

Mesiodens with an Unusual Morphology - A Case Report

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ABSTRACT

Supernumerary tooth is one that is additional to the normal series and can be found in almost any region of the dental arch. They may be single, multiple, unilateral or bilateral erupted or unerupted and in one or both jaws. Mesiodens is the most common type of supernumerary tooth found in the premaxilla between two central incisors. Presented here is a case of ten year old male child with supplemental mesiodens with talons cusp erupted in the oral cavity causing malocclusion and another horizontally impacted mesiodens near the nasal floor.

Keywords: Supernumerary tooth, mesiodens, permanent teeth, supplemental supernumerary tooth

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A supernumerary tooth is one that is additional to the normal series and can be found in almost any region of the dental arch.(1) Etiology of the development of supernumerary teeth is not clear. It may be due to dichotomy of the tooth bud(2) or due to hyper activity theory, suggesting that they are formed as a result of local, independent, conditioned hyperactivity of dental lamina.(3)

Supernumerary teeth are classified according to morphology and location. In the primary dentition, morphology is usually normal or conical. There is a greater variety of forms presenting in the permanent dentition. There are four morphological different types of supernumerary teeth; conical, tuberculate, supplemental and odontome.(4)

Classification on the basis of position: Mesiodens-present in the incisor region, Paramolar-present beside a molar and a Distomolar-present distal to the last molar.(1)

The various problems associated with the supernumerary teeth are: failure of the eruption of permanent teeth, or their displacement. They can also cause crowding and may also be associated with pathology like cyst.(1) Occasionally, supernumerary teeth are not associated with any adverse effects and may be detected as a chance finding during radiographic examination.

The prevalence of hyperdontia in various populations is reportedly between 0.1-3.8% With a male to female ratio of

2:1.(5) They occur more commonly in permanent dentition (prevalence of 0.10-3.6%) when compared to the primary dentition (prevalence of 0.02-1.9%).(6)

The supernumerary teeth may be single, multiple, unilateral or bilateral, erupted or unerupted and in one or both jaws. Multiple supernumerary teeth are rare in individuals with no other associated diseases or syndromes.(7) Multiple supernumerary teeth are usually associated with conditions such as cleft lip and palate or syndromes like Cleidocranial Dysplasia and Gardner's syndrome.



Fig. 1: Supplemental mesiodens with an irregular labial surface



Fig. 2: The incisal aspect of the mesiodens showing an extra cusp on the labial surface and talons cusp palatally

Cases involving one or two supernumerary teeth most commonly involve the anterior maxilla, followed by mandibular premolar region.(4) When multiple supernumerary teeth are present the most common site is mandibular premolars.(8)

Presented here is a case of ten year old male child with supplemental mesiodens with talons cusp erupted in oral cavity causing malocclusion and another horizontally impacted mesiodens near the nasal floor.

Case Report

A ten year old male reported to the Department of Pedodontics and Preventive dentistry at Dr. HSJ Institute of Dental Sciences & Hospital, Chandigarh with a complaint of irregular front teeth. Intraoral examination revealed a supplemental mesiodens with an irregular labial surface (Fig. 1).

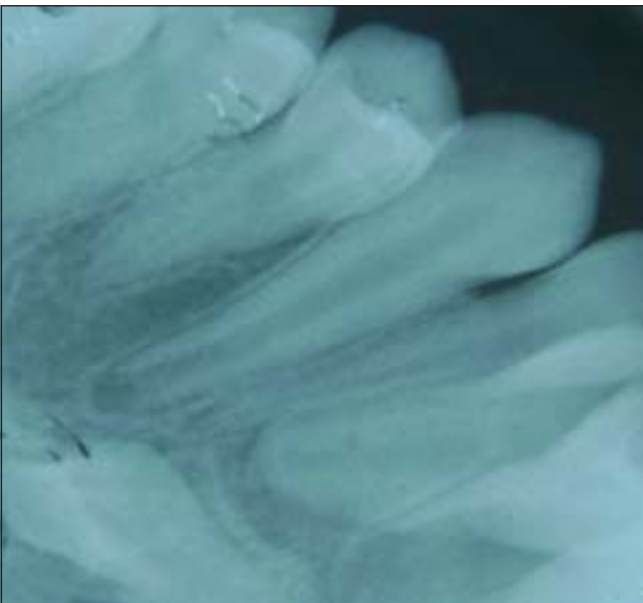


Fig. 3: IOPA x-ray revealing presence of horizontally impacted supernumerary tooth

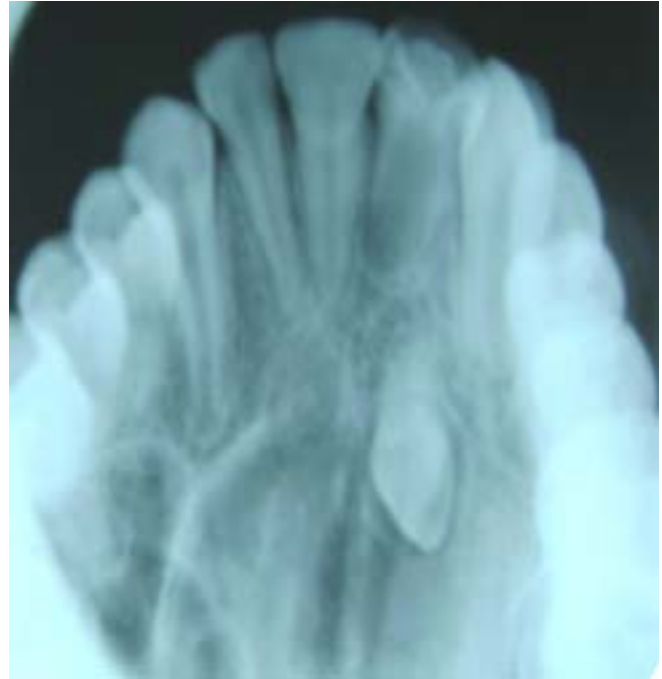


Fig. 4: Occlusal view revealing an aberrant morphology of supplemental

The incisal aspect of the mesiodens showed an extra cusp on the labial surface and talon's cusp palatally (Fig. 2).

The left maxillary central incisor was proclined labially while all the other teeth were in the normal alignment. Oral hygiene of the patient was poor with chronic generalized gingivitis.

Routine radiographic investigations were carried out to evaluate the status of all the teeth. IOPA x-ray revealed presence of horizontally impacted supernumerary tooth (Fig. 3).

Occlusal view revealed an aberrant morphology of supplemental supernumerary tooth and also the presence of an impacted mesiodens high up in the palate (Fig. 4).

Orthopantomogram confirmed the presence of horizontally impacted mesiodens and supplemental tooth along with normal complement of teeth present (Fig. 5).

A multidisciplinary approach was adopted for the management of the case. Extraction of supplemental mesiodens was planned for the proper alignment of the teeth. The impacted mesiodens was asymptomatic and high up in the palate near the nasal floor so it was decided not to extract the tooth and keep the patient on regular follow up.

The supplemental mesiodens was extracted and the patient was referred to the Department of Orthodontics for the alignment of the teeth.



Fig. 5: Orthopantomogram confirming the presence of horizontally impacted mesiodens and supplemental tooth

Discussion

The etiology of supernumerary teeth is not completely understood. Various theories exist for the different types of supernumerary. One theory suggests that the supernumerary tooth is created as a result of a dichotomy of the tooth bud.(2) Another theory, well supported in the literature, is the hyperactivity theory, which suggests that supernumeraries are formed as a result of local, independent, conditioned hyperactivity of the dental lamina.(2,3) Heredity may also play a role in the occurrence of this anomaly, as supernumeraries are more common in the relatives of affected children than in the general population. However, the anomaly does not follow a simple mendelian pattern.

Clinical and radiographic identification of all the teeth is very important for a good treatment planning. It may be difficult to formulate an ideal treatment plan for all cases with supernumerary teeth. But an effort can definitely be made.

Treatment may vary from extraction of supernumerary teeth or extraction coupled with orthodontic correction to establish a good aesthetic as well as occlusion. In the present case, it was decided to extract the supplemental mesiodens, a multidisciplinary approach was adopted for the management of the case. Extraction of supplemental mesiodens was planned for the proper alignment of the teeth. The impacted mesiodens was asymptomatic and high up in the palate near the nasal floor so it was decided not to extract the tooth and keep the patient on regular follow up. The supplemental mesiodens was extracted and the patient was referred to the Department of Orthodontics where the alignment of the teeth was done.

A radiological examination is of basic importance here for a proper treatment planning; however, it can be imprecise due to

interference of dental structures in an X-ray. Atypical clinical or radiological picture can cause difficulties in diagnosing this dental anomaly. A thorough radiographic examination at various angles may help us in estimation of exact location of the tooth.

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