

**Orthodontic Management of Ectopically Erupted Maxillary Central Incisor and Canine - A Case Report****Kishor A. Chougule**

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**ABSTRACT:**

A variety of eruption problems arise during the transitional dentition period and one such challenge for the practitioner to manage is ectopic eruption. The condition is caused by the physical displacement of the permanent germ, the lack of eruption guidance by the prematurely lost primary incisor or both. Ectopic eruption is a condition in which the permanent teeth, because of deficiency of growth in the jaw or segment of jaw, assume a path of eruption that intercepts a primary tooth, causes its premature loss and produces a consequent malposition of the permanent tooth.

The present manuscript is a case report of a patient with unilateral ectopic eruption of maxillary right central incisor and canine. The orthodontic intervention with fixed appliance was done. At the end of treatment, a satisfactory correction was achieved. Early diagnosis and intervention may prevent a more complicated malocclusion in future.

**Keywords:** Ectopic, Eruption, Orthodontic treatment**INTRODUCTION:**

A variety of eruption problems arise during the transitional dentition period and one such challenge for the practitioner to manage is ectopic eruption. Ectopic eruption is a condition in which the permanent teeth, because of deficiency of growth in the jaw or segment of jaw, assume a path of eruption that intercepts a primary tooth, causes its premature loss and produces a consequent malposition of the permanent tooth.<sup>1</sup> Ectopic eruption of a permanent incisor may result from traumatic injury to its predecessor. The condition is caused by the physical displacement of the permanent germ, the

lack of eruption guidance by the prematurely lost primary incisor or both.<sup>2</sup>

Early diagnosis and intervention may prevent a more complicated malocclusion in future. Failure to treat ectopic eruption can result in loss of arch length and inadequate space for the succedaneous teeth. Orthodontic treatment is justifiable for esthetic reasons, too.

The following manuscript is a case report of a patient with unilateral ectopic eruption of maxillary right central incisor and canine.

**CASE REPORT**

A 13 year old boy G.S. reported to the clinic with ectopically erupted upper right

central incisor and canine. The deciduous canine was over-retained. The patient gave a history of trauma to his upper front teeth. The patient had a fractured upper left central incisor with a good posterior occlusion. The upper right molar had shifted mesially on account of the highly placed upper right canine, thus the molar relation on right was class II. On left side the molar relation was class I. Upper dental midline was shifted to right.



Figure 1: Pre-treatment extraoral (Frontal)

Figure 2: Pre-treatment extraoral (3/4th smiling)



Figure 3: Pre-treatment (intraoral)

### TREATMENT OBJECTIVES

The objectives of the treatment were: alignment of ectopic canine and central incisor to normal occlusal level, correction of maxillary midline discrepancy, establishment of class I canine and molar relationship, obtaining a normal overjet and overbite and improvement of facial profile.

### TREATMENT PLAN AND PROGRESS

On the basis of cephalometric analysis, model analysis and based on patient's soft

tissue profile a non-extraction line of treatment was decided. The patient was strapped up with a preadjusted edgewise appliance. Initial leveling and alignment was done on NiTi wires. Since there was a space deficit of 5-6 mm, the space was obtained by proximal slendarization and some amount of arch expansion. Initially, the canine was leveled in the space which was created by the extraction of over-retained deciduous canine. An open coil spring was added to the archwire to create space for the ectopic central incisor. The total duration of fixed mechanotherapy was 20 months. The case was debonded and a lingual bonded retainer was given.



Figure 4: During treatment (intraoral)



Figure 5: Post-treatment extraoral (Frontal)

Figure 6: Post-treatment extraoral (3/4<sup>th</sup> smiling)

### DISCUSSION

Ectopic eruption in the general population is reported to be 1 to 2 percent.<sup>3</sup> A disturbance of the differential growth pattern of the individual is reported in the literature. Different tissues and organs grow at different rates & at different times. A delicate balance normally exists between the timing and rate of growth.

Differential growth is the basis for normal & harmonious completion of various physiologic processes including the eruption of teeth. Whenever this balance is disturbed, whether due to congenital factors or environmental interferences, an abnormal situation develops. Any permanent tooth can be ectopic and the cause may be both genetic & environmental.<sup>4</sup>

### **SUMMARY AND CONCLUSIONS**

Disturbances in the eruption of permanent maxillary canines and/or incisors are common. Supervision of the developing dentition and early diagnosis of ectopic eruption may prevent impaction of these teeth and resorption of adjacent teeth.

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