all epithelial lined cysts of the jaws and are the second most prevalent odontogenic cyst [8].

Based on the presence or absence of inflammation it can be of two types, inflammatory and non-inflammatory. In a ratio of 10:1, the mandible is affected more frequently than the maxilla [5]. However, in our case, the front maxillary area was where the cyst was found. The fast transudation of serum through capillary walls caused by pressure from an impending tooth eruption or restriction of venous outflow might be the etiology of inflammatory dentigerous cysts. With or without a reduction in enamel epithelium, the follicle separates from the crown because of the increasing hydrostatic pressure from the stored fluid [5].

Dentigerous cysts typically appears as a well-defined unilocular radiolucent lesion [9]. Infected cysts show ill-defined margins [10]. A dentigerous cyst tends to displace and resorb adjacent teeth [9]. It often displaces the associated tooth in an apical direction [9]. In our case the unilocular lesion was noted in maxillary anterior region with displacement of 13 in an apical direction. Radiographically, three types of

dentigerous cysts have been described [10] according to the cyst-to-crown relationship [8]. The most common types include the central variety, which presents with the cyst encircling the tooth's crown, the lateral type expanding laterally along the root surface, partially surrounding the crown and circumferential variety surrounds the crown and extends vertically along the root for some distance [8].

Histologically, dentigerous cysts are composed of non-keratinized stratified squamous epithelium, surrounded by a thin connective tissue wall containing odontogenic epithelial rests [2].

The treatment options for dentigerous cysts encompass radical surgical intervention, involving the enucleation of the cyst and extraction of the involved tooth, while conservative approaches include marsupialization and, which offer the possibility of preserving the impacted tooth [7]. Enucleation along with extraction of associated tooth is the standard treatment for a dentigerous cyst. Marsupialization is recommended for large cysts when a single drainage procedure may not be effective, and complete removal of the surrounding structure is not desirable [11].

### Conclusion

This case report illuminates the clinical intricacies surrounding dentigerous cysts and the imperative role of timely diagnosis and intervention. The successful management of the presented case, marked by the surgical excision of the cyst and associated impacted tooth, not only addressed the immediate oral health concerns but also emphasize the significance of comprehensive dental examinations.

**Conflict of Interest:** Not available.

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