



A CASE SERIES OF NONSYNDROMIC DOUBLE MESIODENS IN MIXED DENTITION

Dentistry

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ABSTRACT

Mesiodens is a commonly found supernumerary tooth present in the midline of maxilla. Mesiodens can be paired, single, erupted, unerupted, and sometimes impacted. Numerous issues are brought on by these mesiodens, including cyst development, root resorption, midline diastema, displacement, and rotation. In the present case, mesiodens is found bilaterally in the anterior maxilla and both mesiodens are prophylactically extracted to prevent its adverse effects on permanent dentition.

KEYWORDS

Dental surgery, Mesiodens, Supernumerary teeth

INTRODUCTION

A supernumerary tooth is a developmental anomaly of number characterized by the presence of tooth in addition to the normal series. They may be unilateral/ bilateral, erupted/ unerupted, involving one jaw/ both and may or may not be associated with syndromes.¹ A mesiodens is a supernumerary tooth located in the maxillary central incisor region with an overall frequency of 0.15% to 1.9%.² Mesiodens appear with a higher frequency in man than in women with a 2:1 ratio.³ Double mesiodens occur in 13% of all cases.⁴

Though the supernumerary teeth may remain in the same position for years without pathologic manifestation, several complications may arise. This would include ectopic eruption, diastema, delayed eruption of permanent teeth, rotation of adjacent teeth, displacement of teeth, and failure of a tooth to erupt. Others include periodontitis, dilacerations, dentigerous cyst formation, root resorption of adjacent teeth, occlusive disturbance and unesthetic appearance.⁵

The occurrence of double mesiodens is unusual if not a rare event in the literature. Therefore, the purpose of this paper was to report two case of double mesiodens in a 9 year old boy and a 12 year old boy. Care guidelines were followed for the case series.

Case 1 –

A 9 year old male patient reported to the Department of Pediatric and Preventive dentistry with the chief complaint of an extra tooth in his upper front teeth region. The boy desired removal of the extra tooth as it led to an unesthetic look. The patient was observed to be healthy with no contributory medical or family history. The family history showed no previous occurrence in terms of mesiodens or other forms of supernumerary teeth. No facial trauma or other tooth abnormalities were associated. There were no abnormalities observed in extra oral examination. Intraoral examination revealed a conical mesiodens erupted palatally in relation to the right maxillary central incisor [Fig 1]. Further examination revealed an eruption bulge palatally in the left maxillary central incisor region [Fig 2]. Other intraoral findings included dental caries in relation to 54, 64 and 74.

Patient was advised for an intraoral periapical radiograph (IOPA) and orthopantomograph (OPG). Radiographs confirmed the presence of an impacted supernumerary tooth with conical crowns and fully formed roots in relation to 11 [Fig 3,4]. Case was further discussed and treatment planning was done considering the age and chief complaint of the patient. Treatment was planned to extract both the supernumerary teeth in one sitting under local anesthesia.

Surgical Procedure

The patient was requested to rinse his mouth with 2% chlorhexidine mouthwash (Hexidine® Mouthwash) for 20 s, and then, standard surgical prepping and draping for oral surgery under local anesthesia were performed. After topical application of lidocaine 5% gel

(Lignospan-O®) for topical anesthesia of the injection sites, local anesthesia was administered using lidocaine plus 1:80000 epinephrine (Lignox® 2% A). Bilateral greater palatine nerve blocks were administered for total palatal anesthesia. The buccal vestibular infiltration anesthesia was also administered to ensure a painless procedure. Crevicular incision was made on the palatal side extending from 21, 22 and 63. A mucoperiosteal flap was elevated, exposing the impacted supernumerary tooth 2.5 mm inferior to the central incisor palatally [Fig 5]. The exposed tooth was elevated using periosteal elevator and extracted using forceps. The extraction socket was inspected for any pathological tissue. Erupted supernumerary tooth was extracted next using the intra alveolar extraction technique [Fig 6]. After extraction, the flap was repositioned and sutured using silk thread (Lifeline black braided silk USP). On recall after 10 days, sutures were removed and satisfactory wound healing was observed with was uneventful.

The patient and his parents consented for the treatment as well as for the publication of this report.

Case 2 –

A 12 years old boy reported to the department of Paediatric and Preventive Dentistry with the chief complain of presence of an extra tooth in the upper front teeth region. No other relevant history was present. The extra tooth was creating problem with aesthetics and the patient wanted to get it removed. Intra-oral examination revealed a conical mesiodens erupted palatally in relation to the left maxillary central incisor [Fig 7].

Patient was accordingly advised for occlusal radiograph for further investigation. The radiograph revealed an impacted supernumerary adjacent to the erupted supernumerary tooth [Fig 8]. Therefore, CBCT was advised, which revealed the root apex of impacted mesiodens was close to the floor of the nasal fossa without any bone coverage [Fig 9,10]. After discussing the case and considering the case, extraction of both supernumerary teeth were planned in one sitting under local anesthesia. Blood investigations were done and they showed no abnormality.

Surgical Procedure

Mucoperiosteal flap was elevated following the crevicular incision, exposing the impacted mesiodens. This was followed by elevation using periosteal elevator and extraction using forceps. Extraction of the erupted mesiodens was done and sutures were placed [Fig 11,12]. On recall after 10 days, sutures were removed and satisfactory wound healing was observed.

DISCUSSION

Mesiodens can occur either as a single isolated anomaly or in association with cleft lip and palate, Downs syndrome, Gardener's syndrome, FabryAnderson's syndrome, Ellis-van crevald syndrome,

Incontinentia pigmenti, Tricho-rhino-phalangeal syndrome and Cleidocranial dysplasia.⁶ The choice of the best treatment plan depends on the correct diagnosis. Dentists require information on both the location and the shape of supernumerary and impacted teeth before performing an operation for extraction.⁷

In an earlier literature Koch, suggested that supernumerary teeth, if left untreated have a tendency to resorb and disappear by itself. Later, there are two approaches regarding the timing of removal of mesiodens suggested by Hogstrum and Anderson. The first approach is to remove the supernumerary as soon as it is diagnosed, the disadvantage being a possible creation of dental phobia in the child and devitalization of permanent teeth. The second alternative is to allow the root development of the adjacent tooth to be completed prior to the removal of supernumerary tooth. This also has disadvantages that include loss of eruptive forces of the adjacent teeth, loss of space, cystic transformation, shift of midline and crowding of the arch. The first approach is routinely practiced based on accurate radiographic localization to minimize the risk of trauma to the permanent teeth and also to assess the location, number, sagittal position and path of the impacted supernumerary tooth.⁸

In this case, decision of immediate extraction was made as delayed eruption with labial displacement of permanent maxillary central incisors were noted.

Many studies have shown that the most common shape of mesiodens is conical and majority of them lay palatal to the central incisor, as reported by Von Arx.^{9,10} In our case, both the mesiodens were conical in shape with completely formed roots and was present palatally. The impacted mesiodens resembled the permanent canine in its morphological features. Although a histopathological analysis could have helped in extending a definite conclusion which forms the limitation of the study.

CONCLUSION –

The mesiodens is therefore, a fairly common, though usually unperturbing but interesting dental anomaly that a dental practitioner chances upon. The dentist should be aware that a mesiodens may very well be present if the central incisor eruption is delayed, ectopic, or asymmetrical. Awareness of its incidence and behavior is therefore significant.



Fig 1. Intraoral examination revealing a conical mesiodens erupted palatally in relation to the right maxillary central incisor.



Fig 2. Eruption bulge palatally in the left maxillary central incisor region.



Fig 3. IOPAR of the lesion



Fig 4. OPG confirming the presence of an impacted supernumerary tooth with conical crowns and fully formed roots in relation to 11.



Fig 5. Elevated mucoperiosteal flap exposing the impacted supernumerary tooth.



Fig 6. Extracted double mesiodens.



Fig 7. Intra oral picture showing erupted conical mesiodens palatally to the left central incisor.

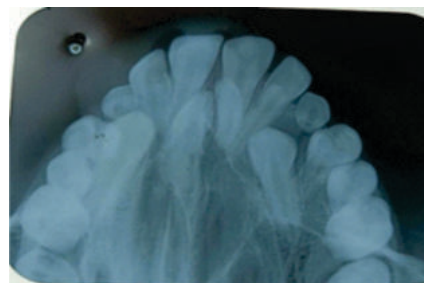


Fig 8. Occlusal radiograph revealing additional supernumerary tooth impacted adjacent to the erupted mesiodens.



Fig 9. 3D reconstruction of the patient.

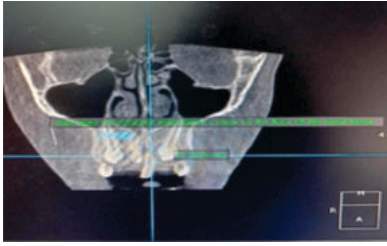


Fig 10 .CBCT of the patient.



Fig 11. Post operative picture after extraction and suture placement.

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