

## CASE REPORT: ACCIDENTAL FINDING OF DENTIGEROUS CYST IN UNERUPTED MAXILLARY INCISOR

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### ABSTRACT

Dentigerous cysts form by accumulation of fluid between reduced enamel epithelium and the crown of an unerupted tooth. They cause several difficulties such as swelling, non-eruption of the involved teeth, and displacement of adjacent teeth, and thus require early detection and prompt treatment. Treatment ranges from marsupialisation to enucleation. We report a case of a 20-year-old boy with an impacted central incisor in the maxillary region. The tooth was completely placed in proximity to the nasal floor. Surgical removal of the impacted central incisor was performed under local anesthesia without disturbing the floor of the nose and granulation tissue was sent for histopathological diagnosis. Histopathological diagnosis reveals dentigerous cyst.

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### INTRODUCTION

Impacted maxillary central incisors have a major effect on the dental and facial aesthetics of an individual. The impaction of the maxillary central incisor is uncommon and only few cases have been reported (1). The order of frequency of the impacted teeth are mandibular 3<sup>rd</sup> molar, maxillary 3<sup>rd</sup> molar, maxillary cuspid, mandibular cuspid, mandibular premolar, maxillary premolar and maxillary central and lateral incisors (2). The impaction of maxillary incisors can be classified into palatally impacted incisors, labially impacted incisors and vertically impacted incisors<sup>3</sup>. The subdivisions under labially impacted incisors are labially horizontal, labially inclined and labially inverted. The subdivisions under impacted palatal incisors are palatally inclined and palatally horizontal (3).

### CASE REPORT

A 20-year-old male patient reported with the chief complaint of unerupted upper right front tooth. Patient was known case of asthma is was on medication for same since childhood. Also medical fitness was achieved form physician. Dental history and intra oral examination revealed missing maxillary permanent right central incisor and which as replaced by supernumerary teeth (Fig. I).

An Orthopantomogram demonstrated an impacted permanent right central incisor (Fig. II). OPG followed by CBCT was taken to locate the exact position of unerupted right central incisor. Thereby correlating with the clinical and diagnostic finding unerupted maxillary central incisor was placed on



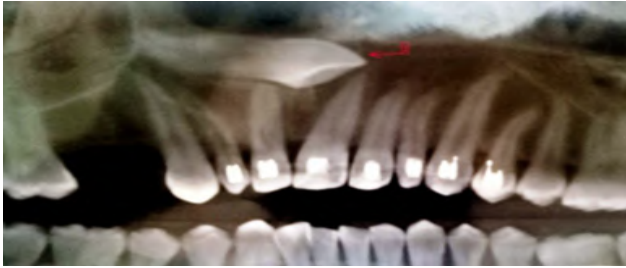
**Fig.1: Intraoral View Of The Patient Showing The Unerupted Maxillary Permanent Right Central Incisor**



**Fig. 2: Orthopantomogram Showing Supernumerary Tooth And An Impacted Maxillary Right Central Incisor**



**Fig. 3: Cone Beam Computed Tomography**



Cont...Fig. 3: Cone Beam Computed Tomography



Fig. 4: Operative View Showing Impacted Maxillary Right Central Incisor On The Labial Side..

The treatment plan comprised of surgical removal of the permanent maxillary impacted incisor. With the patient under local anesthesia, full thickness mucoperiosteal flap on the buccal side was reflected. After careful elevation of the flap, adequate amount of bone was removed using the periosteal elevator and straight elevator and the impacted permanent maxillary impacted incisor (Fig. IV) was exposed.



Fig. 5: Post-Operative



Cont...Fig. 5: Post-Operative

The impacted permanent maxillary impacted incisor was extracted and extraction socket was inspected for any pathology. Extracted teeth consisted of granulation tissue and was sent for histopathological diagnosis. The buccal mucoperiosteal flap was repositioned and sutured with vicryl 3-0 sutured and there was no oronasal communication.. After a week, the healing was normal and the sutures were removed. Histopathology report reveals dentigerous cyst in relation to impacted right central incisor.

#### DISCUSSION

Dentigerous cyst can be defined as one which encloses the crown of an unerupted tooth and is attached at the cemento-enamel junction (4). According to a revised definition it is a cyst arising by separation of follicle from around the anatomical crown of an unerupted tooth within the jaws 5. Dentigerous cyst is the most common developmental cyst of the oral cavity and accounts for more than 24% of jaw cysts. It occurs most commonly in second (6) and third decade of life (4). The dentigerous cyst develops around an unerupted tooth by accumulation of fluid between the reduced enamel epithelium and the enamel. It has been suggested that the pressure exerted by a potentially erupting tooth on an impacted follicle obstructs the venous outflow and there by induces rapid transudation of serum capillary walls. The increased hydrostatic pressure of this pooling fluid separates the follicle from the crown with or without reduced enamel epithelium (6) Mourshed et al states that 1.44 per cent of impacted teeth may undergo dentigerous cyst transformation (5). The site of occurrence in descending order is as follows; Mandibular Third Molar, Maxillary Permanent Canine, Mandibular Premolars And Maxillary Third Molars. Its association with central incisor as reported by Shear is 1.5% and by Daley and Wysockias 0.1-0.6%. The Literature reports an incidence of dentigerous cyst as 1.5% with central incisor and 45.7% with mandibular third molars, making the former a rare occurrence (6). Unlike other

odontogenic cysts, the epithelial cells that line the lumen of dentigerous cyst are reduced enamel epithelium origin and possess an unusual ability to undergo metaplastic transition into other epithelial cell types because of this unusual ability, the epithelial lining often contains focal areas of orthokeratinization or a mixture of mucin-secreting and ciliated cells. On occasion some untreated dentigerous cysts rarely but have potential to develop odontogenic tumor like ameloblastoma and malignancy like oral squamous cell carcinoma and mucoepidermoid carcinoma (7). Dentigerous cyst associated with anterior teeth will result in failure of eruption and leads to esthetic and orthodontic problems. Absence of central incisor can have an impact of social stigma affecting the psychology of the person.

### CONCLUSION

In conclusion, the surgical management of an impacted central incisor tooth pose challenges to the maxillofacial surgeon. A simple yet effective line of management remains extraction of the same. Since, the amount of such reported cases of dentigerous cyst involving impacted maxillary central incisor is negligible, the given case report intends to add value to Literature.

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