



Case Report

Twinning in Primary Dentition – A Case Report

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ABSTRACT

Twinning is usually asymptomatic and is associated with poor esthetics, caries, malocclusions, arch-length discrepancies, periodontal disease, hyperdontia or hypodontia of the permanent successors, and eruption abnormalities. The present case report describes the management of a carious necrotic twinned primary central incisor followed up for one year. Twinning anomaly is characterized by the presence of mirror image teeth.

Key Words: Dental anomalies, Gemination, Schizodontia

Introduction

In 1963 Tannenbaum and Ailing defined gemination as the formation of the equivalent of two teeth from the same follicle, with evidence of an attempt of the tooth to separate, this indicated clinically by a groove or depression delineating the two components. Radiographically, there appears to be only one pulp chamber. They stated that in gemination, if the bifid tooth is counted as one entity, the total number of teeth in the dental arch is otherwise normal.¹ The term schizodontia can be given if there is a complete splitting, which results in “twinning” leading to hyperdontia. Twinning is said to result in a mirror image teeth.² Twinning is associated with poor esthetics, caries development, malocclusions, arch-length discrepancies and periodontal disease. It may also be associated with hyperdontia or hypodontia of the permanent successors and eruption abnormalities.³ This article describes the management of a carious twinned primary incisor in a child.

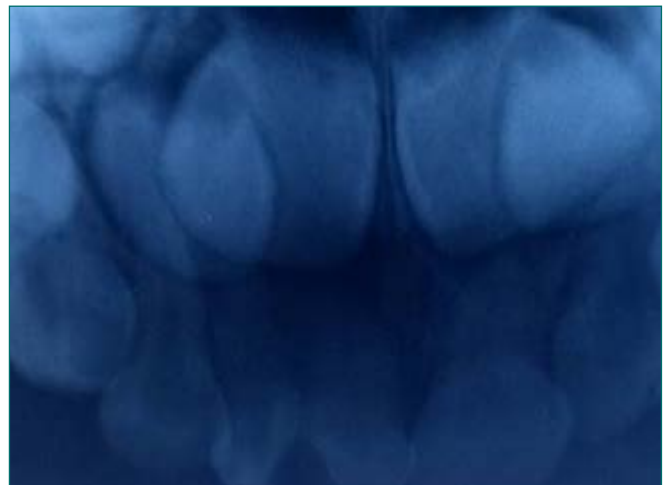
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A 5 year old girl reported with a chief complaint of decayed tooth in upper front teeth region. Her medical history was not remarkable. On clinical examination tooth number 51 showed gemination and caries involving enamel and dentin in both the components of the double tooth. There was clinical pulp exposure in the mesial component and arrested caries in the distal component. The tooth was associated with a draining sinus tract (Figure 1). Intraoral periapical radiograph revealed presence of separate roots for the two components resulting in mirror image teeth. Permanent incisors did not show any anomalies (Figure 2). The caries in the mesial component of the twinned 51 appeared deep and hence it was decided to

Figure 1: Frontal view showing germinated 51 with dental caries in mesial and distal components and sinus tract



Figure 2: Intraoral periapical radiograph showing separate roots for each component of the geminated crown of 51.



perform pulpectomy for the mesial component first and restore the distal component with GIC and observe for the healing of sinus (Figure 3). The sinus tract persisted for more than one week after initiation of pulpectomy in the mesial component and hence pulpectomy was performed for the distal component also. After one week it was observed that the sinus was healing and canals were obturated with metapex and tooth restored with composite (Figure 4). The child's mother preferred the double tooth to be restored as a single component. Figure 5 shows one year follow up in which no abnormalities were detected in relation to twinned 51.

Figure 3: Pulpectomy in mesial component of twinned 51



Figure 4: Obturation of both the root canals



Figure 5: Review after a year



Discussion

In a study among 65 children with dental anomalies in a primary dentition, it was observed that double teeth were present in 75% of the cases in which 94% were fusion and 6% were geminated.⁴ Gemination is an anomaly in size, shape and structure of teeth and it occurs commonly in maxillary incisors (unilateral) and rarely in mandibular permanent central incisor.⁵ The terms gemination and twinning have been defined in the literature by various synonyms such as dichotomy, connotation, double tooth, linking tooth, synodontia and schizodontia, mirror-image double tooth, fused teeth, and geminated composite odontoma. Although “twinning” is sometimes used as a synonym for gemination, it actually means complete cleavage of the tooth bud, resulting in the formation of an extra tooth that is usually a mirror image of its partner.³ The term “twinning” has also been used to designate the formation of equivalent structures by division resulting in one normal and one supernumerary tooth.⁶

The above presented case reported complete cleavage of the affected tooth resulting in mirror-image teeth. Gemination occurs more frequently in the primary dentition than in the permanent dentition with no gender preference. The prevalence is around 0.5 percent in children and 0.1 percent in adults. A prevalence of 0.02 percent was found for bilateral twinning in both primary and permanent dentitions. The condition is seen primarily in the incisor and canine region although it can occur in the premolar and permanent molar areas as well.⁷

The anomalies of primary dentition are strongly associated with anomalies in the permanent dentition.³ In the present case no anomalies were associated with the permanent incisors. Yet, early diagnosis of the anomaly has a considerable importance and it should be followed by careful clinical and radiographic observations. The child in the present report should be followed up till the eruption of permanent incisors as there is a possibility of delayed exfoliation and interference with eruption of permanent incisor.

Conclusion

Tooth shape anomalies in general dental practice may be rare, but the dentist should be aware of the nature of the problems encountered and the specific treatment needs. Carious involvement of double teeth should be treated promptly to avoid complications associated with endodontic treatment of such teeth. Early identification and proper follow-up of such cases is very important during the developing stages of the dentition.

Acknowledgement

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