

CASE REPORT

Composite Mesiodens with Impacted Conical Mesiodens: A Case Report

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Introduction

Supernumerary teeth are a developmental disturbance occurring during odontogenesis resulting in the formation of teeth in excess of the normal number. They occur both in the deciduous and permanent dentition and can be classified based on the time of appearance; according to the position in the arch; and their shape.^{1, 2} Supernumerary teeth may be single, multiple, unilateral or bilateral, erupted or unerupted and in one or both jaws. Among the supernumerary teeth, mesiodens is the most common type.³ The term mesiodens refers to a supernumerary tooth present in the premaxilla between the two central incisors.⁴ Mesiodens can present morphologically as a cone-shaped tooth (most common), tuberculate or molariform. The prevalence of mesiodens in India is 0.8% with sex ratio of 1.78:1, favoring boys.⁵ The majority of mesiodens (67.9%) are conical in shape, followed by the supplemental (17.9) and tuberculate (14.1%) types.⁴ They occur more commonly in the permanent dentition (prevalence of 0.10-3.6%) when

A B S T R A C T

Supernumerary teeth are a relatively frequent disorder of odontogenesis characterized by an excess number of teeth. Mesiodens is the most common type of supernumerary tooth found in the premaxilla between the two central incisors. They can be supplemental (resembling natural teeth), conical, tuberculate or molariform. This paper presents a rare, clinically rotated multi-lobed tuberculate type of mesiodens which was associated with another impacted conical mesiodens in a 10 year-old girl.

Key Words: *Tuberculate Mesiodens, Supernumerary tooth, Impacted Supernumerary*

compared to the primary dentition (prevalence of 0.02-1.9%).⁶ The present case had two mesiodens, one clinically visible tuberculate type and another conical impacted mesiodens, which is a rare entity.

Case Report

A 10-year-old Indian girl reported to the Department of Paedodontics and Preventive Dentistry, College of Dental Sciences, Davangere with complaint of an unusual looking upper front tooth. On intraoral examination an extra tooth (supernumerary tooth) was noticed in the midline between the maxillary central incisors (Fig 1). Patient was in mixed dentition



Fig 1. Intraoral frontal view

period with no other abnormalities. Family history was not relevant, and was not associated with any syndrome. History of orofacial trauma was also absent. The morphology of the tooth crown was similar to incisor with three tubercles on the lingual surface and flat labial surface which was rotated clinically. As this tooth occupied the midline position, the permanent right central



Fig 2. Intraoral maxillary arch view

incisor was displaced distally and lateral incisor was displaced palatally (Fig 2). There was no bulging seen on the palatal

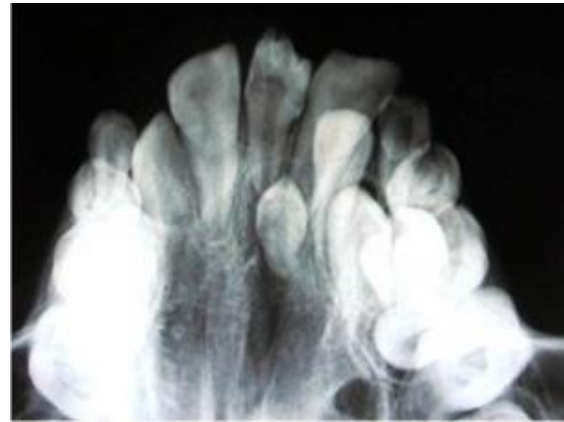


Fig 3. Occlusal radiograph

surface. Eventually on radiographic examination there was completed root formation with tuberculated mesiodens & associated with another impacted conical supernumerary tooth which was close to the apex of erupted mesiodens. (Fig 3)



Fig 4. Extraction of impacted tooth

Extraction of both erupted & impacted mesiodens was done (Fig 4). Labio-lingual surface was distinguished by considering the morphology of root & wide mesiodistal width on labial aspect (Fig 5, 6). Patient was further referred to the department of orthodontics for diastema closure and tooth alignment.



Fig 5. Occlusal Aspect Of Tuberculi Form Supernumerary Tooth



Fig 6. Palatal Aspect Of Tuberculi Form Supernumerary Tooth

Discussion

Etiology of development of supernumerary teeth is not clear. It may be due to dichotomy of tooth bud or due to hyperactivity theory suggesting that they are formed of local, independent, conditioned hyperactivity of dental lamina.⁶ Genetics are also thought to contribute to the development of mesiodens as such teeth have been diagnosed in twins,

siblings and sequential generations of a single family.⁷ Autosomal dominant inheritance with incomplete penetration has been the proposed genetic theory. Anomalous proliferation of the external epithelial layer of the enamel has also been proposed as one of the aetiological factors.⁸ Mesiodens can be classified on the basis of their occurrence in the permanent dentition (rudimentary mesiodens) and according to their morphology (conical, tuberculate or molariform).⁹ Supplemental mesiodens resemble natural teeth in both size and shape whereas rudimentary mesiodens exhibit abnormal shape and smaller size. Conical mesiodens are generally peg-shaped and are located palatally between the maxillary central incisors. They have a completely formed root and can erupt into the oral cavity. However, they may also be inverted with the crown pointing superiorly in which case they are less likely to erupt into the oral cavity. Tuberculate mesiodens are barrel-shaped with several cusps or tubercles and have incomplete or abnormal root formation. They rarely erupt into the oral cavity.¹⁰ A much rarer type of mesiodens is the molariform mesiodens, which has a premolar-like crown and a completely formed root.¹¹ Koch et al. have classified mesiodens as 56% conical, 12% tuberculate, 11% supplemental, and 12% other configurations.¹²

In the present case, morphology of the tooth crown was found to be unusual as it was looking like an incisor with three tubercles on lingual surface which was rotated clinically. Labio-lingual surface was distinguished by

considering the morphology of root & wide incisal edge on labial aspect. Intraoral periapical radiograph revealed a single conical root with a single root canal. Other mesiodens was inverted and impacted. In our case, there was no familial history of multiple impacted supernumerary teeth.

Conclusion

Mesiodens may lead to several local problems such as malocclusion, development of dentigerous cyst, compromised esthetics, resorption of adjacent roots and dilacerations of permanent teeth. Therefore, the presence of mesiodens in young patients is of great concern, and early diagnosis is crucial to minimize the complications. In the present case, as mesiodens had created malocclusion and impaired esthetics, so extraction of both erupted and impacted mesiodens was done.

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