

Solving the trouble when the tooth is double

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Abstract :

Fusion of teeth results from abnormal events in the embryonic development of teeth. A management of a rare case of carious fused permanent mandibular incisors is reported. The fused teeth requires an interdisciplinary approach combing the endodontic, esthetic and prosthetic treatments. A proper combined treatment solves the functional and esthetic problem of the tooth.

Key words : fused tooth, esthetic management, tooth anomaly, post and core

Introduction :

Conjoined or triple teeth are malformed teeth. These malformed teeth are a challenge to the dentist. They are classified into the following types : fusion, germination, concrescence by Shafer, Levy, Hine ^{1,2}. Pindborg defined fusion as the union between dentin and /or enamel of two or more separate tooth germs and gemination as the division of a single tooth germ resulting in a bifid crown, and single root ³. Fusion occurs both in deciduous and permanent dentition, but more common in deciduous than in permanent dentition ⁴. The etiology may be physical force or pressure leading to prolonged contact of the adjacent tooth follicles causes fusion of tooth buds ^{2,5}.

Clinically, this anomaly poses an unaesthetic irregu shape with excessive mesiodistal width and

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lar morphology. These teeth tend to cause spacing and alignment problems and are predisposed to caries and periodontal diseases⁴. This tooth anomaly may result in functional and esthetic problems, and thus may require some kind of endodontic, prosthetic, surgical and/or orthodontic treatment.

Case report :

A 14 year old male reported to the department of Pedodontics and preventive dentistry, KLE VK Institute of Dental Sciences with a chief complaint of decayed lower anterior teeth. Past medical and dental history was non-contributory. Intraoral examination revealed root stumps with 31, 41 and 42; grossly decayed 32, 36, 46 and deep caries with 12, 22. The patient also had an increased overjet and overbite (Fig A 1, 2). Radiographic examination revealed a fusion with 41 and 42, with 2 separate crowns and two canals fused at the junction of apical and middle one third. It was decided to do a root canal treatment with 41 and 42 followed by a post and core (Fig B).

After gaining access through 41, 42; a working length was determined, followed by obturation with gutta-percha in three subsequent appointments (Fig C). After 2 weeks the patient was recalled for esthetic management.. This was followed by preparation of post in the obturated tooth by gates glidden drill of diameter 1.2mm and gutta-percha was removed, leaving the apical one third. A fibre – reinforced post of diameter 1.2 mm was placed and was confirmed using an intra-oral periapical

radiograph (Fig D). After cementation of the post in place, the excess was cut (Fig E). Next, the coronal caries was removed and restored with glass ionomer type II restoration (Fig F). A composite core build up was done to give it a shape of single tooth(Fig G 1,2). This was followed by finishing and polishing of the core build up.

The patient was asked to maintain strict oral hygiene measures to prevent periodontal disease and directed to report for periodic evaluation.

Discussion :

Fused teeth afford a striking clinical manifestation of the differentiable and morphogenetic processes of tooth development. The challenge is to define the origin of the teeth and restore them to acceptable function and appearance³.

The morphology of fusion has to be differentiated from similar developmental anomalies of the tooth like gemination for successful endodontic and esthetic management⁴. A two tooth rule is a simple way to differentiate between the anomalies. The anomalous tooth is counted as one and all the teeth in the oral cavity are counted. This count is then compared to the normal count, if they sum up to be same its germination, if its more than its twinning and if its less its fusion⁶.

The treatment plan can be according to the severity of the lesion. In case of preventive measures, the median groove between the fused teeth can be sealed with a pit and fissure sealant.



Fig A (1): Pre-operative intraoral examination Fig A (2) : Preoperative intraoral examination



Fig B: Radiographic examination and Fig C: Root canal treatment done with 41,42



Fig D : Radiographic confirmation of placement of post .



Fig F: Post cemented in 41, followed by GIC restoration.



Fig G (1) : Post – operative intraoral examination



Fig E : Post placed with 41



Fig G(2) : Postoperative intraoral examination

In case of deep lesions the treatment revolves around endodontic, prosthetic and orthodontic

treatments⁶.In the present case, the endodontic treatment involves the root canal treatment,

esthetic is the post and core build up followed by a ceramic crown which is prosthetic treatment.

The glass fibre- reinforced post is esthetic, biocompatible , do not stress the tooth and are strong , retentive , corrosion resistant and compatible with other core build up materials⁴.

Conclusion :

An esthetically compromised tooth with unusual morphology because of fusion was managed by endodontic treatment followed by full crowns to restore the biomechanical, structural and esthetic integrity. Such situations of developmental abnormalities demand interdisciplinary approach for successful management.

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