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Unusual Morphology of a Mesiodens: A Rare Case Report.

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Case Report

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ABSTRACT

An 7-year school going boy came with a chief complaint of an abnormally shaped tooth situated in upper front teeth region. On examination a supernumerary tooth with multiple lobes was present in between to the maxillary permanent central incisor. The morphology of the tooth crown was found to be unusual due to the presence of three lobes in the crown portion. Because of the supernumerary tooth, the permanent right central incisor was displaced distally creating a midline diastema. Radiographic examination showed a completely formed supernumerary tooth with single root. On the basis of clinical and radiographic examination, the supernumerary tooth was diagnosed as multilobed mesiodens. Since patient expressed dissatisfaction with the presence of supernumerary tooth, it was decided to extract this mesiodens followed by orthodontic treatment for midline diastema in maxillary central incisors.

INTRODUCTION

Mesiodens or mesiodentes (multiple mesiodens) is the most common type of accessory supernumerary tooth present in the midline of maxilla between the two incisors [1]. The term mesiodens was coined by Bolk (1917) to denote an accessory or supernumerary tooth situated in between the maxillary central incisors. Supernumerary tooth (hyperdontia) in permanent dentition is expressed by an increased number of teeth over that described by the normal dental formula I4,C1,PM2,M3 [2]. They are a developmental disturbance occurring during odontogenesis. It is usually an extra tooth with a cone- or - peg shaped crown and a short root or a supplemental tooth. The presence of a mesiodens should be suspected if there is delayed eruption of the permanent incisors or if the central incisors are displaced, malposed or exhibit spacing [3].

The etiology of supernumerary teeth is not well understood. Numerous theories have been suggested, Possible etiological factors such as extra divisions of the proliferating dental lamina, palatal offshoot from continued activity of the dental lamina after the normal number of tooth buds has formed, dichotomy of the tooth bud, and proliferation of odontogenic cell rests. It would be appropriate to consider hyperdontia as a multifactorial inheritance disorder originating from hyperactivity of dental lamina [4].

Case presentation

A seven year old school going male reported to the Department of Pedodontics and Preventive dentistry, with a complaint of irregular front teeth. On extraoral examination no extra oral abnormalities were detected. On intraoral examination supernumerary tooth was noted in between two maxillary permanent central incisors. Other permanent and primary teeth were normal with no abnormalities. The child was non syndromic. No history of trauma to teeth was present.

Morphology of the crown of mesiodens was found to be unusual. Crown of mesiodens was grossly triangular in outline from occlusal view and had three lobes which were separated by developmental

grooves. Grossly, one lobe was located labially and two lobes were present palatally. There were no signs of decay in the grooves. Fig (1)



Figure 1: Pre-operative intra oral photographs showing multilobular mesiodens

The patient did not experience pain or discomfort during biting but it has affected the normal position of the maxillary right permanent central incisor.

As patient reported with unusual anatomy of the tooth, one of the differential diagnosis could be, having ectopic eruption of the tooth from the posterior position to the pre maxillary region. To confirm the diagnosis of supernumerary tooth, the radiographs were taken and found the tooth was an extra tooth with single root only.

Investigation

Routine radiographic investigations were carried out to evaluate the status of all the teeth. IOPA view revealed presence of multilobed mesiodens Fig (2). Occlusal view revealed an unusual morphology of supplemental supernumerary tooth showing multilobes and single root. Fig (3).



Figure 2: IOPA of mesiodens.

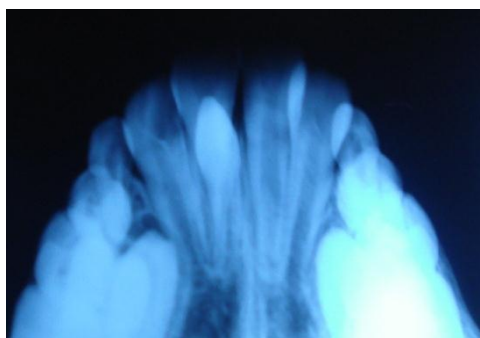


Figure 3: Occlusal radiograph

Treatment

Since the patient was concerned with supernumerary tooth and malaligned maxillary anterior teeth, it was decided to extract multilobed mesiodens followed by orthodontic correction of malaligned teeth as a treatment plan. Oral prophylaxis was done followed by extraction of mesiodens under local

anaesthesia. Postextraction instructions were given to the child as well as parents. The patient was recalled after a week for follow-up and treatment.

After extraction, the mesiodens was examined anatomically. Incisally mesiodens was triangular in shape with apex located labially and base towards palatal side. Labial and palatal lobes were sharp and located at periphery of the occlusal table while one central lobe were located between lines joining the two lobes. Two developmental grooves were passing between these lobes which were caries free. The root of mesiodens was normal from cervix Fig (4).

Follow up

Follow up is done after 6 months. Fig (5).



Figure 4: Extracted mesiodens which shows the multi lobes and single root.



Figure 5: Follow up after 6 months

DISCUSSION

A large percentage of anterior supernumerary teeth remain unerupted. It has been stated that only 25 percent of maxillary anterior supernumeraries erupt [5]. Most cases of mesiodens are discovered during the first decade as this period coincides with the eruption time of maxillary central incisors and radiographic examinations are performed as an aid to screening for congenitally missing teeth, supernumerary teeth, cysts and tumors when delayed eruption or malposition of the maxillary central incisors are seen [6].

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. 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 [7].

Mesiodens may affect the dentition in various ways. Some of the problems that can be caused by this type of tooth are crowding or abnormal diastema, displacement and/or rotation of adjacent teeth, failure of eruption, hindrance to orthodontic movement, enlargement of the follicle and possible cystic change, root abnormalities like dilacerations of the developing root, occlusal interference, aesthetic impairment, carious developmental grooves, periodontal problems, irritation of the tongue and diagnostic problems. Therefore, the presence of mesiodens and its morphology in young patients is of great concern, and early diagnosis is crucial to minimise these complaints [8].

A thorough clinical and radiological examination 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 [9].

Russel and others recommended extraction of mesiodens in the early mixed dentition stage for better alignment of teeth and minimizing the need for orthodontic treatment. According to Mitchell and Benett's observation, 70% of the permanent teeth included in their study sample erupted spontaneously following extraction of the mesiodens. Some authors believe that the best time for removal of mesiodens is 8–9 years of age when the upper incisors erupt. At this age, behavior of a child is much easier to manage and the type of anesthesia required can be less invasive [10]. Another treatment approach calls for late extraction of mesiodens when the adjacent permanent incisors have completed their root formation. However, if the mesiodens remains asymptomatic or when there is an increased risk of damaging the developing permanent incisors, surgery should be avoided and a periodic follow up is necessary [11]. The role of the pedodontist in management of a case of mesiodens is important because the earlier the detection, the minimal are the future complications and the better is the prognosis [12].

REFERENCES

1. Sharma A. Familial occurrence of mesiodens: A case report. *J Indian Soc Pedo Prev Dent.* 2003; 21:2.
2. Arathi R, Ashwini R. Supernumerary teeth: A case report. *J Indian Soc Pedo Prev Dent.* 2005; 23:103-5.
3. Scheiner MA, Sampson WJ. Supernumerary teeth: A review of the literature and four case reports. *Aust Dent J.* 1997; 42:160-5.
4. Yusof WZ. Non-syndromal multiple Supernumerary teeth: Literature review. *J Can Dent Assoc.* 1990; 56:147-9.
5. Verma Leena, Gauba Krishan, Passi Sidhi, Agnihotri Archana, Singh Navjot Mesiodens with an Unusual Morphology - A Case Report *J Oral Health Comm Dent.* 2009;3(2)42-44
6. Jafrazadeh H, Abbott PV. Dilaceration: review of an endodontic challenge. *J Endod.* 2007;33:1025–31.
7. Luten JR Jr. The prevalence of supernumerary teeth in primary and mixed dentitions. *J Dent Child.* 1967;34:346–53.
8. Meighani P. Mesiodens: diagnosis and management of supernumerary (mesiodens): a review of the literature. *J Dent Tehran Univ Med Sci.* 2010;7:41–9.
9. Koch H, Schwartz O, Klausen B. Indications for surgical removal of supernumerary teeth in the premaxilla. *Int J Maxillofac Surg.* 1986;15:273–81.
10. Rajab LD, Hamdan MA. Supernumerary teeth: review of the literature and a survey of 152 cases. *Int J Paediatr Dent.* 2002;12:244–54.
11. Nagaveni NB, Umashankara KY, Sreedevi Reddy BP, et al. Multi-lobed mesiodens with a palatal talon cusp—a rare case report. *Braz Dent J.* 2010;21:375–8.
12. Hattab FN, Yassin OM, Rawashdeh MA. Supernumerary teeth: report of three cases and review of the literature. *J Dent Child.* 1994;61:382–94.