

Supernumerary Tooth- Rare Occurrence in Mandibular Arch: A Case Report

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ABSTRACT

Supernumerary teeth are teeth in excess of the usual configuration of the normal number of primary or permanent teeth. The incidence has been reported to be markedly rare in the mandibular anterior region. This case report described the management of a case which reported the presence of supernumerary tooth between permanent mandibular central incisors along with retained deciduous left central incisor leading to malocclusion in the anterior region.

KEYWORDS: Supernumerary Teeth, Mandibular Anterior Region, Diastema

INTRODUCTION

The supernumerary teeth (hyperdontia) can be defined as any teeth or tooth substance in excess of the usual configuration of the normal number of primary or permanent teeth. The term Mesiodens refers to a supernumerary tooth in the central region of maxilla or mandible between two central incisors with the incidence of the supernumerary permanent tooth being 1-3%.¹ Maxillary anterior followed by its molars and maxillary-mandibular premolars being the descending order in which they are appreciated. The incidence has been reported to be markedly rare in the mandibular anterior region with it being 0.01%.¹ The prevalence of supernumerary is 0.8 and 2.1% in primary and permanent dentition respectively.²

Generally, these teeth are small and have the form of a cone-shaped crown with a short root except for in the area of the mandible incisors which are usually normal in appearance.

Even though various theories such as tissue induction theory, heredity and phylogenetic process of atavism, localized and independent hyperactivity of the dental lamina³ and the dichotomy of the tooth bud explain the development of supernumerary teeth, the etiology remains unclear.⁴ Even though inheritance pattern does not follow Mendelian principles⁵, the etiology of supernumerary teeth may be partly genetic with they being common in relatives of affected individuals than the general population. The presence of supernumerary teeth may be part of many genetically determined syndromes and birth defect like cleidocranial dysostosis, cleft lips, cleft palate, Gardner's syndrome, and Down's syndrome.⁶ And they may also accompany less frequently other syndromes which include Marfan, Fabry Anderson's, Ehlers-Danlos, incontinentia pigmenti and

Trico-Rhino-Phalangeal and also Chondroectodermal dysplasia.⁷ This article described the management of a rare case of a supernumerary tooth in the mandibular arch.

CASE REPORT

A 8-year-old boy presented with a chief complaint of an extra tooth in the lower front region and broken the upper front tooth. The patient gave the history of trauma two months back and Intra oral examination revealed the presence of supernumerary tooth and retained 71 between 31 and 41. Ellis class II fracture i.r.t. 21, dental decay affecting 73, 74, 83 and 85, root stumps i.r.t 75 and 84 along with the presence of anterior deep bite was observed (Fig. 1, 2).



Fig 1- Fracture i.r.t. 21 and anterior deep bite. [Pre-operative]

Initially, a periapical radiograph helped to assess the number, location or displacement of the supernumerary tooth and to define the presence of no discernable effect upon adjacent teeth and bone structures and to confirm the root development of both lower incisors which was

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Fig 2- Supernumerary tooth and retained 71 between 31 and 41 and multiple carious teeth.[Pre-operative]



Fig 5-Following extractions and occlusal rehabilitation with stainless steel crown.

complete (Fig. 3). The supernumerary tooth appeared like a central incisor rotated approximately 90° along the long axis. OPG was made to confirm the presence of supernumerary teeth anywhere else.

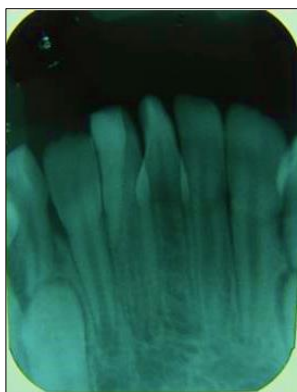


Fig 3- Periapical radiograph showing supernumerary tooth. [Pre-operative]

of midline diastema was observed within 2 months leading to improved esthetics and psychologically more stable personality (Fig.8,9).



Fig 6-Fixed active lingual arch space maintainer

With the consent of the parents and all possible necessary records in hand extraction of the supernumerary tooth and retained primary tooth was carried out under local anesthesia which resulted in a midline diastema of approximately 3mm. Following extractions and restorative therapy for other indicated teeth esthetic and occlusal rehabilitation with stainless steel crowns was considered (Fig. 4,5). Space maintenance and closure of the midline diastema was achieved by placement of a fixed active lingual arch space maintainer which was accompanied by an anterior bite plane for correction of deep bite (Fig. 6,7). The desired outcome with the closer



Fig 7-Anterior bite plane



Fig 4-Esthetic rehabilitation.



Fig 8-Closure of the midline diastema.[Post – operative]



Fig 9-Correction of deepbite. [Post – operative]

DISCUSSION

Most supernumerary teeth are asymptomatic and commonly observed during routine radiographic examination. The mesiodens that remain unerupted might result in premature resorption of primary incisors and other complications such as delay or prevention of eruption and displacement or rotation of permanent teeth. Less frequent complications include crowding, diastema, dilacerations of permanent teeth and cyst formation. Radiological findings, although very rare might include cyst formation or progressive external resorption of the crown.⁷

It has been stated that correlation exists between the type of supernumerary and the effect on the adjacent dentition⁸ and their relationship is well documented with tuberculate and conical type resulting in delayed eruption and displacement of the adjacent dentition respectively.⁷

The management and treatment protocol for supernumerary teeth needs to be differentiated between its removal and monitoring. Supernumerary teeth demands monitoring if it is asymptomatic, does not hamper eruption of teeth and no active associated pathology.⁴ Supernumerary tooth associated with certain pathological conditions and suspected developing complications may be considered for surgical removal.⁴ When to treat mesiodens is highly controversial. Even though an early intervention based on a proper behavior management might prevent clinical complications, it poses the risk of damaging adjacent developing tooth germ or root.⁷ Early diagnosis is more important and will lead to a more comprehensive long-term treatment plan irrespective of early or delayed treatment approach. Munns⁹ has stated that the earlier the offending supernumerary tooth is removed, better will be the prognosis. As inferred above clinical complication in the form of displacement of 31 causing aesthetic problems were noticed in the present case report.

As reported above the incidence of supernumerary teeth in the mandibular anterior region is very rare. Fujita¹

reported that local developmental disorders in the jaw area, which is frequently observed in maxillary dentition, induced division or hyperplasia of tooth germ, suggesting this as a cause of supernumerary teeth. According to him hyperplasia of tooth germs may occur in areas with wide intervals between tooth primordia at the end of the dental lamina, which does not easily occur in the mandibular anterior tooth region, where there is a high inter tooth primordium density and therefore occurrence of supernumerary tooth in mandibular anterior tooth region is considered rare.

CONCLUSION

Supernumerary teeth are familiar to pediatric dentists and orthodontists as one of the more common anomalies to affect the developing dentition and it demands a multidisciplinary assessment because of the complexity of many clinical aspects that may be encountered. The occurrence of supernumerary in the mandibular anterior region though of rare occurrence, can cause occlusal disturbances affecting the child self-confidence there by requiring an immediate but more complex treatment.

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