

Case Report

A rare case report: an unusual fusion of mesiodens and incisors, supernumerary canine and missing mandibular lateral incisors

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ABSTRACT

Supernumerary teeth are commonly encountered dental anomalies that affect the primary and early mixed dentition. They can lead to a range of pathological disturbances in the developing permanent dentition. Consequently, the patient has poor dental and facial aesthetics. The erupted or unerupted extra tooth located at the maxillary midline, between the central incisors is known as mesiodens. When diagnosed early, it can be treated properly with an excellent prognosis. The objective of this case report is to share knowledge about mesiodens and their management.

Keywords: Supernumerary teeth, Mesiodens, Fusion

INTRODUCTION

A developmental anomaly that is characterized by additional teeth apart from the normal series is known as a supernumerary tooth.¹ They either manifest as a single isolated anomaly or along with other developmental anomalies like cleft lip, cleft palate, Down syndrome, cleidocranial dysplasia, chorhinophalangeal syndrome, and Gardner's syndrome.² They can also occur fused with the normal dentition.

Mesiodens are the most common supernumerary teeth and form 80% of all supernumerary teeth series.¹ They may present normally, inverted, as an impacted tooth, or in the horizontal position. Their shape can be conical, tuberculate, odontome, or just like the normal tooth. When present as a single entity, it is called mesiodens. Multiple mesiodens are called mesiodentes.³

The etiology of mesiodens and supernumerary teeth is still unknown. Multiple theories like genetics, dichotomy of the tooth bud, dental lamina hyperactivity, and several genetic and environmental factors. It can also arise

because of the proliferation of odontogenic cell rests, palatal offshoot from overactivity of the dental lamina once the normal number of tooth buds are formed, atavism, and consanguineous marriages.⁴

Complications like delayed eruption, ectopic eruption of adjacent teeth, midline diastema, impaction, malalignment of incisors, axial rotation and displacement of adjacent teeth, fusion with adjacent teeth, radicular resorption, crowding, dilaceration, possibility of dentigerous cyst, migration of teeth in the nasal cavity/maxillary sinus and fistula between oral and nasal cavity.⁵

This case report describes a relatively rare occurrence of a mesiodens fused with central incisor on labial aspect.

CASE REPORT

A 15-year-old female patient came with a chief complaint of unusual appearance of the upper front teeth. No associated history of trauma or pain was present. No signs of any other syndrome or medical and family history were noticed.

Clinical examination

On intraoral examination, it was observed that a mesiodens was present, fused with the maxillary left central incisor 21 and lateral incisor 22 (Figure 1).

Other findings were unilaterally 2 maxillary canines 23, (Figure 2-dye model). Bilaterally missing mandibular right and left lateral incisors (Figure 3).



Figure 1: Fused teeth.



Figure 2: Dye model.



Figure 3: Fusion of three teeth and missing permanent mandibular lateral incisors.

The remaining teeth show normal anatomy without any morphological abnormalities. On vitality testing, there were no significant findings.

Radiographic examination

Intraoral periapical radiograph of maxillary anterior region revealed abnormal fusion of maxillary central incisor with supernumerary tooth on the labial surface and lateral incisor on its distal surface (Figure 4).



Figure 4: X-ray IOPA.

CBCT imaging showed complete fusion of the crowns of permanent maxillary central and lateral incisor with separate root canal systems. Mesiodens is fused at the crown level with separate roots and canals seen in the longitudinal section (Figure 5).

Sagittal sections of CBCT show fused and separate canals of mesiodens with central and lateral incisors and canines respectively (Figure 6).

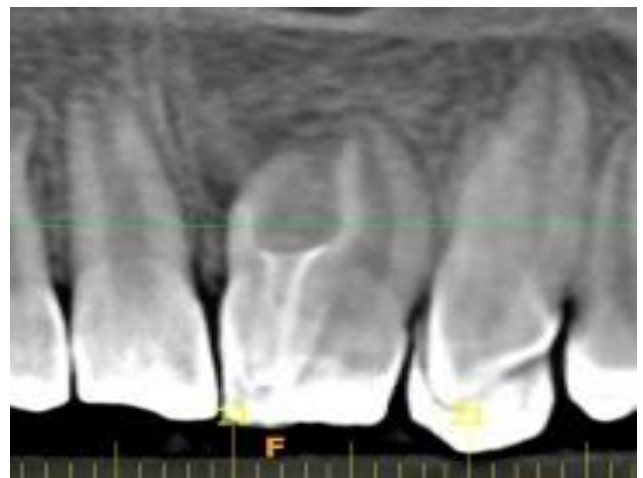


Figure 5: CBCT longitudinal section-fused teeth and two maxillary canines.

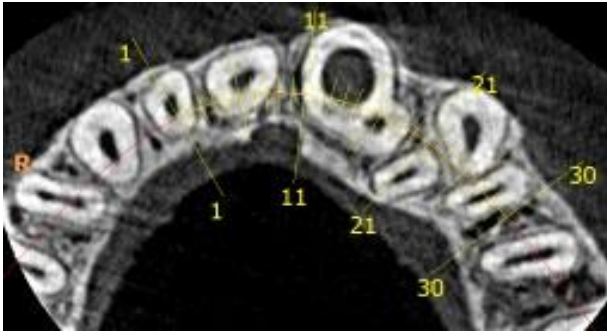


Figure 6: CBCT sagittal view-fused root canals of maxillary central incisor and mesiodens and separate canal of maxillary lateral incisor.

Treatment procedure

As there were no complaints other than aesthetics, the patient was reassured and educated about dental anomalies. In addition, the patient was advised to maintain proper oral hygiene and visit the clinic in case of sensitivity or pain in the maxillary anterior region. As the mesiodens was fused with the permanent tooth, extraction was not advised.

DISCUSSION

Mesiodens is an extra tooth with a prevalence of 0.15 to 1.9%.¹ Generally, maxillary permanent central incisors erupt at 7 and 9 years of age. As a result, mesiodens are generally reported at this age. Mesiodens are noticed during the radiological examination of unerupted or axial rotation of upper central incisors or diastema.¹ If the coronal part of the supernumerary teeth's follicle is intact, they can migrate and lead to disturbance in the eruption or alignment of the permanent dentition.⁶ As mesiodens can lead to several complications, it is best treated through extraction. If the mesiodens is asymptomatic, extraction should be delayed until the completion of the adjacent root.⁷

Dental fusion is a term used to describe a morphological dental anomaly characterized by a clinically wide tooth. It represents two conjoined teeth with the junction not limited to the cementum.⁸ It is clinically indistinguishable from gemination. Fusion and gemination do not pose any unique challenges in management. Dental fusion or synodontia shows the fusion of two separate tooth germs during odontogenesis. According to the stage at which the fusion occurs, the teeth are completely fused (fusio totalis) or partially fused in the crown (partialis coronaris) or root (partialis radicularis). On the other hand, gemination is due to incomplete splitting of a single tooth bud during development. The splitting generally starts at the incisal edge. So, double teeth with a single crown and two roots are diagnosed as fusion.⁸

CONCLUSION

Because of low prevalence and inadequate treatment options for fused teeth, dentists choose prosthetic replacement of the healthy natural teeth or their extraction. However, in the present case, as the patient was asymptomatic, no treatment was needed. Moreover, fusion with the permanent dentition was another reason for the same.

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