

Impacted Upper Central Incisor Traction or Extraction ???

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Introduction

Impaction is a total or partial lack of eruption of a tooth well after the normal age of eruption.^[1] most commonly impacted maxillary tooth is a canine occurring in less than 2% of the general population, followed by central incisors with frequency of 0.06%-0.2%^[2]. The most common cause of impaction seem to be odontoma, supernumerary teeth and loss of space. Impactions caused by discrepancies in the eruption path related to crowding or less common.^[3] Other causes are crown or root malformation of permanent incisors due to trauma transmitted from the primary predecessors and apical follicular cyst that prevents normal eruption. This report describe two cases of highly placed impacted upper central incisors which is horizontally placed well above the level of apical third of root of lateral incisors near nasal aperture.

Key words: Impaction, Impacted Maxillary Central Incisor, Odontoma, Supernumerary Teeth.

Case Report 1

A 24 years female patient was referred by orthodontics who was carrying out her treatment for past 2 ½ years. On clinical examination orthodontic traction wires were visible with overlying inflamed mucosa. History revealed trauma at the age of 5 years. Routine OPG, lateral cephalogram and AP view was advised to plan out further treatment. X-rays showed very highly placed impacted central incisors and left canine. Upper central incisors was horizontally placed with crown on buccal side and roots palately above the level of roots of lateral incisors near nasal aperture. Vertical height from occlusal surface to the tip of central incisor was 9 mm. under local anaesthesia, crevicular incision was made

from lateral incisor to lateral incisor. Mucoperiosteal flap was raised and crown was exposed by brushing the bone tooth was sectioned and removed and central incisor was extracted by sectioning the tooth. Canine was not extracted as patient was only concern about her esthetic of anterior teeth. Wound was closed with 3-0 black silk. Temporary acrylic teeth was fixed with fibres splint using light cure.

Case Report 2

An 18 year old female patient was referred to our department from the department of orthodontics as there was delay in eruption of maxillary left central incisor and was not coming upto the occlusal level. The tooth had a typical curved root which was practically impossible to come out of its own. An attempt was done to take out the tooth orthodontically with brackets which was unsuccessful. On examination there was diastema present between 11 & 22. Radiograph revealed presence of an impacted central incisor which was impacted and was in labio-palatal direction. Surgical removal of tooth was planned under local anesthesia after getting the blood investigation done. Crevicular incision in the anterior maxilla was used to raise the flap on labial aspect. The tip of the tooth was visible after the exposure. Gutting was made around the tooth structure and the tooth was taken out in toto. Wound toilet was done followed by suturing with 3-0 black silk. Post operative period was uneventful.

Discussion

Impacted teeth can cause serious dental and aesthetic difficulties as well as psychological problems especially in anterior regions. Although the impacted maxillary incisors occur less frequently

than the maxillary canine, it is of concern to parents during early mixed dentition stage of noneruption of the tooth.^[4] Maxillary central incisor impactions occur infrequently, their origins include various local causes lie, odontoma, supernumerary tooth, space loss, disturbances in eruption path, trauma and apical follicular cysts. In our first patient both upper permanent incisors were impacted due to trauma. Impaction of maxillary anterior teeth can be challenging orthodontic problem. Several reports have indicated an impacted tooth can be brought into proper alignment in the dental arch.^[5-8] The following factors are used to determine whether successful alignment of an impacted tooth can take place⁽¹⁾ the position and direction of an impacted teeth⁽²⁾ the degree of root completion⁽³⁾ the degree of dialceration⁽⁴⁾ the presence of space for the impacted tooth. Holland has recommended the impacted tooth must be considered together with these factor. Vertically position impacted central incisors in relation to contralaterally erupted tooth root length can be classified as V1-sector at the level of gingival third of the root, V2-sector at the level of middle third of root, V3-sector at the level of apical third of root as shown in the figure. In our case as tooth was horizontally placed and well above the apices of lateral incisors orthodontic forces was not favourable so extraction was performed. According to D.Smailiene et al spontaneous eruption was recorded in 85.7% of cases belonging to category V1. 68.4% in category V2 and only 28.6% in category V3. But our case does not fall into vertical position as described by him.

Conclusion

It better to correct the position of impacted upper central incisor with

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orthodontic treatment but this case report shows all impacted central incisors can not be aligned by conservative method. Careful history proper radiographs are necessary before planning any orthodontic treatment or surgical removal of impacted upper central incisors.

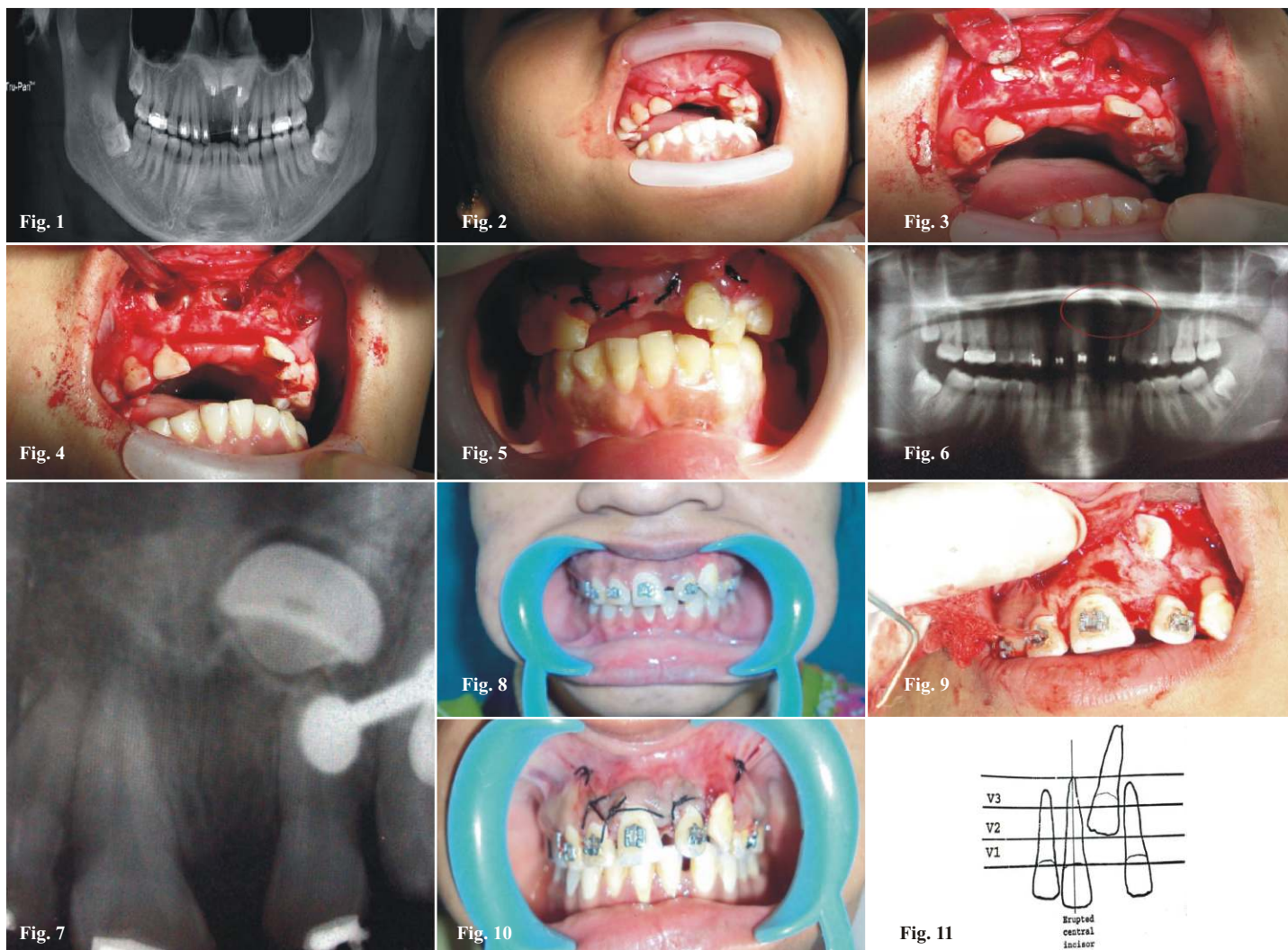
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Legends

- Fig. 1 Preoperative OPG of Case 1 revealing impacted I1 and 21
- Fig. 2 Incision Marking of Case 1
- Fig. 3 Exposure of the Impacted Central Incisors in Case 1
- Fig. 4 Empty socket after removal of teeth in Case 1
- Fig. 5 Sutured surgical site in Case 1
- Fig. 6 Preoperative OPG of Case 2 revealing impacted 21
- Fig. 7 Preoperative IOPAR of Case 2 revealing impacted 21
- Fig. 8 Preoperative Intraoral view of Case 2 revealing absence of tooth I1 21
- Fig. 9 Intraoperative view of Case 2 after exposure of the tooth.
- Fig. 10 Sutured surgical site in Case 2
- Fig. 11 Levels of Impacted Maxillary Central Incisor



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