

# MANDIBULAR LATERAL INCISOR-CANINE TRANSPOSITION

## A CASE REPORT

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### **ABSTRACT**

*A case of bilateral mandibular lateral incisor-canine transposition in a 20 year old male patient is reported. Factors which could be involved in the etiology of such a malformation include- (1) the eruption sequences, (2) the actual position of the erupting tooth buds, and (3) the position of the ectopically erupted lateral incisor.*

### **KEY WORDS:**

*Transposition, ectopic eruption.*

### **INTRODUCTION**

Even as the debates on the exact definition of the ectopic eruption continues the one thing that all authors agree to is- "extreme ectopic eruption can lead to a complete transposition of teeth"<sup>1-4</sup>.

The mandibular permanent lateral incisor has been found to be the most frequently ectopically erupted tooth<sup>5,6</sup>. The condition may occur both unilaterally or bilaterally. The unilateral form is more common<sup>4</sup> with the right side being involved more frequently<sup>3,7</sup>. If the condition is diagnosed early, at 7 to 8.5 years of age, the treatment might be relatively simple, but in extreme cases in which arch length is lost due to the early exfoliation of the deciduous canine the treatment generally requires the extraction of the ectopically erupted lateral incisor and/or other dental units<sup>3,4</sup>.

The purpose of this article is to report a case of bilateral incisor-canine transposition and to discuss its possible etiologic factors.

### **CASE REPORT**

A 20 year old male patient reported to the department with the complaint of irregularly placed lower front teeth. The extraoral examination revealed a straight profile, acute nasolabial angle and incompetent lips.

Intraoral examination revealed a full complement of teeth in both the arches; with mandibular canines erupting between the lateral and central incisors. The lower lateral incisors were mesiolingually rotated with the crowns tilted distally. The molar relation was Class I. The patient has been advised to under-go fixed appliance therapy, but the patient is as yet hesitant to undertake it.

## DISCUSSION

An ectopically erupting lateral incisor often causes premature loss of the deciduous canine and occasionally the deciduous first molar. Also it frequently erupts rotated and distally displaced. Thus the presented case can be said to represent a case of bilateral ectopic eruption of the mandibular incisors which led to the transpositioning of the canines. The plausible causes of dental transposition as summarized by Platzer<sup>2</sup> include (1) the movement of the developing teeth within the jaws before they erupt in the oral cavity, (2) over retention of deciduous teeth and (3) premature loss of deciduous teeth. But the basic cause remains to be the extent to which the erupting lateral incisor is deviated from its ideal position.

For a lateral incisor-canine transposition to occur it is essential that the permanent lateral incisor cause the premature loss of the deciduous canine or even the deciduous first molar. This will lead to a decrease in the effective arch length. Also it was noted that lateral incisors which erupted lingually and did not show a tendency to move by themselves into normal alignment, the inter-canine space increase was either very small or lacking entirely<sup>8</sup>, majority of the cases fall into this category. The explanation would also justify the extraction of the ectopically erupting teeth in arch length deficiency cases<sup>3</sup>.

To justify cases as the one presented here, as well as, in a few other selected reports<sup>4,7</sup>, where sufficient space was present to accommodate all teeth, attention should be directed at (1) the eruption sequence, (2) the actual position of the erupting tooth buds, and (3) the position of the ectopically erupted lateral incisor.

All the cases with lateral incisor-canine transposition present an eruption sequence wherein the canine erupts after the eruption of the first and/or second premolar. This coupled with an early loss of the deciduous canine automatically leads to the collapse of the anterior segment. This may be one plausible cause for the distal titling of the lateral incisor, it

tends to get deviate further mesially in its path of eruption. This is in keeping with its original vertical and slightly mesial path of eruption, which is labial to that of the lateral incisor which precedes it in the chronological order. This may be further facilitated with the distal rotation of the lateral incisor as this brings a more flattened surface of the lateral incisor root in contact with the erupting canine, thus allowing it to slide along it in a more mesial direction.

Actual transposition of tooth buds shall always remain a possibility. Majority of the authors still blame a lack of timely growth of the jaws for this malformation, whatever their way of phrasing it<sup>3,9,10</sup>.

An awareness of the possibility of a lateral incisor-canine transposition is important so that the problem can be detected early and prevented. Hopefully this article shall create an awareness of this malformation in the minds of the general dentists and pedodontists who see the patient at a younger age.

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