



## Dentigerous cyst of maxilla associated with impacted supernumerary tooth

Authors

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### Abstract

*Dentigerous cyst is developmental benign odontogenic cyst of jaws. They are associated with crowns of impacted teeth, supernumerary teeth, odontomas, and deciduous teeth (rarely). It encounter in second and third decades of life with male predilection. It is caused by the accumulation of fluid between the epithelium and crown of an unerupted tooth. They expands the follicle and attached to the neck of the tooth. Their epithelial lining has the capacity to undergo neoplastic change. It is usually seen in mandibular third molar followed by maxillary canine. Here, we report a case of dentigerous cyst of maxilla associated with impacted supernumerary tooth and its management.*

**Keywords:** Dentigerous cyst, odontogenic, impacted, unerupted tooth, supernumerary tooth.

### Introduction

World Health Organization classified the dentigerous cyst as the developmental cyst<sup>[1]</sup>. Dentigerous cyst is one of the most common developmental odontogenic cyst which account 24% of cyst. According to Shear, dentigerous cyst is defined as the one that encloses the crown of an unerupted tooth by expansion of its follicle, and is attached to its neck. It is more common in males than women<sup>[2]</sup>. It arises from the reduced enamel organ as a result of fluid accumulation between its layers caused by the compression of tooth-follicle by the erupting tooth due to venous outflow obstruction<sup>[3]</sup>. It may cause the displacement of adjacent teeth and resorption of teeth roots<sup>[4]</sup>.

Higher occurrence seen during second and third decade of life though may occur at any age<sup>[5]</sup>. The maximum cases occur in mandibular molar followed by maxillary permanent canine, mandibular premolars and maxillary third molars in decreasing frequency. Occasionally, they are occurred in the impacted premolars<sup>[6]</sup> and also associated with crowns of impacted teeth, supernumerary teeth, odontomas, and deciduous teeth (rarely)<sup>[7]</sup>. Dentigerous cysts are often present solitary with multiple cysts and may be present with syndromes such as mucopolysaccharidosis and basal cell nevus syndrome<sup>[8]</sup>. The treatment which is recommended for dentigerous cyst is marsupialization<sup>[9]</sup>.

However, enucleation is the choice of treatment [10] as the disadvantage of former treatment is that pathologic tissue can be left in situ, without thorough histological examination [11].

**Case Report**

A 32 years aged woman came to Oral Medicine and Radiology department with the chief complaint of pain in the left upper front region of teeth from past 30 days and swelling was present 10 days back. She didn't get any relieve by taking medication. There was no contributory family and medical histories. In the past, she had undergone extraction before 8 years back. Extraorally, there was diffuse solitary swelling present on lateral aspect of nose involving ala of nose which was increased in temperature and tender on palpation. The size was approximately, (3X4) cm in dimension.

Intraorally, 24 was partially erupted and vestibular obliteration in 21,22 was seen and swelling present in the vestibule of mesial aspect of 21 till mesial aspect of 23 on palpation. The size was roughly (2X1) cm in dimension. It was tender on palpation and bony hard in consistency. Stain + and Calculus ++ were present.

Radiographically, In intraoral periapical radiograph, unilocular radiolucency present in relation to 21 and 22 apical region surrounded an impacted supernumerary tooth attached with CEJ.



**Fig:** Intraoral periapical radiograph and Orthopantomograph; shows a unilocular radiolucency present in the apical region of 21 and 22 and it surrounds an accessory tooth which is oriented horizontally to the long axis of the tooth (horizontally impacted supernumerary tooth). So, we planned the required treatment after routine investigation. Intraoral approach (i.e., vertical releasing incision) was done in relation to



**Fig:-** Extraoral profile.



**Fig:** Vestibular obliteration is present in relation to 21 and 22

distal aspect of 11 and distal aspect of 23 followed by crevicular incision in relation to 11,21,22 and 23) after giving appropriate nerve block.



**Fig** Mucoperiosteal flap raised and exposure of cystic cavity

Then, mucoperiosteal flap was raised and cystic lining removed followed by curettage of the cystic cavity. The supernumerary tooth was extracted and peripheral osteotomy done on the surrounding area of cystic cavity. Suturing done with 3'0 silk after the irrigation of cystic cavity and we sent the excised tissue for histopathological examination. Postoperative instructions were given and recalled after 7 days for suture removal. The routine histopathological examination report confirmed the diagnosis of a dentigerous cyst.



**Fig** Supernumerary tooth extracted & postoperative picture with closure of the cystic cavity.

### Discussion

Dentigerous simply means having or containing teeth [Stedman's Medical Dictionary [23th ed]. Baltimore: Williams & Wilkins, 1979; p 373.] and supernumerary tooth are the extra teeth or accessory teeth which result from the hyperactivity of dental lamina. [von Arx T. Anterior maxillary supernumerary teeth: A clinical and radiographic study. Australian Dental Journal 1992; 37(3): 189-195.] The complication which is associated with supernumerary tooth includes eruption failure, permanent tooth displacement, pathologies associated with supernumerary tooth and surgical difficulties that can occur during alveolar bone grafting and implant site preparation. Removal of the supernumerary tooth is advice where associated

pathology is evident, in case of central incisor eruption is delayed or inhibited, eruption or displacement of central incisors is altered, orthodontic alignment of an incisor in close proximity to the supernumerary is envisaged, or spontaneous eruption of the supernumerary has occurred. [Garvey MT, Barry HJ, Blake M. Supernumerary teeth: an overview of classification, Diagnosis and Management. Journal of the Canadian Dental Association 1999; 65(11): 612-616.] 5% of all dentigerous cyst occurs around supernumerary teeth [Dinkar AD, Dawasaz AA, Shenoy S. Dentigerous cyst associated with multiple mesiodens: A case report. Journal of the Indian Society of Pedodontics and Preventive Dentistry 2007; 25(1): 56-59.] The choice of treatment is the removal as it has the potential of malignant transformation such as ameloblastoma or mucoepidermoid carcinoma. [Gulses A., Karacayli U, Koymen R. Dentigerous Cyst Associated With Inverted and Fused Supernumerary Teeth in a Child: A Case Report. 2009;8(1):30-41.]

### Conclusion

Proper clinical and radiological findings is mandatory to provide appropriate diagnosis and initiate accurate treatment. Their early recognition and management is must as it can lead to permanent osseous destruction and sometimes fracture of the adjacent bone. Hence, we should aware about the treatment modalities and their efficacy rate. In this case report, we had treated the case by enucleation of the cystic lesion and removal of the supernumerary tooth followed by intentional endodontic treatment successfully.

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