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CASE STUDY

SURGICAL EXTRACTION OF IMPACTED MANDIBULAR CANINE: CASE REPORT

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ABSTRACT

Impacted tooth is one that fails to erupt and will not attain it's anatomical position beyond chronological date of eruption. This article reports a case of surgical extraction of mandibular left impacted canine which was managed successfully.

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INTRODUCTION

A 17 year male patient visited to the M.A. Rangoonwala dental college, Pune with the chief complaint of malaligned teeth. This patient was adviced to undergo orthodontic treatment. While this treatment, on radiographic examination, impacted mandibular left canine was located and it was planned for its surgical extraction and was referred to the department of "oral and maxillofacial surgery" for the further management. Vestibular incision was planned in the lower left anterior teeth region and mucoperiosteal flap was raised.High dome-shaped projection was palpated and with the help of radiographs, position of impacted canine was located. After this overlying bone was removed surgically and tooth was removed after sectioning in two parts. In this way, this case was managed.

DISCUSSION

Development of tooth results from a complicated multistep interaction between the underlying mesenchymal tissue and overlying epithelium.Formation of mature teeth results from a series of tissue interactions which are complex in nature (Dwivedi *et al*., 2013). Impacted tooth is one that fails to erupt and will not attain it's anatomical position beyond chronological date of eruption.

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Impaction of tooth can be defined as the infraosseous position of the tooth after the expected time of eruption, whereas the anomalous infraosseous position of the canine before the expected time of eruption can be defined as displacement (Ranjit Manne, 2012). Clinical as well as radiographic examinations are necessary to diagnose canine impaction. Prolonged retention of deciduous canine (After the 14-15 years of age) and delayed eruption of permanent canine, distal tipping or migration of lateral incisor are indicative of canine impaction (Ranjit Manne, 2012). "Transmigration" is a rare clinical tendency of impacted tooth to coss the midline.The phenomenon of "transmigration" is seen mostly in mandibular canine & in very few cases of maxillary canine. The phenomenon of transmigration is more frequently reported in females than males and it's ratio of occurrence is 1.6: 1. (Shreya Singh, 2017). The canine tooth either remains impacted or it erupts in the midline /contralateral position, due to intra-osseous movement.In many cases, such canine tooth remains asymptomatic, but in few cases, it may cause displacement of adjacent teeth or root resorption (Shreya Singh, 2017). The orthodontic correction of such impacted canine cases is very much difficult and untreated cases may develop dentigerous cyst (Shreya Singh, 2017). In such conditions, transalveolar extraction of the impacted canine along with cystic lining enucleation forms the treatment of choice in such conditions (Shreya Singh, 2017). For getting proper position in the dental arch, a normal mechanism is

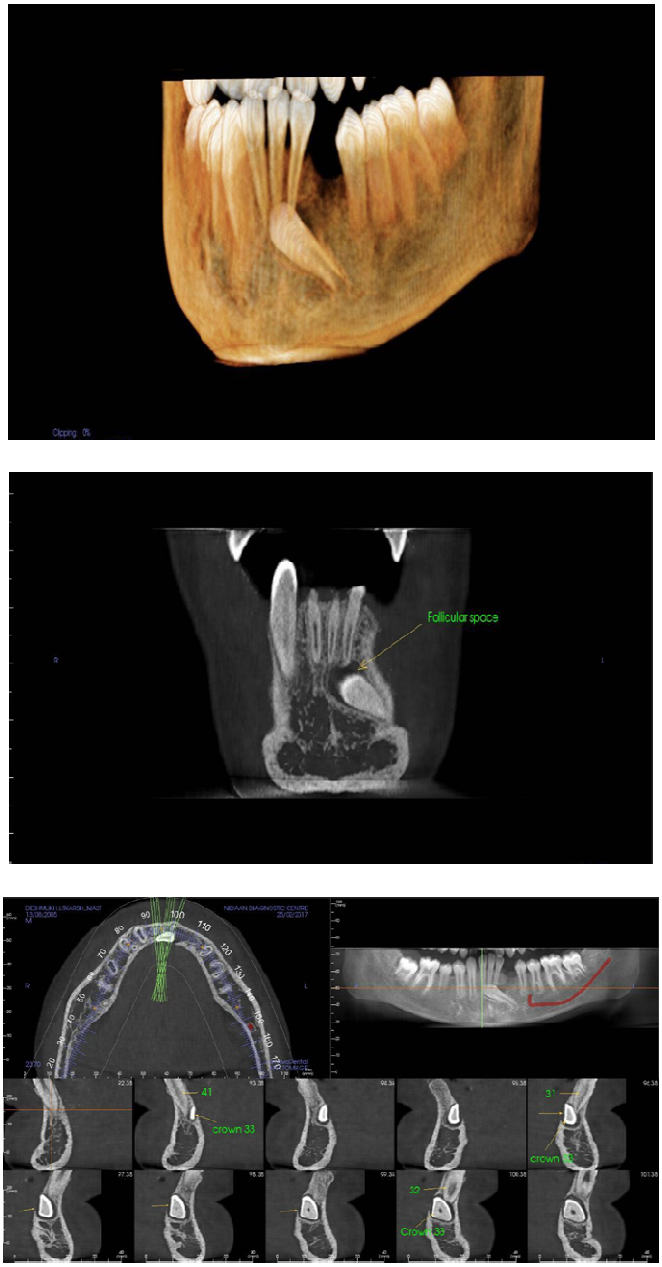

Figure 1. Radiographic images of impacted left mandibular canine

Figure 2. Intraoperative localizationof impacted left mandibular canine.

necessary which is known as the "pre-eruptive tooth migration".Most commonly, permanent mandibular canine moves in a vertical &labial direction.Rarely impacted mandibular canine crosses the midline (Shreya Singh, 2017).

Figure 3. Extractedleft mandibular canine

Various etiologies like long path of eruption, premature loss/retention of the deciduous canine, trauma, genetic pre-disposition and if there is absence of anatomical restriction in mandible (Shreya Singh, 2017).

The pattern of intra-osseous transmigration of impacted canine can be classified as follows (Shreya Singh, 2017).

Type -1:- Canine impacted mesioangularly across the midline, labial or lingual to anterior teeth.

Type – 2:- Canine impacted horizontally near the lower border of the mandible, inferior to apices of the incisors.

Type – 3:- Canine erupted either mesial or distal to the contralateral canine.

Type – 4:- Canine impacted horiziontally near the inferior border of mandible, below the apices of either premolars or molars on opposite side.

Type – 5:- Canine positioned vertically in the midline, with the long axis of tooth crossing the midline.

If impacted canine is not treated, it may cause further migration of the adjacent teeth and loss of arch length, dentigerous cyst formation, internal resorption and infection as well as external root resorption of not only the impacted tooth but also of neighbouring teeth (Anila Charles, 2012). In impacted canine cases, surgical extraction is indicated in patients with poor dental status, in conditions where soft tissue factors and radiographic factors affect the prognosis of orthodontic alignment (Anila Charles, 2012).

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