

## Case Report

# Growth on Gingiva Diagnosed as Dentigerous Cyst : A Case Report

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### ABSTRACT

Dentigerous cysts are the most common developmental odontogenic cysts. They are usually derived from the epithelial remnants of tooth forming organs. These cysts grow to a large size intraosseously within jaws before it manifest clinically. This paper describes a case report of a 22-year-old female patient reported with growth on gingiva in the upper left front region of mouth three years ago diagnosed as dentigerous cyst.

**Keyword:** Dentigerous cyst, dental follicle, odontogenic, marsupialisation

### INTRODUCTION

Dentigerous cysts are the most common

developmental odontogenic cysts, accounting for approximately 25% of all odontogenic cysts of the jaws. They are frequently noted as an incidental finding on radiographs because majority of these cysts are asymptomatic and are most commonly associated with impacted mandibular third molars and permanent maxillary canines.<sup>[1,2]</sup> Dentigerous cysts are frequently discovered when radiographs are taken to investigate a failure of tooth eruption, a missing tooth or malalignment. There is usually no pain or discomfort associated with the cyst unless it becomes secondarily infected.<sup>[3]</sup> Radiographically dentigerous cyst presents as a well-defined radiolucent entity surrounding the crown of an impacted tooth. The border of the cyst is continuous with the cemento-enamel junction of the impacted tooth. This radiographic finding is

pathognomonic for a dentigerous cyst .<sup>[2]</sup> The classic treatment for dentigerous cysts is enucleation and extraction of the involved tooth. In large cysts, an initial marsupialization can reduce the size of the bone defect before definitive enucleation.<sup>[4]</sup>

### CASE REPORT

A 22 years old female patient reported with a chief complaint of swelling of left side of mid face since 3 - 4 months. Swelling started on its own and gradually increased in size to attain the present size. She visited private dentist for the swelling for which medication was prescribed but swelling never regressed in size. There was associated history of mild discomfort due to swelling since 15 days. Patient gave history of trauma in same region in childhood.

Extra oral examination revealed a solitary, unilateral, 3x2 cm in size, ovoid swelling present on left middle one third of face, extending from ala of nose upto 1 cm anterior to tragus of ear (Figure 1).

Swelling was diffuse in nature and overlying skin was of normal colour. It was tender, firm and fixed to underlying bony structure on palpation. There was no evidence of discharge on pressure. Swelling was non fluctuant, no blanching on pressure, non compressible and non pulsating. The skin over swelling was smooth with local rise in temperature.

Intra oral examination revealed a solitary, unilateral, ovoid, diffuse 2x2 cm swelling present on buccal vestibule of left upper lateral incisor, canine and premolar region extending from distal aspect of 22 to mesial of 25 resulting

in obliteration of buccal vestibule, extending superiorly upto the depth of maxillary buccal vestibule and inferiorly upto free gingival margin of involved teeth (Figure 2).

Swelling was smooth, non lobulated with clearly defined margins and overlying mucosa was intact with normal colour and no ulceration and pus discharge present. Swelling was non fluctuant, not blanches on pressure, non compressible and no pulsations felt over the swelling. No bleeding on Provocation and was non tender.

The clinical differential diagnoses for the swelling were adenomatoid odontogenic tumor, globulomaxillary cyst, ameloblastoma, odontogenic keratocyst, dentigerous cyst and fibrousosseous dysplasia with respect to 23, 24, and 25 was made.

Radiological investigations— intraoral periapical radiograph of left maxillary posterior region revealed the presence of 23,24,25,26 and 27 teeth. A well defined periapical radiolucency was present irt 24, 25 and 26. Internally it is radiolucent and is involved with the coronal potion of a supernumerary tooth. Lamina dura irt 24, 25 and 26 in apical region is absent and involved teeth shows external resorption of apical third of roots (Figure 3).

Maxillary occlusal radiograph reveals well defined radiolucency encircling the impacted supernumerary irt 23, 24 (Figure 4).

Panoramic radiograph reveals a well defined periapical radiolucency present irt 23, 24, 25 and 26. Internally it is radiolucent and is involved with the coronal potion of a supernumerary tooth. Lamina dura irt 24, 25 and 26 in apical region is absent and involved teeth shows external

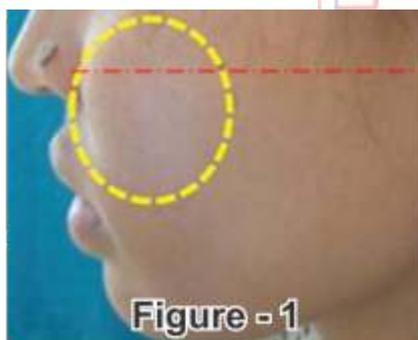
resorption of apical third of roots (Figure 5).

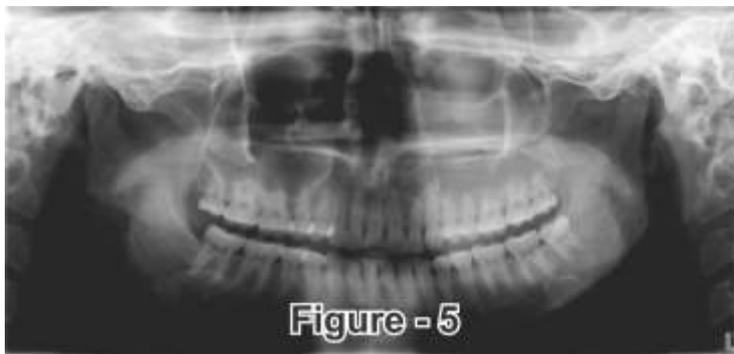
### TREATMENT

Fine needle aspiration was carried out & a straw colored fluid was aspirated. About 1 ml of fluid was aspirated & sent for microscopic examination. Microscopic examination revealed chronic inflammatory cells. Under general anesthesia, cyst was enucleated. Extraction of 23,24,25,26 was done. Supernumerary tooth within the cavity was removed. Sutures were placed. Post surgical instructions were given to the patient. Healing was uneventful, and one week after the operation, the surgical sites showed good healing (Figure 6). Patient recalled for follow up after 6 months. There was no evidence of recurrence of the cysts. Specimen was sent for histopathological examination.

Histologically, the specimen showed cystic cavity lined by non – keratinized stratified squamous epithelium supported by connective tissue wall. The connective tissue wall was made up of collagenized fibrous tissue, with chronic inflammatory cell infiltration. Single flat grey white tissue piece measured 5 x 3.2cms. Predominantly fragments lined by squamous epithelium and chronic non specific inflammation. Focally bony trabeculae were also seen. One fragment with dual lining consisting of squamous epithelium and respiratory epithelium of sinus mucosa was seen.

Based on history, clinical presentation, radiological and histopathological examination, final diagnosis of Dentigerous cyst with respect to 23,24,25,26 was put forth.





## DISCUSSION

A dentigerous cyst is defined as an epithelium lined pathological cavity arising from the enamel organ due to an alteration in the reduced enamel epithelium and enclosing the crown of an unerupted tooth at the cemento-enamel junction. Diagnosis of a dentigerous cyst can be made by careful clinical, radiological and histological investigations. Dentigerous cyst occurred more commonly in men, white population, and age group between third and fourth decades. The genesis of the dentigerous cysts has been discussed by Benn and Altini, who proposed two different processes for cystic degeneration of the reduced epithelium of enamel organ of an included tooth. The first phenomenon is usually associated to the compression promoted by tooth eruption at the pericoronal follicle, which induces fluid accumulation between this tissue and tooth crown. The second mechanism is associated to an apical inflammation in the primary predecessor whose cytokines stimulates cystic degeneration of the permanent tooth follicle.<sup>[6]</sup> Most dentigerous cysts are developmental in origin, with a slight male predilection M:F= 1.57:1.00.<sup>[7]</sup> There is usually no pain or discomfort associated with the cyst,

unless it becomes secondarily infected. A dentigerous cyst can be suspected when the follicular space is more than 5 mm.<sup>[8,9]</sup> Radiographically dentigerous cyst shows a unilocular area that is associated with the crown of an unerupted tooth. The radiolucency has well-defined sclerotic borders, with bucco-lingual expansion of cortical plates. A large dentigerous cyst may give the impression of being multilocular, because of the persistence of bone trabeculae within radiolucency. There are several cyst-to-crown radiographic variations are present. The central variety is common; the cyst surrounds the crown of the tooth projects into the cyst. The lateral variety is usually associated with mesio-angular impacted mandibular third molars that are partially erupted. In the circumferential variant, cyst surrounds the crown and extends for some distance along the root; significant portion of the root appear to lie within the cyst.<sup>[7]</sup> Dentigerous cysts are frequently treated surgically, either by enucleation or marsupialisation. Following enucleation of the cyst and extraction of the unerupted tooth, the prognosis is excellent and recurrence is rarely observed after a complete removal.<sup>[10]</sup> To enucleate or marsupialise the cyst depends on

careful consideration of various patient factors. Enucleation will alter the normal tooth development and in certain circumstances especially in children the involved tooth should be given a chance to erupt. Marsupialisation has the advantage of reducing the cyst cavity and preserving the involved tooth in the cyst.<sup>[10]</sup>

### CONCLUSION

This case presentation shows a dentigerous cyst present on left mid face region. As dentigerous cysts attain considerable size without the notice of the patient and this warrants an early clinical and radiographic detection of the cyst so that early treatment strategies will prevent or decrease the morbidity associated with the same.

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