

Siamese Tooth- An esthetic Conundrum

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Abstract

Dental developmental anomalies are not often encountered in the clinical practice, but when encountered are difficult to manage. Originating from embryological and developmental stages, these have aesthetic concern and can create issues in providing definitive dental treatment. The purpose of this case report is to describe the developmental change in a permanent maxillary central incisor, affecting the aesthetics in a young boy.

Keywords: Gemination; Fusion; Double tooth

Introduction

Dental anomalies may be classified according to the characteristics regarding volume, number, shape and position. Disturbances which affect the shape of the crown include gemination, fusion, crown dilaceration, talon cusp [1]. Gemination is an anomaly caused by a single tooth germ that attempted to divide during its development, resulting in a bifid crown [2]. They are found more frequently in the primary than in the permanent dentition unilaterally, but bilateral gemination is very rare. Gemination and fusion are clinically similar in appearance, and they can be differentiated by assessing the number of teeth in the dentition [3,4]. Herein we report a case of gemination in a permanent maxillary central incisor, which could be mistaken for fusion.

Case Report

A 14 year old male patient came to the department of oral medicine and radiology with a complaint of a large tooth in the upper front tooth region. Past medical and dental history was non-contributory. No extra oral abnormalities were detected. Intraoral examination revealed unerupted maxillary laterals bilaterally and crown size of maxillary right central incisor was more than usual size, with a cleft at the incisal edge (Figure A and Figure B). A provisional diagnosis of fusion in relation to the right maxillary central incisors was considered based on the past dental history, along with unerupted maxillary laterals bilaterally. Occlusal radiograph was taken which revealed congenitally missing maxillary lateral incisors and with respect to maxillary right central incisors revealed large crowns with a radiolucent notch was observed in relation to the incisal edge and relatively large pulp chambers and root canals were observed (Figure C). Considering the clinical and radiographic features, a final diagnosis of gemination of right maxillary central incisor was given.

Figure A: Unerupted Maxillary laterals bilaterally and cleft at the incisal edge of right maxillary central incisors.
 Figure B: Palatal aspect of the teeth showing the cleft.
 Figure C: Occlusal radiograph revealing the large pulp chambers.



Discussion

Gemination and fusion are anomalies with close similarity; prevalence rate of unilateral gemination is 0.5% in deciduous teeth and 0.1% in permanent dentition. Prevalence of bilateral cases is 0.01% to 0.04% in primary dentition and only 0.02% to 0.05% in permanent dentition, which makes the reported case rare [3]. Gemination and fusion are developmental anomalies with inherently unusual and bizarre anatomy. It is difficult to differentiate fusion from germination when supernumerary teeth are involved. Gemination and fusion are anomalies inherited by different aetiology. These anomalies may develop during morphodifferentiation of the tooth bud as a result of developmental aberration of both the ectoderm and mesoderm [5]. Dental anomalies of number and forms may affect both primary and permanent dentitions. Terms usually used to describe gemination are double teeth, double formations, joined teeth, fused teeth, dental twinning, or twin tooth [3,6]. Gemination was defined by Tannenbaum and Alling in the year 1963 as the formation of the equivalent of two teeth from the same follicle, with evidence of an attempt for teeth to be completely separate, this is indicated clinically by a groove or depression which could delineate two teeth depends on which teeth [7].

The etiology of double teeth formation is generally unclear. Many theories connect environmental influences, genetics, trauma, systemic disease, the lack of vitamins, and lack of space in the dental arch as possible causes of this anomaly. In the reported no above etiological factors could be justified, which makes it more debatable [8]. The clinical problems, particularly if the anterior teeth are involved, vary from tooth mal-alignment, spacing problems, arch asymmetry, esthetic problems, and periodontal involvement and impeded the eruption of the adjacent tooth [9]. In case of permanent dentition, treatment of choice will be determined by the patients need. The endodontic treatment followed by surgical division of crown has also reported. In some cases, extraction with prosthetic replacement is advised and also reducing tooth structure mesiodistally and placing a composite restoration to give the tooth a normal appearance [10].

Conclusion

Developmental anomalies of the teeth have always been a task which proves to be a factor of esthetic concern. Achieving a balanced smile can help the patient to feel confident and hence presentable in the society. Esthetic dentists play a major role in planning and evaluating such cases and designing the smile.

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