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Case Report

A case report on palatally positioned single mesiodens: common supernumerary tooth

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ABSTRACT

Mesiodens is one of the commonest dental anomalies in children. It may be present in primary or early mixed dentition. It can also be found in permanent dentition. It affects dental as well as facial aesthetics. The reported prevalence of mesiodens is about 0.15% to 1.9%. It is one of the etiologic factors causing malocclusion in children. Therefore, dentists can make the parents aware about the possibilities of malocclusion and convince for the treatment as soon as possible.

Keywords: Supernumerary tooth, Mesiodens, Supplemental tooth, Malocclusion, Hyperdontia

INTRODUCTION

Variation in number of teeth is very common in. Several terms are present to determine the conditions. Anodontia that is a complete absence of tooth, is a very rare condition. It is commonly associated with hereditary ectodermal dysplasia.[1] Hypodontia is the failure of eruption of one or more tooth with prevalence of 1.6% to 9.6% in permanent teeth. It commonly involves maxillary lateral incisor, second premolar, third molar.[1,2] Hyperdonia or supernumerary tooth is the presence of extra tooth in the normal set of teeth. Prevalence of supernumerary tooth varies in different race but slightly higher in Asian population.[1,2]

Mesiodens is the most common supernumerary tooth, commonly found in maxillary anterior region. It is very rare in mandibular anterior region.[3] Mesiodens can be present unilaterally or bilaterally. It can occur singly or multiple.[3] Sometimes mesiodens can be impacted. Genetical influence can play important role in occupancy of mesiodens. Etiology is still a debatable topic.

Hyperactivity of dental lamina, genetic and environmental factors, proliferation of cell rests of Serres or cell rests of Malassez can be considered as etiologic factors.[4]

Mesiodens can cause several complications like midline diastema, rotated central incisors and malalignment of adjacent tooth, resorption of root of adjacent tooth, crowding. It can cause formation of fistulous tract between oral cavity and nasal cavity.[4,5]

Management of mesiodens includes early detection and removal of the tooth. Otherwise, presence of mesiodens interferes with orthodontic treatment because most of the patient with mesiodens come to the dentist with chief complaint of mal-aligned teeth.[6,8]

CASE REPORT

Case 1

An 8-year-old patient came to the department of pedodontics and preventive dentistry in Vananchal Dental

College and Hospital, with chief the complaint of forward placement of teeth in upper front teeth region.

Medical and family history

Medical history was not relevant.

Dental history

No significant dental history.

Prenatal history

Prenatal history was not relevant.

Natal history

Child was full term, birth was normal, and infant birth weight was 3 kg.

Post-natal history

No history of allergy or hospitalization.

General examination

General examination was height: 4.2 ft, weight: 40 kg, and gait: normal.

Extra oral examination

No abnormality was detected.

Intraoral examination

Mesiodens was found in between 11 and 21, and flaring of two maxillary central incisors were seen.

Radiographic examination

RVG was taken.

Treatment planning

Extraction of the mesiodens was planned.

Treatment done

Extraction was done under local anaesthesia and bleeding was controlled. Post operative instructions were given to the parents and child both. Antibiotics and analgesic were prescribed.

Recall visit

Patient was recalled after 5 days. Healing of the extraction site was completed and patient had no other complaints. Further orthodontic treatment was planned after that (Figures 1 and 2).

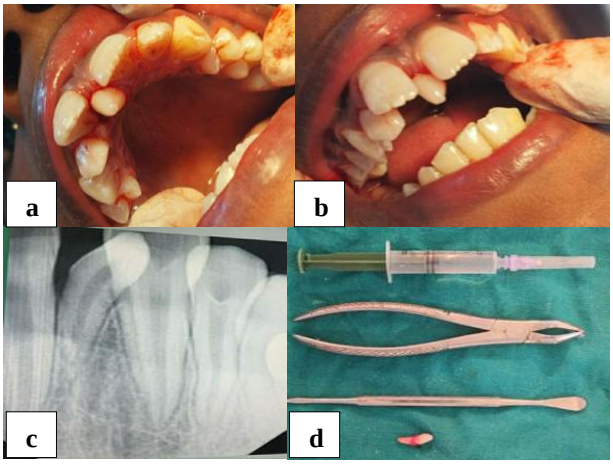

Figure 1: (a) Buccal view of mesiodens (preoperative), (b) palatal view of mesiodens (preoperative), (c) preoperative RVG, and (d) extracted mesiodens.

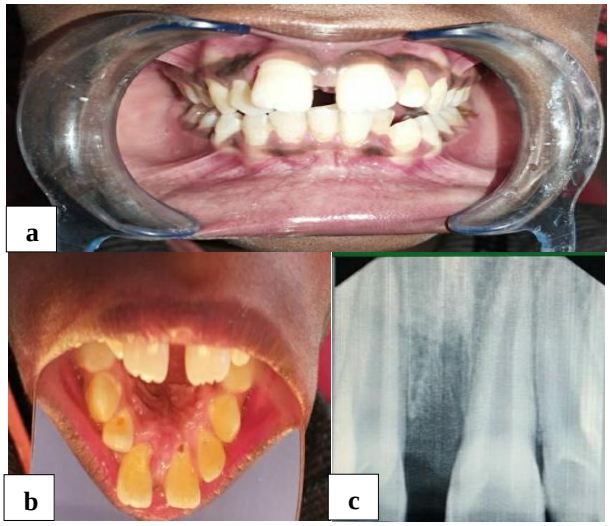

Figure 2: (a) Buccal view (after extraction of mesiodens), (b) palatal view (completely healed extraction site), and (c) post operative radiograph.

Case 2

A 7-year-old child came to the department of pedodontics and preventive dentistry with the chief complaint of irregular arrangement of teeth.

Medical history

Patient's medical history was non-contributory.

Dental history

No significant history was noted.

Prenatal history

Prenatal history was not relevant.

Natal history

Child was full term, birth was normal, and infant birth weight was 3.5 kgs.

Post-natal history

No history of allergy or hospitalization.

General examination

General examination was height: 4 ft, weight: 39 kg, and gait: normal.

Extra oral examination

No abnormality was detected.

Intraoral examination

Stains and calculus were present, and mesiodens was present in between 11 and 21.

Radiographic examination

IOPA was taken.

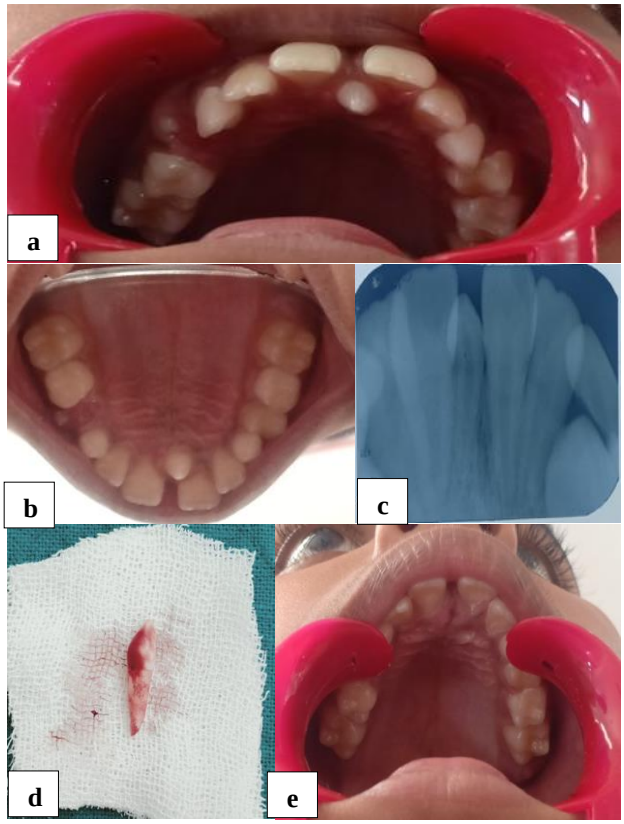

Figure 3: (a) Front view of mesiodens (preoperative), (b) palatal view of mesiodens (preoperative), (c) IOPA radiograph (preoperative), (d) extracted mesiodens, and (e) completely healed extraction site.

Treatment planning

Extraction of mesiodens was planned under local anaesthesia.

Treatment done

Extraction was done under local anaesthesia and bleeding was controlled. Post operative instructions were given to the parents and child both. Antibiotics and analgesic were prescribed.

Recall visit

Patient was recalled after 5 days. Extraction site was healed completely (Figure 3).

DISCUSSION

Supernumerary tooth can be supplemental or rudimentary. They can be conical, tuberculate or molariform or it can resemble normal tooth.[9] Mesiodens, most common supernumerary tooth, is an extra tooth, generally present in anterior maxilla. Most of the cases, mesiodens is present vertically, but they can be positioned horizontally in some cases, or sometimes it can be impacted.[9,10] In both of the mentioned cases, mesiodens were conical in shape which is one of the most common variant. Proper radiographic diagnosis is needed to determine its position to prevent any kind of injury to adjacent permanent tooth or any major artery or nerves. In these cases, proper clinical and radiographic examination was done before treatment planning.

In the case 1, mesiodens causing flaring of maxillary central incisors, while in case 2, mesiodens is the cause of spacing between two maxillary central incisors. In both of the cases, mesiodens is present palatally and causing irritation. It can cause midline diastema, malalignment and rotation of adjacent tooth; hence it is a major aesthetic concern for the patient.

Presence of mesiodens or any other supernumerary tooth can interfere with the normal eruption process of other tooth, or sometimes it can interfere with orthodontic treatment.[12] Hence early diagnosis and treatment planning is essential for preventing the possibilities of future malocclusion and help in better alignment of teeth. If mesiodens is associated with any pathologic condition, then immediate extraction is needed.[12,13]

CONCLUSION

Mesiodens, a common form of supernumerary tooth. It is not a rare condition. In most of the cases, mesiodens is the cause of malocclusion in children. Depending on the position, type and complications, extraction is the treatment of choice.

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