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An Unusual Case of Mesiodentes: Peek-A-Boo

Ranjit Manne [1],Sridhar E Reddy[2],Ayesha Sameera[2],
Mohammed Murtaza Ali Mir[3]
[1](*Department of Orthodontia, Panineeya Mahavidyalaya Institute of Dental Sciences and Research Center, India)*
[2](*Department of Oral Pathology and Microbiology, MNR Dental College and Hospital, India)*
[3] *(General Dentistry, SVS Dental College and Hospital, India)*

Abstract: *Mesiodens, a common supernumerary tooth found in the midline inanterior maxilla. Multiple mesiodens are termed as 'mesiodentes'. This report presents an extremely rare occurrence of two mesiodentes with different morphologyand their associated problems. It is an asymptomatic condition and is usually diagnosed on routine clinical and radiographic examination.Thisarticle also elucidate about the signs, symptoms, complicationsand management of mesiodentes.*

Keywords:*mesiodentes, supernumerary,varied morphology.*

I. Introduction

By definition, supernumerary teeth are extrateeth in comparison to normal dentition. They are a relatively frequent disorder of odontogenesis characterized by an excess number of teeth [1]. The most common type of supernumerary tooth as indicated by Alberti et al, is mesiodens [2]. Mesiodens may occur as single, multiple, unilateral or bilateral. The presence of multiple supernumerary teeth is called 'mesiodentes'[1]. Morphologically, mesiodens may have heterogeneous forms like cone-shaped crown, generally smaller in size than the adjacent normal teeth. Itisalso be found to mimic a natural tooth shape. The root is often totally formedand may be curved or globular.It may be normal or inverted in position [3]. In general population the prevalence is between 0.15% and 1.9% and more common in males rather than females[4].

The occurrence of mesiodens in primary dentition is rare despite the fact that in permanent dentition it is considered the most common dental anomaly[5]. 82% of the cases occur in the maxilla, specifically in the premaxillary region.However,few studies have reported them in mandiblealso [6]. In general mesiodens remain impacted and asymptomatic and areusuallydiscovered during routine radiographic examination [7]. The most common complications of mesiodentes are the delay eruption (26–52%) and displacement/rotation (28–60%) of maxillary permanent incisors. Relatively less common complications include crowding, dilaceration of permanent teeth, diastema, eruption into the nasal cavity andcyst formation [8].

Mesiodens is frequently associated with several craniofacial anomalies and syndromes, including cleft lip and palate, cleidocranialdysostosis, Gardner's syndromeand chondorectodermal dysplasia [9].

A rare combination oferuptedpairedmesiodens with one tooth between the maxillary permanent central incisorsand another tooth palatal toit promoted us to present this case report and hence the title.

II. Case Report

A25-year oldIndian male was referred to the Department ofOrthodontia with a chief complaint of crowding in the maxillary anterior region. Theintraoral examination confirmed the patient'schief complaint (Figure 1,2). Panoramic and intraoral radiographs revealed the presence of two mesiodens teeth, located between the roots of thepermanent centralincisors (Figure 3,4). The roots of the permanent central incisors had migrated distally, owing to the presence of themesiodens.

Figure 1: Double mesiodentes present between 11 and 21 and another palatally behind the first mesiodens.

Figure 2: Maxillary cast showing tuberculate mesiodens between 11 and 21 and conical mesiodens palatally.

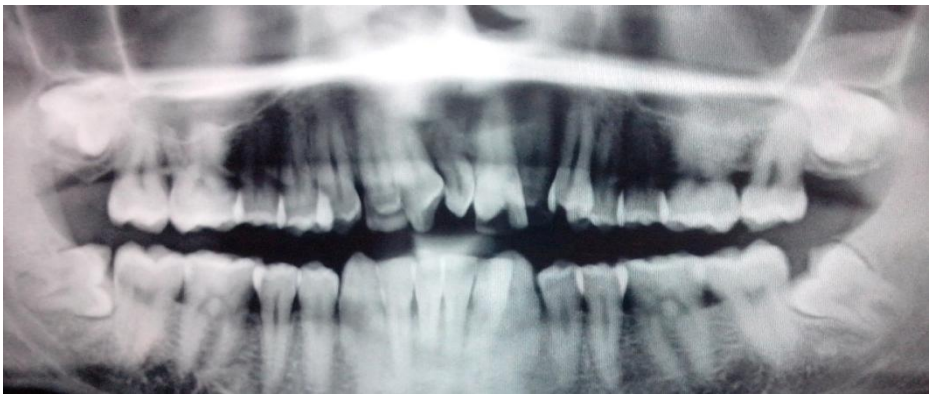

Figure 3: The OPG shows a mesiodens at the midline and maligned teeth.

Figure 4:Radiograph showing erupted mesiodens in relation to 11 and 12 and the other palatally to it.

Thetreatment planincludesremoval of the mesiodentes. The mesiodens were of tuberculate and conicalvariety. Theteeth were removed underlocal anaesthesiawithout any complication (Figure 5). Recall and follow up was done for 2 months with no complications and partially self correction of rotated anterior teeth was noticed. Thepatientis nowundergoing orthodontic treatment for crowding.

Figure 5: Post extraction photograph with ongoing orthodontic treatment

III. Discussion

Erupted double mesiodentes which is neither non-syndromic nor isnon-familial, is a rare occurrence and this article reports such a case. The etiology of a mesiodens is still not clearly established in the literature. Three theories have been postulated that mesiodentes represented a phylogenetic relic of extinct ancestors who had three central incisors known as phylogenetic reversion (atavism)[10]. A second theory known as dichotomy states that the tooth bud is split to create two teeth, one of which is the mesiodens. The third theory, involving hyperactivity of the dental lamina, is the most widely supported. According to this theory, remnants of the dental lamina or palatal offshoots of active dental lamina are induced to develop into an extra tooth bud, which results in a supernumerary tooth. Thus, thelocalizedand independent hyperactivity of the dental lamina is the most accepted cause for the development of supernumerary teeth[11].

It has been observed that supernumerary teeth are more common in family members suggesting a hereditary factor.It has been suggested that environmental factors might have influence on genetic susceptibility which could probably be a cause for negative family historyas it does not follow mendelian trait[12].

Mesiodens can significantly alter occlusion and appearance by altering the eruption and position of the incisors [13]. Mesiodens can occur individually or asmultiples, may appear unilaterally or bilaterally, and oftendo not erupt. According to the shape and size mesiodens are classified as eumorphic and dysmorphic. The eumorphicsubclass is usually similar to a normal-sized central incisor, whereas the dysmorphic teeth have different shapes and sizes and are categorized into conical, tuberculate, supplemental and odontomes[10].

Mesiodens are usually located palatally between central incisor with completely formed root and conical form is the most common [10],but here we present a case of mesiodente with one conical and anotherof tuberculate shape.

In a study by Nagaveni et al, out of 27 mesiodens, complications associated with mesiodens occurred in frequency of 23% midline diastema, 14.8% occlusal interference, 7.4% root resorption and 3.7%delayed eruption of permanent incisors[14]. In a study by Gunduz et al, 78.8% of mesiodentes were fully impacted, 7% were partially erupted and 14.1% were fully erupted. Most of the mesiodentes (55.2%) were found to be in vertical position (55.2%) followed by inverted position (37.6%) andhorizontal position (7%) [15].

Early diagnosis and proper line oftreatment is necessary to preventassociated complications.There are two methods for extraction ofmesiodens eitherextraction before rootformation of the permanent incisorsor extraction after root formation ofthepermanent incisors. The earlier the mesiodens is extracted less thechance that the permanent tooth will bemal-aligned. Delayed intervention has resulted in mal-alignment as it has happened in this casewhere in we encountered problems like deviation along the vertical axis of the incisors andcrowding [16].

Mesiodentes are frequently associated with various craniofacial anomaliesand syndromeas mentioned previously,however it is rare to find multiple supernumeraries in individuals with no other associated disease or syndrome [17].In this case reported the patient was not affected with any syndrome.

IV. Conclusion

The case presented here isconsidered to berare, since paired mesiodens without inversion,erupted with one being conical in shape and another tuberculate. Theoccurrence of two mesiodentes was definitelyregarded as a contributory factor to the crowdingin the anterior maxillary region as evidenced byrotation ofcentralincisor teeth.The post-surgicalphase fortunatelywas uneventful and thefixed orthodontictherapy wascommencedafter a relatively shortfollow-up period.

References

[1]. Gallas MM, Garcia A. Retention of permanent incisors by mesiodens: a family affair.Br Dent J 2000;188:63-64.
[2]. Alberti G, Mondani PM, Parodi V. Eruption of supernumerary permanent teeth in a sample of urban primary school population in Genoa, Italy. Eur J Paediatr Dent 2006 ;7:89–92.
[3]. Giancotti A, Grazzini F, De Dominicis F, Romanini G, Arcuri C. Multidisciplinary evaluation and clinical management of mesiodens. J Clin Pediatr Dent 2002;26:233–237.
[4]. Van Buggenhout G, Bailleul-Forestier I. Mesiodens.Eur J Med Genet 2008;51:178–81.
[5]. Ray D, Bhattacharya B, Sarkar S, Das G. Erupted maxillary conical mesiodens in deciduous dentition in a Bengali girl - A case report. J Indian Soc Pedod Prev Dent 2005;23:153–5.
[6]. Ferrés-Padró E, Prats-Armengol J, Ferrés-Amat E. A descriptive study of 113 unerupted supernumerary teeth in 79 pediatric patients in Barcelona. Med Oral Patol Oral Cir Bucal 2009 ;14: 146–52
[7]. Rajab LD, Hamdan MA. Supernumerary teeth: review of the literature and a survey of 152 cases. Int J Paediatr Dent 2002;12:244–54.
[8]. Hattab FN, Yassin OM, Rawashdeh MA. Supernumerary teeth: report of three cases and review of the literature. ASDC J Dent Child 1994;61:382–93.
[9]. Gorlin R, Hennekam R. Syndromes of the head and neck. Oxford University Pres; 2001.
[10]. Russell KA, Folwarczna MA.Mesiodens–diagnosis and management of a common supernumerary tooth.J Can Dent Assoc 2003;69:362–6.
[11]. Orhan AI, Ozer L, Orhan K. Familial occurrence of nonsyndromal multiple supernumerary teeth. A rare condition.Angle Orthod 2006;76:891–7.
[12]. . Scheiner MA, Sampson WJ. Supernumerary teeth: a review of the literature and four case reports.Aust Dent J1997;42:160–5
[13]. Hyun HK, Lee SJ, Lee SH, Hahn SH, Kim JW. Clinical Characteristics and Complications Associated With Mesiodentes. J Oral Maxillofac Surg 2009; 67: 2639-643.
[14]. Sandhyarani, Huddar D. Mystery behind Malocclusion: Report of Two Mesiodens Cases. J Dent Med Scie 2012; 2:46-49.
[15]. GündüzK, Celenk P, Zengin Z, Sümer P.Mesiodens: a radiographic study in children. J Oral Sci 2008;50:287–91.
[16]. Meighani G, Pakdaman A. Diagnosis and Management of Supernumerary (Mesiodens): A Review of the Literature. Journal of Dentistry, Tehran University of Medical Sciences 2010; 7: 41-49.
[17]. Batra P, Duggal R, Parkash H . Non-syndromic multiple supernumerary teeth transmitted as an autosomaldominant trait. J Oral Pathol Med 2005 ; 34 : 621 – 5 .