

Concrescence of Teeth: Cemented Union between the Permanent Central Incisors and Associated Gingival Biotype:-A Case Report

Dr. Sheshadri Puttaswamy¹, Dr. Deepak Prasad², Dr. Mohamed Shameer C.P³

¹Professor Department of Periodontics Farooqia dental college and hospital Mysore

²Professor and Head of the Department Department of Periodontics Farooqia dental college and hospital Mysore

³III year Post graduate student Department of Periodontics Farooqia dental college and hospital Mysore

Corresponding Author: Dr. Sheshadri Puttaswamy

Abstract: Concrescence is a rare dental anomaly in which teeth are united in the cementum but not in the dentin. The incidence of Concrescence teeth is reported to be highest in the posterior maxilla. It often involves a second molar with roots in near proximity to those of a third molar. The presence of concrescent teeth may influence teeth extraction as well as periodontal, endodontic, orthodontic and even prosthodontic diagnosis and treatment planning. This article discusses a case report of concrescence between two maxillary central incisors and the variation in gingival biotype associated with the same teeth.

Key Words: Concrescence; Developmental Anomaly; Cemental Union; Hypercementosis; gingival biotype

Date of Submission: 12-06-2018

Date Of Acceptance: 27-06-2018

I. Introduction

Altered morphology of teeth can be due to perturbations in the genetic process of odontogenesis. Developmental alterations in tooth shape include concrescence. Concrescence represents a rare developmental anomaly in which two fully formed teeth are joined along the root surfaces by cementum.^{1, 2} The cardinal radiologic sign of concrescence is close proximity of adjacent teeth with no detectable intervening periodontal ligament space shadow. When developmental, it might be associated with failed eruption of one or more teeth. When acquired, it may be associated with gross hypercementosis. Concrescence has been reported in extraction cases with an incidence of 0.2 - 3.7% in the primary dentition and 0.8% in the permanent dentition.³

The etiology of this condition is poorly understood however, studies suggest that crowding of the dental arch, chronic irritation due to dental caries, rapid and excessive orthodontic movement and trauma can lead to resorption of the interdental alveolar bone in between two fully formed teeth and their union occurs due to deposition of cementum.⁴ Maxillary molars are the teeth most frequently involved, especially a third molar and a supernumerary tooth. It is a rare dental anomaly that may be inadvertently diagnosed during tooth extraction.²

The presence of concrescent teeth may influence surgical procedures along with periodontal, endodontic diagnosis and treatment. So, to reduce the risk of complications associated with the condition, concrescence should be carefully identified and treatment plan should be subsequently altered.¹

The purpose of this article is to report a case of concrescence between maxillary central incisors and associated gingival biotype.

II. Case report

A 39 year's old female patient initially presented with discolored upper central incisors (11, 21) there was no history of major health problems or trauma. There was no family history of supernumerary or fused teeth. On clinical examination the maxillary central incisors were rotated and the labial aspect of the gingiva (marginal and attached gingiva) in relation to this teeth was thick, firm, pinkish white in color (Fig 1). On palpation the gingiva found to be firm thick and leathery in consistency. The cement enamel junction found to be fused and there was absence of interdental papilla in the labial aspect of these teeth

Radiographic evaluation of the upper central incisors revealed fused upper central incisors on the entire root surface also proximal caries was detected on the teeth (Fig 2). Both the central incisors were extracted; biopsy of the gingival tissue associated with these teeth was taken and sent for histopathologic examination. No significant findings were reported from the biopsy (Fig 3, 4, 5).

III. Discussion

Abnormal events in tooth development can manifest as odontogenic anomalies of conjoining or twinning. According to the stage of tooth development, different degrees of union of cementum, dentine and enamel are possible. Fusion is a condition in which two separate tooth buds have a joined crown that resembles

a bifid crown.⁵ Concrescence may occur during root formation or after the radicular phase of development is complete. If the condition occurs during development, it is called true concrescence; if it occurs later, it is acquired concrescence. The process is noted more frequently in the posterior and maxillary regions. The developmental pattern often involves a second molar tooth in which its roots closely approximate to the adjacent impacted third molar.⁷

For concrescence to take place, the roots of the involved teeth must be in close proximity to each other, and a layer of cementum must be formed in-between to intake the union between the roots. Any traumatic injury, crowding or chronic inflammation can cause resorption of interdental bone between two adjacent roots and result in deposition of cementum between them which may lead to concrescence. The degree of union may be a small site or sites along roots to entire extent of the root with cemental mass.⁶

Clinical identification of concrescence is difficult mainly due to lack of enamel involvement, the crown of the affected teeth if erupted appears normal. Therefore, it is important to consider concrescence when the roots of adjacent teeth are radiographically not distinguishable as separate roots. Radiographs with different angulations and exposure parameters may aid in diagnosis. Various complications can occur with concrescent teeth such as an inadvertent extraction of an adjacent tooth, fracture of the maxillary tuberosity or floor of the maxillary sinus.⁶

IV. Conclusion

In fact, concrescence is not common anomaly, so the clinician should always consider it, and the patient should be informed about its complications. A small fused area may be separated during the extraction. But a broader connected area may lead to the extraction of both involved teeth.



(Fig 1)



(Fig 2)



(Fig 3)



(Fig 4)



(Fig 5)



(Fig 6)

References

- [1]. Gunduz K, Sumer M, and Sumer A, Gunhan O. Concrescence of a mandibular third molar and a Supernumerary fourth molar: Report of a rare case. *British Dental Journal* 2006; 200(3):141-2.
- [2]. Sugiyama M, Ogawa I, Sueti Y, Tohmori H, Higashikawa K, Kamata N. Concrescence of teeth: Cemental union between the crown of an impacted tooth and the roots of an erupted tooth. *Journal of Oral Pathology & Medicine* 2007; 36 (1): 60-2.
- [3]. Denise Foran, Takashi Komabayashi and Louis M. Lin, Concrescence of permanent maxillary second And third molars: case report of non-surgical root canal treatment, *Journal of Oral Science*, 54, 2012, 133-136
- [4]. Hypercementosis and Concrescence of Maxillary Second Molar with Third Molar: A Case Report and Review of Literature Bhavya Mohan Academic Unit of Retorative Dentistry, Charles Clifford Dental Hospital, 76 Wellesley Road, Sheffield, South Yorkshire, S10 2SZ, United Kingdom.
- [5]. Dr. Sandeep B. Patil, Dr. Divya Singh, *IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)* e-ISSN: 2279-0853, p-ISSN: 2279-0861. Volume 15, Issue 9 Ver. IX (September). 2016), PP 77-79
- [6]. Zakirulla Meer, N Rakesh, Concrescence in Primary Dentition: A Case Report, *Int Jr of clinical dental Science*, 2(2), 2011, 19-21.
- [7]. Shafer W G, Hine M K, Levy B M. *Textbook of oral pathology*. 4th edn. pp 38-40. Philadelphia:Saunders, 1983.

Dr. Sheshadri Puttaswamy "Concrescence of Teeth: Cemented Union between the Permanent Central Incisors and Associated Gingival Biotype:-A Case Report." *IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)*, vol. 17, no. 6, 2018, pp 19-21.