Case Report

TRANSMIGRATION OF MANDIBULAR CANINE: A CASE REPORT

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ABSTRACT

Aim: To show a case which led to malocclusion leading to patient presentation in an orthodontic clinic. Tooth eruption, a complex process can be distorted by a number of factors leading to ectopic eruption of a tooth. Canine Transmigration is a pre eruptive form of ectopic tooth movement in which the canine crosses the midline and maybe impacted or rarely erupts in this aberrant position. This can lead to malocclusion leading to patient presentation in several orthodontic clinics.

Case report: This is a case report of a 52year old female who presented with a transmigrated lower right canine and retained mobile lower right deciduous tooth. Patient opted for extraction of the transmigrated right canine and the mobile retained deciduous canine even though patient would have benefitted from orthodontic management of the displaced tooth.

Conclusion: Transmigration of mandibular canine is possible.

Keywords: canine transmigration, mandible, displaced tooth

INTRODUCTION

Three striking important ectopic situations can happen to an ectopic canine warranting presentation in an orthodontic clinic. These are; impaction, transposition and transmigration.[1]

Pre-eruptive migration of a canine across the midline is termed transmigration.[2,3] This is when the unerupted canine moves away from its normal developmental position and crosses the midline.[3] Transmigrated teeth usually will remain impacted but rare cases of these ectopic teeth erupting at the midline or on the opposite side of the arch have been documented.[4,5]

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With transmigration aetiology largely unknown, several mechanisms and aetiological factors have been proposed. These include over retention of deciduous canine, early loss of deciduous canine, crowding, spacing, supernumerary teeth and excessive length of the crown of mandibular canine, tumors, cysts and odontomes have all been implicated.[6]

Tooth eruption is a complex process with numerous factors associated; the process can be altered leading to abnormal tooth position among many other possible abnormalities.[4] The most reported ectopic teeth are maxillary first permanent molars and canines followed by mandibular canines and second premolars

and lastly maxillary lateral incisors.[7] Tooth transmigration is almost exclusively reported in the mandible with prevalence ranging from 0.8 – 3.6%.[8,9]

Mupparapu classified transmigrated mandibular canines into five types;[10]

Type 1: Mesioangularly impacted canine across the midline with only crown portion crossing the midline.

Type 2: Horizontally impacted canine near the lower border of the mandible below the root apices of the incisors.

Type 3: Canine present either mesially or distally to the opposite canine.

Type 4: Horizontally impacted canine near the lower border of the mandible below the root apices of the premolars or molars on the opposite side.

Type 5: Canine positioned vertically in the middle with the long axis of the tooth crossing the midline

CASE REPORT

Case of Mrs A.M, a 52year old female who presented to the University of Benin Teaching Hospital orthodontic clinic on account of poor arrangement of her teeth and a painful tooth. Clinical examination revealed transmigration of the lower right permanent canine with the long axis across the lower arch midline, retained left deciduous canine. Clinical photographs (figure 1 and 2) and a panoramic radiograph (figure 3) was taken as shown below.

Patient opted for extraction of the transmigrated canine and slightly mobile deciduous canine which was done in the Oral and Maxillofacial Department Clinic of the University of Benin Teaching Hospital under local anesthesia. Post extraction photograph (figure 4) was taken as shown below.

Figure 1: Intraoral frontal view showing right Canine in the midline

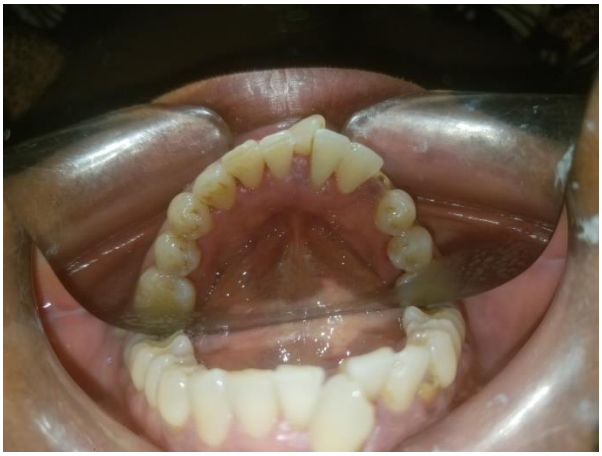

Figure 2: Intraoral lower occlusal view showing midline positioned right canine labially displaced

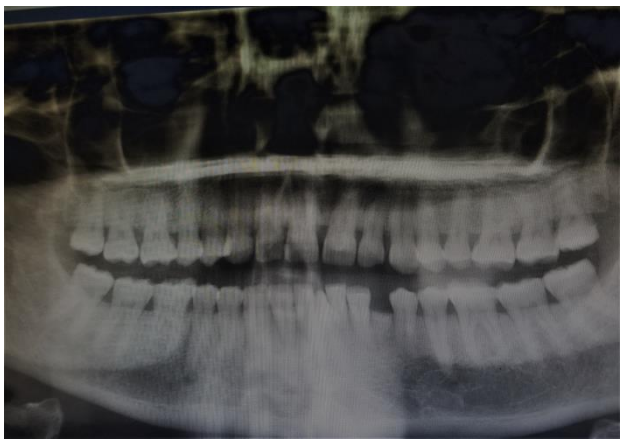

Figure 3: Orthopantogram of the patient

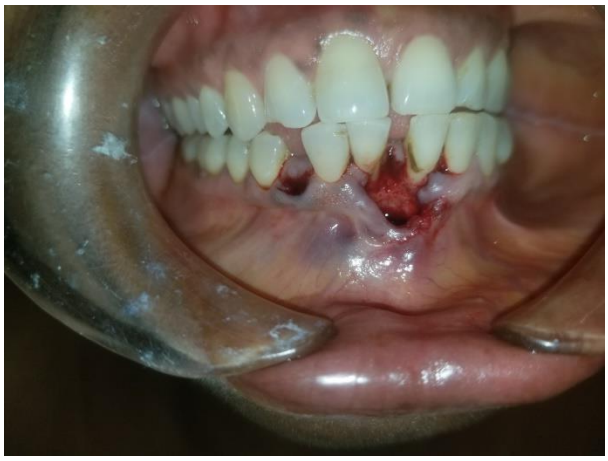

Figure 4: Intraoral frontal view showing immediate post-extraction of the displaced right canine and retained right deciduous canine.

DISCUSSION

The term transmigration coined by Ando et al[2] in 1964 which Tarsitano et al[3] defined as the movement of the an unerupted mandibular canine crossing the midline. This very rare anomaly has an incidence rate of 0.1%.[11] with male to female ratio placed at 2:1 and average age of presentation ranging 8-62 years.[12] This is in keeping with our finding as our patient is a female and aged 52years.

More of unilateral cases of transmigration have been reported and left mandibular canines involvement have been documented.[9] This case was unilateral with left canine involvement.

Based on Mupparapu classification of transmigration of 2002,[10] Type 1 is the most common type followed by type 2, type 4, type 3 and type 5, respectively.[13] This case belongs to type 5 which is in the rarest class.[10] A variety of local or pathologic factors have been suggested in the aetiology of transmigration,[9] and retained deciduous canine appears to be the most plausible cause in our case.

Most cases of transmigration are asymptomatic clinically.[13] Clinical findings such as pressure resorption of roots, adjacent tooth displacement/rotation, pain and unaesthetic appearance to the patient may accompany transmigration.[13] Other associated clinical findings include absence of permanent mandibular canine in the dental arch or abnormal retention of the primary mandibular canine and missing teeth.[13] Pain from retained deciduous canine was part of the clinical presentation in this case. Pathologies such as dentigerous cyst and odontomas have also been reported with transmigration.[12]

Following thorough radiographic examination, extraction, transplantation and orthodontic repositioning are some of the suggested treatment options for a transmigrated canine.[13,14] Our case opted for extractions of the transmigrated canine and mobile painful retained deciduous canine.

In conclusion, transmigration of mandibular canine is possible. Thorough assessment of patient is encouraged and patient centered treatment advocated.

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