



Rare occurrence of cementum twinning (Concrescence) of teeth – Report of a case

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Abstract

Developmental anomalies are the anomalies affecting dental hard and soft tissue structure of the teeth. Concrescence of cementum twinning/conjoining is one such rare dental anomaly characterized by union of two or more teeth by deposition of cementum only mainly involving the root part. The purpose of this article is to present a case of concrescence involving maxillary second and third molar in an Indian patient.

Keywords: cementum, concrescence, twinning, dental anomaly, maxillary second molar, third molar.

INTRODUCTION

During development of tooth abnormal events can happen which result in odontogenic anomalies of the tooth. These abnormal events can involve different degrees of union of enamel, dentine or cementum depending on developmental stage of the tooth. In the literature various nomenclatures has been used to describe these uneventful processes.^[1] Twinning or conjoining anomalies like germination, fusion, double teeth and concrescence are frequently seen dental anomalies which show the process of joining of two teeth. ^[1,2]

Concrescence is a developmental anomaly involving dental hard tissues where in showing union of two or more adjacent teeth by large amount of cementum only. This phenomenon usually occurs after the crown of the tooth has been formed. Concrescence condition leads to a loss of gingival architecture leading to the development of funnels, which may cause plaque accumulation thereby leading to periodontal tissue destruction.^[3]

This anomaly most frequently occurs in the maxilla, but it can be rarely encountered in the mandible. In maxilla, concrescence usually seen in the posterior aspect rather than in anterior part of the maxilla.^[3-5] It may affect both primary and permanent teeth.^[3,4,6,7] Maxillary molars are the teeth most frequently affected by this phenomenon. Being a rare condition, concrescence is more commonly seen between a third molar and supernumerary fourth molar. Gunduz et al^[4] have stated that histological examination is very essential for the correct diagnosis of concrescence.

Case report

A 56 year old male patient reported to the private dental office complaining of gum problem since 15 days. Patient was moderately built and nourished with no history of medical or systemic conditions. On intraoral examination patient exhibited poor oral hygiene with accumulation of large amount of calculus. Deep pockets with severe periodontal problems were observed in maxillary second and third molars. Grade II mobility was observed in these two teeth. As both molars were in poor condition patient wished for their removal. Therefore, based on both patient's chief complaint and clinical examination findings extraction of molars was planned. After giving local anesthesia both second and third molars were luxated. But some resistance was experienced by an oral surgeon during luxation and extraction. After some time of full effort both molars become loosened and extracted together without fracture of the roots of the both teeth. Following extraction when teeth were examined carefully the two teeth were joined to the full length of the roots leaving the crown part (Figure 1 and 2). The two teeth were joined together by cementum deposition to the length of the roots. Both teeth also showed accumulation of calculus on the crown and

root part. Therefore, based on literature evidence the condition was diagnosed as concrescence of second and third molars.



Figure 1: Photograph showing cementum twinning between permanent maxillary second and third molars. (A- mesial view, B- distal view)



Figure 2: Concrescence seen between permanent maxillary second and third molars. (A- buccal view, B- palatal view)

DISCUSSION

Two types of concrescence have been reported in the literature based on occurrence of this condition during or after the developmental process of the tooth has been occurred. They are true or developmental concrescence and achieved or post-inflammatory concrescence. In true type the cementum union occurs during the developmental stage of the tooth. In case of achieved type the cementum deposition occurs after the root formation.^[5] Sometimes achieved type may result from a chronic inflammatory response to a non-vital tooth. In the case presented here, it was assumed that this condition belonged to achieved or post-inflammatory type of concrescence as there was chronic periodontal problem leading to cementum deposition.^[1,3-6]

Exact etiology behind concrescence formation is not mentioned in the literature. However, various factors like excessive occlusal load, local infection, or local trauma after the tooth development has occurred have been suggested

by different authors as possible etiologic factors. Based on this perspective in the present case the reason behind occurrence of concrescence was attributed to the local severe infection caused by periodontal inflammation as this was evident more obviously on clinical examination.^[8]

The amount of cementum deposition or union may differ from involvement of one small site to a solid cementum mass along the entire aspect of two approximating root surfaces.^[5] In the present case also, the cementum deposition was observed involving the entire length of roots of two teeth. Most of the reports show involvement of maxillary second and third molars by concrescence.^[4-6] It is stated that the developmental pattern often involves a second molar tooth in which its roots closely approximate to the adjacent impacted third molar. Even in our patient the same region and same pattern of teeth were affected by the phenomenon of concrescence. However, Gunduz et al^[4] reported occurrence of concrescence between impacted third molar and a supernumerary fourth molar which reported in mandible being the rarest occurrence.

No treatment is required for teeth found with concrescence unless they cause some problem. This condition usually encounters difficulty during extraction procedure or during orthodontic treatment to move the teeth easily. Therefore, careful diagnosis of this anomaly is utmost important before start of these treatment procedures.^[6] In the present case also during extraction difficulty in luxating the teeth was experienced by an oral surgeon.

CONCLUSION

Although concrescence or cementum twinning is a rarely seen dental anomaly during clinical practice, knowledge about its existence and proper diagnosis is very important among clinicians to avoid consequences seen later.

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