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BILATERAL FUSION OF PRIMARY MANDIBULAR CANINE AND FIRST MOLAR: A RARE OCCURRENCE

Dental Science

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ABSTRACT

Objective: Fusion is a developmental anomaly of the teeth. It is defined as the union of two independently developing primary or permanent teeth. Aberrations in morpho differentiation stage of tooth development leads to abnormal forms and sizes of teeth. This paper reports a rare case of bilateral fusion of mandibular primary first molar and canine. A 10 year old boy reported with the chief complaint of difficulty in chewing due to mobility of teeth in lower back teeth region. Intraoral, radiographic and histopathological examinations indicated fusion of mandibular deciduous canine and deciduous first molar on both sides. According to the treatment plan, the fused teeth were extracted. Fusion of teeth is caused by various etiological factors, can be diagnosed by amalgamation of clinical, radiological and histopathological examinations and can be treated by multidisciplinary approach. Accurate diagnosis of dental anomalies helps in prompt treatment, which in turn avoids future orthodontic complications and better prognosis.

KEYWORDS

Fusion, Double teeth, Primary teeth

INTRODUCTION

Fused tooth can be defined as a single enlarged or joined tooth in which the tooth count reveals a missing tooth when the anomalous tooth is counted as one [1]. Its occurrence is more in the primary dentition (0.5%) compared to the permanent dentition (0.1%), with a rare chance of bilateral involvement in the primary dentition (0.02) [2]. Fusion of teeth is known to result from physical force or pressure causing contact of the developing tooth germs, hypervitaminosis A, viral infection during pregnancy and the use of thalidomide, heredity, aberration of the ectoderm and mesoderm during morpho-differentiation stage of tooth development, and syndromes such as achondrodysplasia, chondroectodermal dysplasia, focal dermal hypoplasia, and osteopetrosis[3].

CASE REPORT

A 10 year old male patient reported with difficulty in chewing due to mobility of teeth in relation with both sides lower back teeth region since 10-15 days. Patient was relatively asymptomatic before 3-4 months, then he noticed decay in relation with both sides lower back teeth region which progressed and patient experienced difficulty in chewing food due to mobility since10-15 days. His medical history was non-contributory and there was no previous dental history. There was no family history of dental anomalies and neither was there any history of trauma to the teeth or jaws. His parents had a non-consanguineous marriage.

A thorough intraoral examination(figure1,2) revealed a mixed dentition consisting of 16 55 14 53 12 11 21 22 63 64 65 26 46 85 44 83 84 42 41 31 32 73 74 75 36 and Angle's Class 1 molar relationship on both the sides was noted.

Figure 1: Intraoral Maxillary Arch View

Figure 2: Intraoral Mandibular Arch View

Clinical examination revealed class II caries in relation with mandibular primary first molars on both the sides along with grade III mobility of teeth. Moreover, it was noted that the crowns of both the primary first molar had an abnormally large size, while the primary canines were missing bilaterally inclining it to be a case of fusion and not gemination. Intraoral periapical radiographs were taken which indicated erupting permanent first premolars bilaterally and caries involving enamel, dentin and pulp along with root resorption in both the teeth (figure 3,4).

Figure 3: Occlusal view

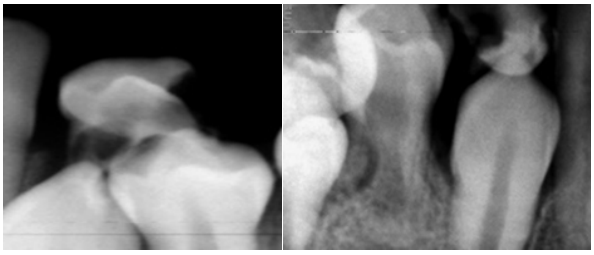

Figure 4: Intraoral Periapical Radiograph in relation with 84,83 and 74,73

Based on the clinical and radiographic examination, after obtaining parental consent both the teeth were extracted (figure 5) and sent for histopathological examination which confirmed fusion of teeth 73,74(figure 6) and 83,84(figure 7).

Figure 5: Extraction Of Both Teeth

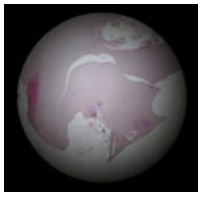

Figure 6: Histopathological Slide Showing Fusion In Relation With Fusion Of 73,74

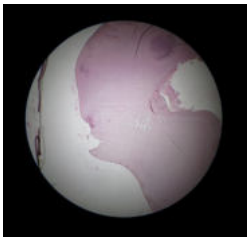

Figure 7: Histopathological Slide Showing Fusion In Relation With Fusion Of 83,84

DISCUSSION

Bilateral fusion has an incidence ranging from 0.01% to 0.04% in the primary dentition, and 0.05% in the permanent dentition [4]. They nearly always occur in the anterior region, and most often involve the mandibular lateral incisors and canines; occurrence in the posterior region is rare [5].

Clinical problems associated with fusion are aesthetic problem, malocclusion, diastema formation, and susceptibility to caries due to the presence of deep fissures. Reports of delayed resorption of the roots due to greater root mass has also been observed [6].

Management of fused teeth in children depends on a variety of factors like combinations of fused primary teeth, level of fusion and cooperation of child patient. In cases necessitating extraction of fused primary teeth, the presence of permanent tooth buds should be confirmed prior to extractions. If the fused teeth have caries, restoration should be done and if they are free from caries, they may be retained and appropriate oral hygiene instructions are given. If the caries or the lesion associated with the tooth shows pulp involvement, endodontic treatment is recommended [7]. Fusion of teeth may require orthodontic as well as prosthodontic management to ensure improvement in aesthetics and functional occlusion [8].

Previously, cases of fusion of primary teeth in posterior region have been reported [9], but this paper presents a rare case of bilaterally fused primary canine and primary first molar teeth. Morphological anomalies in the primary dentition are a cause of substantial concern for Paediatric dentists due to the possibility of clinical problems, such as dental caries, delayed exfoliation and anomalies in the permanent dentition such as impaction, supernumerary teeth or fused permanent teeth [10].

Therefore, a prompt diagnosis of such anomalies enables a more extensive long term treatment plan, better prognosis and reduces the need for complex treatments in future.

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