CASE REPORT

Double tooth in mandibular incisor region: a case report

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SUMMARY

Double tooth is a term used to describe connate tooth and includes both dental fusion and gemination. Fusion refers to the union of two tooth germs resulting in a single large tooth. Owing to its irregular morphology, this anomaly can cause unpleasant aesthetic appearance. The diagnosis is based on the clinical findings and radiographic examination. We hereby discuss a case of fusion in a 30-year-old woman.

BACKGROUND

Dental anomalies of alteration in number, size and shape are not an uncommon feature in permanent dentition. Although extensive researches have been performed on gemination and fusion there is still much controversy regarding its nomenclature. Various terms have been used to describe dental twinning anomalies: gemination, fusion, concrescence, double teeth, cojoined teeth, twinned teeth, geminifusion and vicinifusion. Some authors have tried to differentiate them by counting the number of teeth or by observing the root morphology. While some use fusion and gemination as synonyms. Some authors call it as 'Double teeth' or 'connated' teeth to avoid the confusion.

CASE PRESENTATION

A 30-year-old woman visited the out patient department for routine dental check-up.

Clinical evaluation showed a healthy female with no physical abnormalities. Her medical, dental and family history was non-contributory. Intraoral examination revealed a large tooth in right mandibular incisor region whose mesiodistal width was comparatively larger than that of central and lateral incisor of left quadrant (figure 1). There was no percussion or palpation sensitivity on the fused teeth.

INVESTIGATIONS

Radiography: intraoral periapical radiograph of the right mandibular incisor region showed fused central and lateral incisor with one large pulp chamber and root canal (figure 2).

DIFFERENTIAL DIAGNOSIS

- ▶ Gemination
- ▶ Twinning

TREATMENT

A proper endodontic treatment with obturation of the involved teeth followed by their separation and shaping out in required forms. Sharp edges can also be smoothened easily after endodontic

Figure 1 Clinical photograph showing fusion in mandibular right central and lateral incisor.

procedures. If any occlusal interferences are encountered the teeth can be ground in two to three appointments, with an appropriate time period of around 6–8 weeks between the two visits.

OUTCOME AND FOLLOW-UP

The prognosis was good.

Figure 2 Intraoral periapical radiograph showing fusion in mandibular right central and lateral incisor with one root and one pulp canal.

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DISCUSSION

In 1963, Tannenbaum and Alling defined fusion as a union of two separate tooth buds at some stage in their development.¹ There can either be a complete fusion, that is, if the union occurs before calcification begins, the two teeth may be completely be united to form a large single tooth, or incomplete fusion, that is, when only the roots are fused after calcification, and the crown formation.² The incidence of fusion is 0.1% in permanent and 0.5% in primary dentition with no sex predilection.^{2 3} Bilateral fusion in permanent dentition is found more frequently in the maxilla than in the mandible. Furthermore, 100% of the permanent bilateral fusion cases seen in the maxilla involve central incisors and 83% of them involve supernumerary teeth.⁴

The aetiology of fusion is not clearly understood. Some researchers believe that physical pressure and force generated during growth causes contact between two tooth germs. Viral infection and usage of thalidomide during pregnancy is also considered as possible aetiology.⁵

Dejongs proposed the term 'synodontia' to describe adjacent teeth that combine during development.⁶

Clinically the crowns of fused teeth usually appear to be large and single. A groove (buccolingual or incisocervical) gives a bifid appearance. Dentin⁷ is always confluent in cases of fusion. Both gemination and fusion appear similar clinically but in gemination there is usually a normal number of teeth in the arch and radiograph show one root and one pulp space with two partially or totally separated crowns. Kelly⁸ suggested that in gemination the two halves of the joined crowns are usually mirror images, in contrast to fusion, which manifests with a distinct difference in the two halves of the crown.⁸

The clinical problems associated with fused teeth are esthetics-arch symmetry, spacing, malocclusion. These problems require cosmetic and orthodontic consideration.

Learning points

- ▶ Dental fusion has been defined as the partial or complete union, during development, of two or more adjacent teeth. Fusion can occur between two normal teeth or between a normal tooth and a supernumerary tooth.
- ▶ Fusion has also been reported with congenital anomalies like cleft lip and X-linked congenital conditions.
- ▶ Dental fusion results in one tooth less than normal.

Competing interests None.

Patient consent Obtained.

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