

Synodontia of Primary Maxillary Central and Lateral incisor with a Supernumerary Tooth in a 3 year old Child: A Case Report

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Abstract

Fusion is a developmental anomaly of teeth. This anomaly may occur between two or more normal teeth or between normal and supernumerary tooth. The present case describes the synodontia between the deciduous left central, lateral and a supernumerary tooth which were fused at different levels and had different pulp chambers and canals. Treatment included pulpectomy and restoration in best esthetic way possible.

Keywords: Fusion; Primary Incisors; Pulpectomy

Introduction

Dental anomalies of number and forms may occur in the primary and permanent dentition [1,2]. The terms such as 'double tooth', 'joined teeth', or 'fused teeth' are often used to describe gemination and fusion, both of which are primary developmental abnormalities of the teeth [3-5]. Fusion has been described as a developmental anomaly characterized by the union of two adjacent teeth. This union of two separate tooth germs may be either complete or incomplete. Fused teeth have separate or shared pulp chambers and canals [6]. There will be one less tooth in the arch than normal if the affected tooth is counted as one [7]. Gemination is a developmental anomaly of form, which is recognized as an attempt by a single tooth germ to divide resulting in a large single tooth with bifid crown and usually common root and root canal [8]. Fusion may be differentiated from gemination by the presence of two separate roots or a single root, and by counting the teeth [9]. However, these definitions also make differentiation between fusion and gemination difficult when fusion involves a normal tooth and a supernumerary tooth. In cases of fusion, the crowns are united by enamel and/or dentine, but there are two roots or two canals in a single root. In contrast, in gemination, the structure most often presents two crowns, either totally or partially separated, with a single root and one root canal [10].

Supernumerary tooth is seen infrequently in the primary dentition with the prevalence rate of 0.2 - 0.8% and is usually of the supplemental type. Supernumerary tooth develops as a consequence of the proliferation of epithelial cells from the dental lamina. Treatment described for fused teeth includes restoration of caries using compodite resin or even extraction. The present case describes Synodontia of Maxillary Primary Central and lateral Incisor with Supernumerary tooth.

Case Report

A 3 year old female patient reported with pain in her left front tooth with dentoalveolar abscess (Figure 1,2,4) at Dr Joy Dental Clinic, Dubai, UAE. She did not report any systemic problems in her medical history.



Figure 1.



Figure 2.



Figure 4.

Intraoral examination showed decayed and more than half coronal destruction of what appeared to be fusion of central and lateral incisors with supernumerary tooth and dentoalveolar abscess associated with it. On radiographic examination, it was seen that central incisor was partially fused with supernumerary tooth, which in turn was completely fused with lateral incisor. Right maxillary central and lateral incisor were of normal anatomy. Fused teeth had separate canals. No hereditary history of existing condition was reported. Since the female child was just 3 years old, parents desired to save the tooth. Treatment was carried out under IV Deep Sedation as child was

uncooperative and anxious. Pulpectomy procedure was carried out, (Figure 3,5) with all three pulp chambers being nonvital. Obturation was done using zinc oxide eugenol cement and core was build up by Light cure glass ionomer cement. The ideal restoration should have been continuous filling of all three teeth, but that would have given a very unesthetic appearance. Since central incisor was just fused with supernumerary tooth from crown portion extending 2 mm below the free gingival margin, decision was taken to separate it completely from fusion. With a narrow thin taper bur, the central incisor was separated and limitation of time implied only Light Cure Glass ionomer restoration could be done. Separation of 61 gave a maximum possible natural anatomy to the tooth. Supernumerary tooth and 62 were fused at all levels and they were restored as a single unit. 10 days follow up (Figure 6) showed asymptomatic tooth with completed resolved dentoalveolar abscess and immense patient and parent satisfaction.



Figure 3.



Figure 5.



Figure 6.

Discussion

Fusion can be defined union of two normally separated tooth germs.

This developmental anomaly is thought to originate from morphodifferentiation stage of tooth development [11]. Fusion should be differentiated from gemination which represents an attempted division of a single tooth germ by invagination, with resultant incomplete formation of two teeth.

Clinical problems associated with the presence of fusion are unaesthetic appearance, malocclusion, and susceptibility to caries [13]. Furthermore Ahmet, *et al.* [12] reported delay in resorption of root due to increased root surface area relative to the size of permanent successor crown. Fusion of primary teeth may also be associated with developmental disturbances such as microdontia and delayed tooth formation.

Management of fused teeth in child patient depends on a lot of factors like combinations of fused primary teeth, level of fusion and cooperation of child patient. If the clinician plans extraction of fused primary teeth, the presence of permanent tooth buds should be confirmed. If the fused teeth are carious, restoration should be done and if they are free from caries, they may be retained as such and proper oral hygiene instructions are given. If the tooth is pulpally involved, endodontic treatment is recommended. Fusion of teeth may require orthodontic and prosthodontic management to ensure improvement in esthetics and functional occlusion. Periodic long-term follow-ups are required in the management of fusion.

New advanced imaging techniques like cone beam computed tomography can be used as an adjunctive aid in diagnosis and treatment planning for endodontic management of fused teeth to ensure predictable results [14].

Conclusion

Fused teeth are frequently observed during routine oral examinations. A thorough clinical and radiographic evaluation is essential to confirm its presence in the primary dentition. X ray computed tomography can help in making precise diagnosis and formulating the right treatment plan as fused teeth in primary dentition may be associated with anomalies in permanent dentition. Hence it becomes imperative to recognize this dental anomaly at the earliest and establish a right treatment plan.

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