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# Anomalous Path of Eruption-Transmigrant Canine

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## ABSTRACT

Movement of an unerupted tooth in the bone across the midline in the dental arch is termed as transmigration. Such dental anomaly occurs when there is dysregulation in the dental follicle which determines the direction and timing of tooth eruption. Analysing the degree of canine inclination(i.e) 30-50 degree on a panoramic radiograph is useful in early diagnosis of transposition.It is more prevalent in females than in males, and more often encountered in the mandibular canine than maxilla.

Deficiency in space in the dental arch or presence of any pathological entity blocking the path of eruption of the succeeders results in the impaction of the tooth. Few possible etiological factors are excessive length of crown, spacing, crowding, retention or premature loss of the deciduous canine, supernumerary teeth, presence of cyst, tumor or odontome lesion blocking the path of eruption eventually leading to the malposition of teeth promoting abnormally strong eruptive force.

So here in this report, we present four documented cases of transmigrant canine showing different patterns of migratory path which were diagnosed as an incidental finding in the routine panoramic radiographs.

**Keywords**: Transmigration, Dental anomaly, Oral panoramic radiograph, Mandible, Impacted tooth.

## INTRODUCTION

Migration of the un-erupted tooth within the dento-alveolar intraosseous compartment is rare to encounter in clinical practice. This unusual phenomenon is termed as tooth transmigration when it crosses the midline of the dentition[1].This rare condition was first reported by Ando in the year 1964. The incidence of mandibular canine impaction was found to be 3.58% and the incidence of transmigration of mandibular canine is reported to be 0.14%-0.31%, the diagnosis of these unusual phenomenon has increase in the past 30 years with the introduction of dental Panoramic tomography[2].

This report presents four cases of transmigration of canine pertaining to the migratory pattern of canine as classified by *mupparapu*which states that canines were considered transmigrant only if the path of eruption is altered and the tooth had crossed the midline with an average visibility of half the crown length crossing the midline. And also certain clinical considerations as well as guidelines for general practitioners in terms of diagnosis and management are discussed.

## DISCUSSION

The frequency in occurrence of canine transmigration is predominantly more in the mandible than maxilla which is due to the larger distance between the apical portion of the roots and lower border of mandible, and as the migratory canine. Transmigration of maxillary canines is very rare, which may be due to the shorter inter-root distance of adjacent teeth.

Certain clues related to diagnostic aspects for such transmigration of tooth must be suspected when the mandibular permanent canine is clinically absent in the dental arch, presence of retained primary canine and presence of deviation of occlusal midline. It's not usually possible to rule out such anomaly in the routine intra-oral periapical radiographs as the transmigrated tooth often pass in close approximation with the base of the mandible. This is when the dental panoramic radiographs render their role in diagnosis of such incidental findings.

The preventive and interceptive treatment includes extraction of the retained primary canine and surgical exposure of the impacted canine followed by orthodontic correction. Transplantation of the transmigrated tooth is an alternative approach which favours re-establishment of blood supply post-operatively[3].

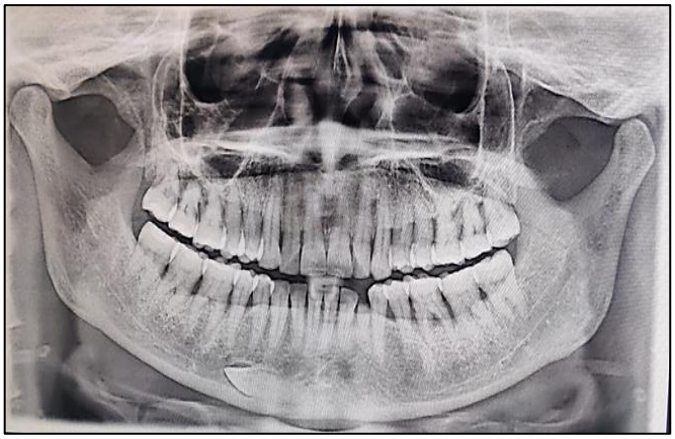
Patients with such dental anomaly should be in periodic monitoring to check the position and migration pattern and also to evaluate if there is any development of cystic lesion associated with the transmigrant canine.

## CONCLUSION

For a better understanding and management of such intricate developmental anomaly, regular radiographic check-up should be done. Evaluation with various intraosseous staging of tooth migratory patterns is essential for timely interception with surgical or orthodontic treatment.

## ILLUSTRATION

**FIGURE I:** Dental panoramic tomography of a 46 year old Female patient showing transmigrated lower left canine which has crossed the midline and a Retained deciduous left mandibular canine.TYPE IV-*Mupparapu's*classificationof transmigrated mandibular canines.



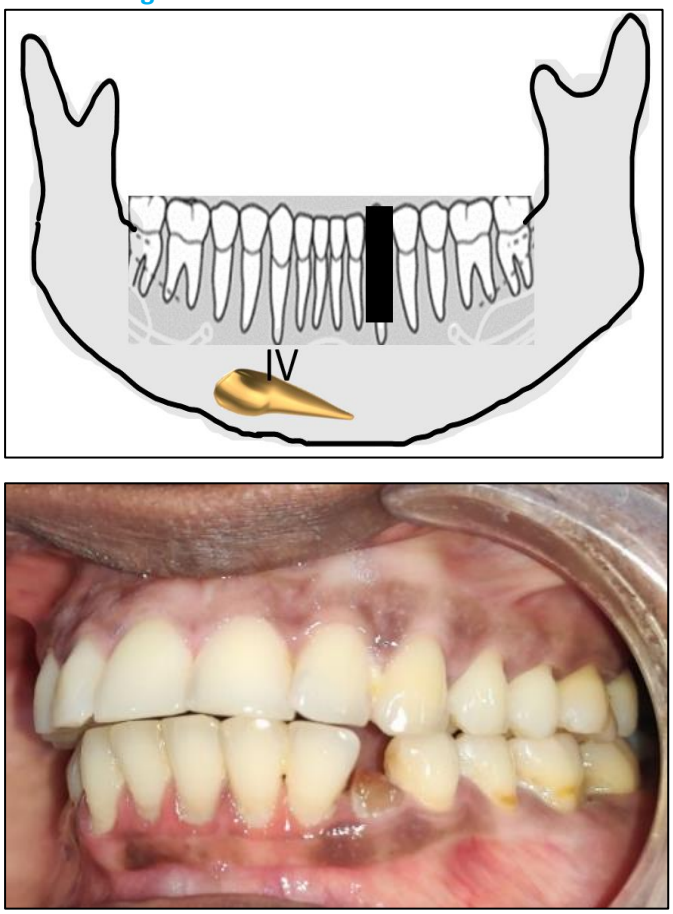



**FIGURE II**: Dental panoramic tomography of a 38-year-old Female patient showing transmigrated lower right canine.TYPE III- *Mupparapu's*classification of transmigrated mandibular canines.

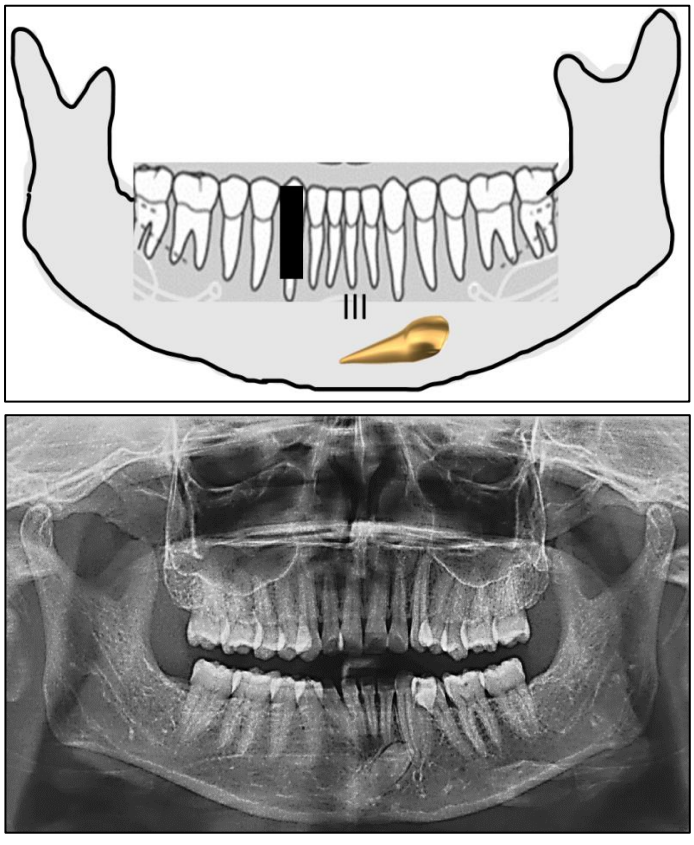


**FIGURE III:** Dental panoramic tomography of a 53-year-old Female patient showing transmigrated right maxillary canine.

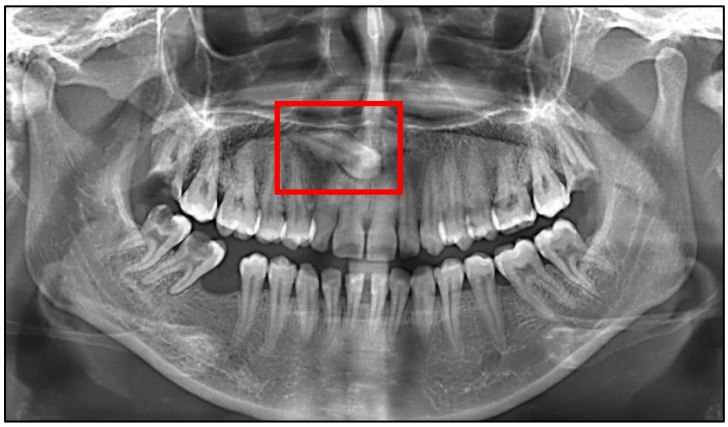
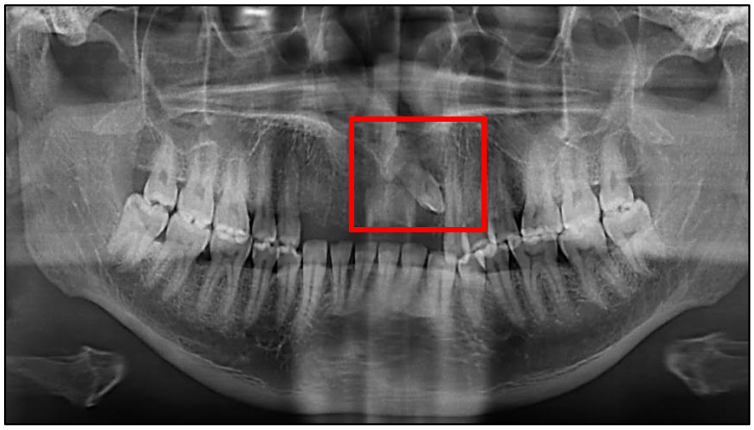


**FIGURE IV:** Dental panoramic tomography of a 27-year-old male patient showing transmigrated right maxillary canine which crosses the midline.



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