CASE REPORT

Fusion of Mandibular Primary Anterior Teeth, Rare Dental Anomaly- A Case Report

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ABSTRACT

Fusion is a rare developmental anomaly of the shape of the tooth. It is characterized by the unification of two adjacent teeth and is seen both in the primary as well as permanent dentition. Fused primary teeth can present with several clinical problems like dental caries, periodontal problem, arch asymmetry, delayed eruption, an ectopic eruption of succedaneous teeth, aesthetic and other complications of oro-facial structures. This paper presents a case of fusion in mandibular primary incisors in a seven year old male child. As no treatment was necessary for this patient, regular observations were planned in order to prevent dental caries, possible root resorption and premature exfoliation of the fused teeth. Additionally, these revisions allowed us to avoid more complex orthodontic problems in the future.

KEYWORDS: Tooth Fusion, Primary teeth, Dental Anomaly, Double Tooth

INTRODUCTION

The word "synodontia" (DeJonge in 1955) or fusion means joining of two or more teeth.1,2 It is also known as double teeth, double formations, conjoined teeth, joined teeth, fused teeth, or dental twinning.3 The phenomenon of tooth fusion uprise through the conciliation of two normally separated tooth germs, and depending upon the stage of development of the teeth at the time of the union, it may be either complete or incomplete. On some occasions, two independent endodontic systems can be seen. In geminated teeth,division is usually fragmentary and results in a large tooth crown that has a single root as well as single root canal.

One of the most unusual anomalies of the shape of the tooth is fusion.4,5 The of fusion is still unknown, but the due to pressure or physical forces generating close contact between two developing teeth has been expressed as one of the possible cause Genetic predisposition and racial differences have also been considered as contributing factors.6 Fusion of primary teeth is more continual than among permanent teeth. Data available for the primary dentition united the prevalence of fused and geminated teeth, the prevalence of the condition ranging from 0.5 percent to 2.5 percent according to the population surveyed.7,8,9 Fusion is common in anterior teeth that to incisor and canine region, but cases involving molars or its association with Russel-Silver syndrome are also reported.1,2 Hence this article aimed at reporting a case of fusion in mandibular primary incisors in a seven year old male child.

CASE REPORT

A medically fit seven year old boy reported to the Department of Pedodontics and Preventive Dentistry, Luxmi Bai Institute of Dental Sciences and Hospital, Patiala, Punjab, India. for regular teeth checkup. There was no family history of dental anomalies, and no consanguinity was reported in the parents. General and extraoral examinations appeared noncontributory. An intraoral examination disclosed that the patient was in early mixed dentition stage, and right mandibular primary central and lateral incisor were fused together. The case presented with a deep grove on the labial and lingual surface with incisal notching and was not affected with either by dental caries or by periodontal problems (Figure 1). Intraoral periapical radiographs confirmed the fusion

Fig 1- Clinical aspect of fusion between Mandibular primary central incisor and lateral incisor # 81,82

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of mandibular right primary central incisor and lateral incisor with separate pulp chambers and root canals, and underlying permanent successor teeth were also evident (Figure 2).

Fig 2- Radiographic examination revealing presence of independent pulp chambers and two distinct root canals fused together # 81,82.

DISCUSSION

Abnormalities in the tooth size and shape result from disturbances during the morphodifferentiation stage of development, perhaps with some follow from the histodifferentation stage. Occasionally, tooth buds may fuse or geminate during their stage of development.[10] The anomaly of fused teeth has been described under a variety of names. Although the term "double teeth" as suggested by Miles in 1954 is widely accepted and may be more appropriate.[11] Tooth fusion is defined as the unification between the dentin and/or enamel of two or more separate developing teeth.[12] The fusion may be partial or complete subject to the stage of tooth development and divulged into distinguishing feature between fusio-totalis, partialis-coronaries and partialis-radicularis.[13,14] The etiology of fusion is still unknown. Shafer et al.6 postulated that the pressure produced by some physical force prolongs the contact of the developing teeth causing fusion. Lowell and Soloman15 surmised that fused teeth is product of some physical action that causes the young tooth germs to come into communion, thus producing necrosis of the intervening tissue and allowing the enamel organ and dental papilla to fuse together. Others have also suggested the hereditary quandary as an autosomal dominant trait with reduced penetrance.[16]

Numerous studies have shown that double primary teeth have a leverage on permanent successors, including hypodontia (missing teeth), supernumerary teeth, repeated double teeth and peg-shaped teeth.[17.18] In Gellin's report, the conclusion was about the influence of permanent successors that was up to 100% when double primary teeth engaged the lateral incisors and cuspids.[19] Many clinical problems in the permanent dentition follow fused primary teeth like physiological root resorption of fused deciduous teeth being retarded, noted to delayed or ectopic eruption of the permanent successors. The clinical implication of fused teeth are the application of fissure sealants on the grooves between the two components is recommended to prevent dentaldecay.[20] Radiographs should be considered to check the development of the permanent teeth. Regular check-ups and surgical intervention at the oppurtune time are necessary to prevent delayed exfoliation and eruption of the successors. The greater root surface area of fused primary teeth may delay or suspend the exfoliation of the affected tooth.[21]

In this case presented there was a complete fusion of mandibular right primary central incisor and lateral incisor with independent endodontic systems. Hence difficult and rare cases pose a wide variety of problems, and the ideal way to manage such cases depends on diversity of factors mainly the knowledge and technical skills of the practitioner. Therefore, the proper diagnosis by clinical and radiographic assessment and intervention at appropriate time is of preeminent importance. In conclusion, a multifactorial approach with different practitioners with proficiency in several areas of dentistry is important to achieve functional and esthetic success to treat these rare cases.

CONCLUSION

In conclusion, a multidisciplinary approach with different practitioners with expertise in several areas of dentistry is important to achieve functional and esthetic success to treat these rare cases.

REFERENCES

1. Roa, “Synodontia of deciduousmaxillary central and lateral incisors with a supernumerary tooth,” Journal of Indian Society of Pedodontics and Preventive Dentistry, vol. 18, pp. 71–74, 2000.
2. J. Janiszewska-Olszowska, B. Wedrychowska-Szulc, and M. Syrynska, “Fusion of lower deciduous lateral incisor and canine- Review and report of two cases,” Dental and Medical Problems, vol. 45, pp. 82–84, 2008.
3. P. Goenka and S. Dutta, “Tooth triplet: a rare case report,” Journal of Oral Health & Community Dentistry, vol. 3, pp. 15– 17, 2009.
4. Peirera AJ, Fidel RA, Fidel SR (2000) Maxillary Lateral Incisor with Two Root Canals: Fusion or Gemination? Braz Dent J 11: 141-146.
5. Tewari N, Pandey RK (2011) Bilateral fusion in primary mandibular teeth: A report of two cases. J Indian Soc Pedod Prev Dent 29: 50-52.

6. Shafer WG, Hine MK, Levy BM. Developmental disturbances in shape 3. of teeth. In: A Textbook of Oral Pathology, 4th ed. Philadelphia: WB Saunders Company;

1983. p. 38-39.
7. Grahnen, H. and Granath, L. Numerical variations in primary dentition and their correlation with the permanent dentition, Odont Rev, 12:248-257,1961.
8. Clayton, J. M. Congenital dental anomalies occurring in 3,557 children, J Dent Child, 23:206 208,1956.
9. Niswander, J. D. and Surijaker, C. Congenital anomalies of teeth in Japanese children, Amer Phys Anthrop, 21:569-574,1963.
10. Proffit WR, Fields HW Jr. Diagnosis and treatment planning. In: Contemporary Orthodontics. 3rd ed. St. Louis, Mo: Mosby Inc; 2000:145-195.
11. Gupta S, Singla S, Marwah N, Dutta S, Goel M. Synodontia 8. between Permanent Maxillary Lateral Incisor and A Supernumerary Tooth: Surgical Treatment Perspective. J Oral Health Comm Dent 2007;1:52-5.
12. Tannenbaum KA, Alling EE. Anomalous tooth development: case 1. reports of gemination and twinning. Oral Surg Oral Med Oral Pathol 1963;16:883-7.
13. Hülsmann M, Bahr R, Grohmann U. Hemisection and vital treatment 2. of a fused tooth – literature review and case report. Endod Dent Traumatol 1997;13:253-8.
14. Peyrano A, Zmener O. Endodontic management of mandibular 6. lateral incisor fused with supernumerary tooth. Endod Dent Traumatol 1995;11:196-8.
15. Lowell RJ, Soloman AL. Fused teeth. J Am Dent Assoc 1964; 68:9. 762.
16. Stewart R, Prescott GH. Genetic aspects of anomalous tooth 10. development. Oral Facial Genetics. St. Louis: Mosby Co;1976.
17. Nik-Hussein NN, Abdul Majid Z. Dental anomalies in the primary dentition: distribution and correlation with the permanent dentition. J Clin Pediatr Dent 1996;21:15-9.
18. Yeun SWH, Chan JCY, Wei SHY. Double primary teeth and their relationship with the permanent successors: a radiographic study of 376 cases. Pediatr Dent 1987;9:42-52.
19. Gellin ME. The distribution of anomalies of primary anterior teeth and their effect on the permanent successors. Dent Clin North Am 1984;28:69-80.
20. Surmont PA, Martens LC, Craene LG. A complete fusion in the 13. primary human dentition: a histological approach. ASDC J Dent Child 1988;55:362-7.
21. Brook AH, Winter GB. Double teeth. A retrospective study of 14. 'geminated' and 'fused' teeth in children. Br Dent J 1970;129:123-30

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