

Reversely Placed Mesiodens In Mid Palatal Raphe Area: A Rare Case Report

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Abstract: *Supernumerary teeth which are additional to normal series of dentition, can be seen anywhere in the oral cavity. Conical shaped mesiodens are most common. They are mostly seen in premaxillary area and mainly show male predominance. But we are reporting a case of 59 year old female rehabilitated with complete denture prosthesis in both arches, with reversed horizontally placed conical shaped mesiodens in mid palatal raphe area. As far as our knowledge goes no case has been published so far in which an accessory tooth is present in mid-palatal raphe area in this age group.*

Keywords: *Mid palatal raphe, Reversed horizontally placed conical mesiodens, Complete denture prosthesis, Supernumerary tooth.*

I. INTRODUCTION

A supernumerary tooth is one that is additional to the normal series of deciduous or permanent dentition. They can appear anywhere in the oral cavity. They may be single, multiple, unilaterally or bilaterally and in the maxilla, mandible or both. Their prevalence rate is higher in permanent dentition as compared to primary because in primary they often remain unnoticed by parents due to pre-existing spacing which allows supernumerary teeth to erupt into proper alignment. For permanent dentition prevalence rate ranges between 0.1-3.8% & for primary 0.3-0.8%. Their occurrence

is 8.2 to 10 times higher in maxilla than the mandible and commonly affect the premaxilla. Supernumeraries develop from a 3rd tooth bud arising from the dental lamina near the permanent tooth bud, or from splitting of permanent tooth itself. They may be also formed by local, independent, conditioned hyperactivity of the dental lamina.

Some medical conditions may be associated with supernumerary teeth like cleft lip and palate, Cleidocranial dysostosis, Gardner's syndrome, Fabry Anderson's syndrome, Ellis Van Creveld syndrome (Chondroectodermal dysplasias), Ehlers Danlos syndrome, Incontinentia Pigmenti and Tricho-Rhino-Phalangeal syndrome.

We are presenting a rare case of “A reversely placed horizontal supernumerary tooth in the midline of palate”.

II. CASE REPORT

A 59 year old female patient reported to the department with the chief complaint of loosening of upper denture since 1 month. Patient underwent full mouth extraction 3-4 years ago, which was atraumatic and was rehabilitated with complete denture prosthesis (Figure 1). Retention of prosthesis was good. History of kidney donation 1 year back.



Figure 1: Extra-oral view of patient

INTRAORAL EXAMINATION

Mouth opening was adequate. Completely edentulous upper and lower arch. Single tooth was seen (crown part) on posterior mid-palatal region (Figure 2) (Figure 3).



Figure 2: Intraoral view (a)



Figure 3: Intraoral view (b)

RADIOGRAPHIC EXAMINATION

Intraoral periapical radiograph shows radio-opaque crown portion of tooth (Figure 4).

Cone Beam Computed Tomography (CBCT) shows conical shaped tooth which is present in the mid-palatal raphe area (Figure 5). Crown portion is directed toward posterior palatal seal area & root tip is directed toward anteriorly (Figure 6).

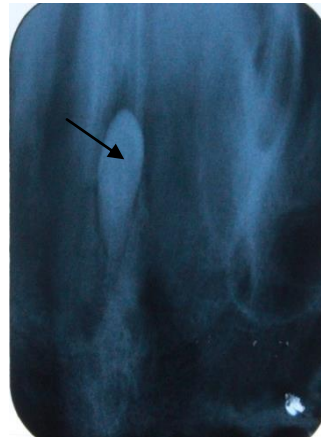


Figure 4: Intra-oral periapical radiograph



Figure 5: Cone beam computed tomography (a)

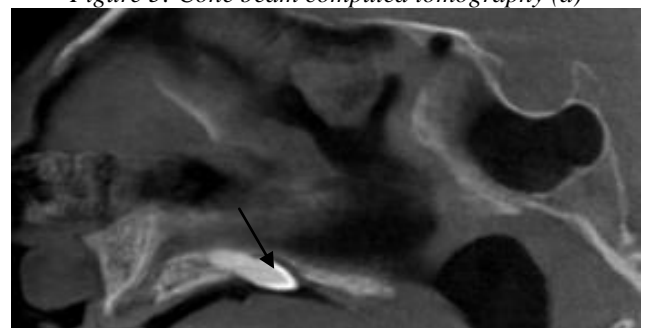


Figure 6: Cone beam computed tomography (b)

III. TREATMENT

Pre-treatment models were fabricated using dental stone (Type III) (Figure 7) (Figure 8). Intraoral preparation with betadine mouth wash was done. Local anesthesia with adrenaline was given on palatal mucosa. Anesthetic effect was achieved. Using periosteal elevator palatal mucoperiosteal flap

was reflected. The tooth was elevated and extracted (Figure 9) (Figure 10). Pressure pack was given, and haemostasis was achieved. Post operative medication and instructions were given.



Figure 7: Maxillary impression

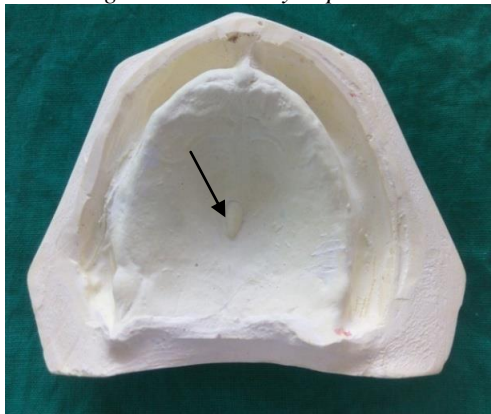


Figure 8: Maxillary Cast



Figure 9: Post operative view



Figure 10: Extracted accessory tooth

IV. DISCUSSION

Mesiodens is the most common type of supernumerary tooth. The term mesiodens was given by Balk in 1917. According to its shape mesiodens is broadly classified into two subclasses. Class one includes teeth of normal morphology known as supplemental teeth and second class contains teeth of abnormal morphology (dysmorphic). Dysmorphic teeth can be conical, tuberculate, supplemental and odontomas.

Morphology	Occurrence (%)	Typical clinical appearance	Typical radiographic appearance
Conical	70-80	Small/peg shaped tooth with normal root	Triangular or conical crown
Tuberculate	10-12	Barrel shaped crown with rudimentary root	Barrel shaped crown with incomplete or absent root formation
Supplemental	6-8	Duplication of tooth in the normal series	Appearance of a normal tooth
Odontome	3-4	No regular shape, disorganized diffuse mass of dental tissue	Mixed radio-opaque area surrounded by radiolucent band

Table 1: Supernumerary teeth based on morphology

Mesiodens is most commonly found in age group of 7-9 years. It is mainly because this period is the eruption time for central incisors and radiographic examination is done for any delay in eruption. But in contrast to this data in our case it was detected in 5th -6th decade of life. This can be explained by the fact that there must have been gradual bone resorption due to complete denture prosthesis which was fabricated since three ago leading to exposure of accessory tooth in the oral cavity which later started interfering with denture retention.

Mesiodens occurs more frequently in males than females and ratio is approximately 2:1. In our case patient was female which is in contrast to the available literature.

Mesiodens is most commonly located in the pre-maxillary region. But our case is in contrast to available literature it was present in the mid-palatal raphe area (posterior part of maxilla). As far as our knowledge goes no case has been published so far in which an accessory tooth is present in mid-palatal raphe area.

Occurrence of conical shaped mesiodens is higher than other forms. Our case in accordance with available literature also shows conical shaped mesiodens.

Mesiodens	Located between maxillary central incisors (Pre-maxillary regions)	Conical or peg shaped
Paramolar	Bucally/lingually or palatally in between 2 nd and 3 rd maxillary molars, rarely in between 1 st and 2 nd maxillary molars	Conical or supplemental
Distomolar	Distal or distolingual to 3 rd molars (maxillary or mandibular (in mandibular often impacted)	Conical or tuberculate

Parapremolar	Additional tooth in premolar region	Supplemental (eumorphic)
Paramolar root	Additional root often in mandibular molar	Rudimentary or fully formed
Paramolar tubercle	Additional cusp present on buccal surface of a permanent molar Parastyle, if additional cusp is present in maxillary molar Protostylid, if additional cusp is present in mandibular molar	Tuberculate

Table 2: Supernumerary teeth based on location

In our case supernumerary tooth is reversely horizontally placed. There is no literature available containing such type of mesiodens.

According to eruption	According to orientation
Erupted: Complete coronal aspect is seen in oral cavity clinically. When only occlusal part is visible in oral cavity it is partially erupted. Impacted: Cannot be seen in oral cavity clinically, can only be diagnosed by using radiograph	Vertical: Oriented as normal series of dentition Inverted: Upside down Transverse: Horizontally placed

Table 3: Supernumerary teeth based on eruption and orientation

V. CONCLUSION

Supernumerary teeth are less common but can cause various complications delayed eruption of associated permanent teeth, crowding, displacement or rotation of permanent teeth, root resorption of adjacent teeth, incomplete space closure during orthodontic treatment, dilaceration, delayed or abnormal root development of associated permanent teeth etc. They may occur anywhere in oral cavity.

In our present case mesiodens was conical shaped, horizontally present in the mid palatal raphe area (posterior part), reversed (root tip directed anteriorly and crown tip directed towards posterior palatal seal area) & was interfering in the retention of complete denture. Clinicians should be aware of their presence & a sound treatment plan should be formulated after thorough clinical and radiographic investigations, so as to re-establish an environment conducive for better functional & masticatory efficiency.

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