CASE REPORT

# RESTORING SMILES AND CONFIDENCE : CASE REPORT OF A MISSING ANTERIOR TOOTH IN AN 8-YEAR-OLD

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## ABSTRACT

Missing anterior teeth could be cause of emotional and social anxiety in paediatric patients. It may cause self-esteem issue due to unesthetic appearance apart from difficulty in phonation, chewing etc. This case report describes the surgical and orthodontic management of a missing maxillary central incisor in an 8 years old boy.

## KEY WORDS

**orthodontic extrusion, supernumerary teeth**

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## INTRODUCTION

Incidence of unerupted maxillary central incisor in the 5–12-year-old age group has been reported as 0.13%[1]

The etiologic factors involved with unerupted generalized teeth can be divided into generalized and localized factors.[2]

Usually, the generalized factors involve the retarded eruption of many teeth, and they have other clinical signs and symptoms which help the practitioner formulate a diagnosis.[2]

The most common causes of unerupted permanent incisors are supernumerary teeth, cysts, soft-tissue impaction, lack of enough space in the arch.[2]

The frequency of supernumerary tooth in the maxillary incisor region is very common.[3] A study was conducted in Australia demonstrated that supernumerary teeth were most frequently located in maxillary incisor region (64.3%) with mesiodens accounting for 32.4% of such presentation. In decreasing order of frequency came supernumeraries in the maxillary third molar region (29.6%), mandibular third molar region (7.0%), mandibular premolar region (7%), maxillary premolar region (4.2%) and mandibular incisor region (4.2%).[4]

Spontaneous eruption of the impacted tooth has been observed in many cases after the removal of the obstruction (i.e the supernumerary tooth)[6]. In other cases, the need for orthodontic traction to align the tooth may be there. This case report describes the management of an impacted central incisor, caused by a mesioden in the path of eruption, both by surgical and orthodontic approach.

## CASE REPORT

An 8 years old boy reported to the department of Paediatric and Preventive Dentistry of our institute with chief complain of missing maxillary left central incisor (Figure 1). A radiographic investigation was advised and in cone beam computer tomography (CBCT) images, it was revealed the said central

| Localized Factors | Generalized Factors |
|---|---|
| Retarded resorption of the deciduous teeth | Heredity |
| Early loss of the deciduous teeth | Endocrine disorders |
| Injury to the unerupted tooth germ by either trauma or infection | Rickets |
| Tumour | Cleidocranial Dysostosis |
| Cysts | Facial Hemiatrophy |
| Ectopic erupting teeth | Irradiation |
| Ankylosed teeth | Clefts |
| Supernumerary tooth | Elephantiasis |
| Dentigerous cyst causing impaction | Crouzon's syndrome |
| Malformed teeth | Idiopathic factors |
| Dilaceration | |

incisor was impacted due to the presence of a mesioden in its path of eruption (figure 2a and 2b). On clinical evaluation, there was enough space to accommodate for the unerupted tooth ruling out the need for orthodontic expansion prior to the surgery. The treatment was planned in two phases. The first phase was to surgically expose the tooth and bond an orthodontic attachment. The second phase was orthodontic alignment and levelling.

The surgery was planned after routine blood investigation and history taking. A full thickness flap was raised from tooth 13 to 23 under local anaesthesia. The mesioden was visible mesio-buccal to the root of the right central incisor (figure 3) and it was removed. Bone removal was done to expose the impacted tooth. A lingual button with gold chain attachment was bonded (figure 4) on the tooth surface after etching and priming. The free end of the chain was fixed to the right central incisor with composite resin. The flap and the surgical site were irrigated with betadine solution and closed with 3-0 silk suture (figure 5). Primary haemostasis was achieved and pressure pack was placed. Patient was given post-surgical instructions along with antibiotic and analgesic coverage. Suture removal was done after 7 days and satisfactory uneventful healing was achieved.

The patient was kept under observation for 2 months to follow up on any post operative complications before starting with the phase two of the treatment. By this time, some degree of spontaneous eruption was noticed for tooth 12 (figure

**Figure 1- Pre operative intra oral photograph**

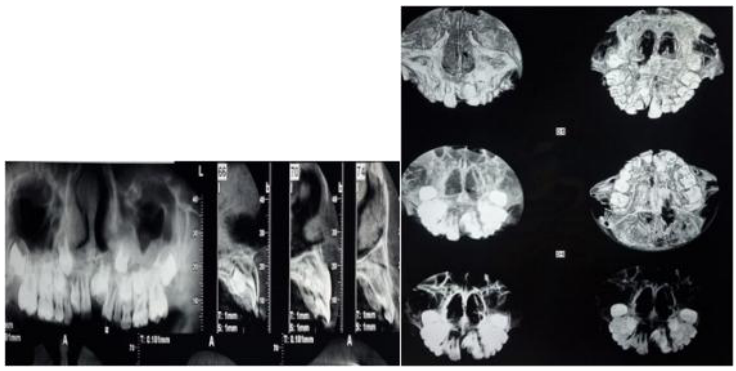

**Figure 2A and B- Cone beam computer tomography images showing impacted 21 and mesioden**

**Figure 3- Mesioden visible after raising full thickness flap**

**Figure 4- Lingual button with chain bonded on 21**

 

**Figure 5- After suturing**

**Figure 7 – after bonding and placing 0.012 NiTi wire**

**Figure 9- after debonding, final alignment**

6). Permanent maxillary molars where banded with preformed molar bands with buccal tubes. 0.022″

**Figure 6- Two months post operative**

**Figure 8- Two months post initiation of fixed mechanotherapy**


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