



Research Paper

Concrescence of a Maxillary First and Second Molar: A Case Report

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ABSTRACT:- Concrescence is an uncommon developmental anomaly in which juxtaposed teeth are united in the cementum, but not in the dentin. It is a rare dental anomaly that may be inadvertently diagnosed during tooth extraction. Clinicians should be aware of this dental anomaly to avoid the complications such as fracture of tuberosity or floor of maxillary sinus. The purpose of this article is to report a case of concrescence between maxillary first and second molar that was identified post extraction.

Keywords:- concrescence; Developmental Anomaly; Cemental Union

I. INTRODUCTION

Concrescence, gemination, fusion, double teeth and synodontia are the terms used to describe dental twinning anomalies. These are the anomalies in which one tooth gets combined with another or enlarges itself to the point of doubling or nearly doubling its substance.¹

Concrescence is one of the common anomalies of shape of teeth occurring in posterior maxilla but its prevalence is not influenced by age, gender or race. Both primary and secondary teeth may be involved. It is characterized by union between adjacent teeth through cementum only and not dentin.²

The cardinal radiologic sign of concrescence is close proximity of adjacent teeth with no detectable intervening periodontal ligament space shadow. But, it has been observed that, this dental anomaly is inadvertently diagnosed during tooth extraction.³

The presence of concrescent teeth may influence surgical procedures along with periodontal, endodontic diagnosis and treatment. Therefore careful identification and subsequent alteration in the treatment plan is essential to reduce the risk of complications associated with this condition.

II. CASE REPORT

58 Year old male patient, who was advised total extraction, reported the dental hospital for extraction of maxillary left first and second molar. Under local anaesthesia an attempt to extract the first molar was made initially, but the tooth was firm. A purchase point was located and the tooth was elevated repeatedly, but there was no movement. The patient was then informed about the possible surgical procedure required in such case, instead of the routine extraction procedure. The informed consent was obtained from the patient before proceeding further. A small amount of bone was removed along the buccal aspect to create a better purchase point for elevation and to expose more of the clinical crown in order to engage the maxillary forceps. After luxating for several minutes maxillary first molar was extracted along with the maxillary second molar.

The extracted specimen showed bulbous and hypercementosed roots of the first molar fused with the second molar, which was extracted along with the first molar. There was a complete union between the roots of these two teeth. This fusion of cementum between first and second molar was diagnostic for concrescence. [Fig. 1]

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After extracting the teeth, a curette and bone file was used to ensure the removal of tissue debris and bone spicules. The sharp edges of the supporting bone were smoothed. Two interrupted sutures were given due to the significant size of the extraction site and age of the patient. Antibiotics and anti-inflammatory medicines were prescribed. The patient had no post-operative sequelae and the surgical site healed within normal limits.

III. DISCUSSION

Altered morphology of teeth can be due to perturbations in the genetic process of odontogenesis. Concrescence is a form of fusion in which the union is in the cementum alone without confluence of the underlying dentine. When it occurs during the stage of root development, it is called true concrescence. If it occurs later, it is acquired concrescence.

Although the exact etiology of concrescence has not been explained, the research workers suggest that space restriction during development, local trauma, excessive occlusal force or local infection after development may be the suspected causative factors.⁴

In order for concrescence to occur, the roots of the affected teeth must be in close proximity to each other, and an excess layer of cementum must be deposited to form the union between the roots of the adjacent teeth.⁵

According to Gundu Z.K. et. al. (2006), chronic inflammation after trauma or resorption of interdental bone occurs initially followed by deposition of cementum between the roots. This leads to concrescence. Concrescence is believed to occur during root formation or after the radicular phase of development is complete. If it occurs during root formation, it is categorized as developmental and attributed to the close proximity of the developing roots of the adjacent teeth. If it develops after root formation, it is categorized as post-inflammatory and it may result from a chronic inflammatory response to a non-vital tooth.⁶

It is often very difficult to identify concrescence using radiographs or any other diagnostic tool. However, the detection of concrescence is important because of the complications it can cause during exodontia. Detecting it clinically is practically impossible and at times it may be misdiagnosed radiographically as a single radiographic superimposition of roots of adjacent teeth.⁷ Since the teeth are joined by cementum only, it usually appear normal on the radiograph. Therefore, it is important to consider concrescence when the roots of the adjacent teeth are not easily distinguishable on a radiograph. Pre-operative radiographs on multiple films with different angulations should be taken.⁷ Different exposure parameters can be used. This may help in diagnosis and to prevent potential complications such as buccal plate fractures, tuberosity fractures or fracture of the floor of the sinus. But, unfortunately the diagnosis of concrescence is typically made inadvertently while extracting the tooth.

IV. CONCLUSION

Clinicians should be aware of this dental anomaly to avoid the complications during exodontia. Routine radiographs should be taken prior to extractions to prevent complications and to alter the treatment plan if required. If a dentist suspects a tooth planned for extraction is concrescent, he or she must be able to make the appropriate modifications in surgical techniques in order to prevent any undesirable surgical complications. Secondly, the need to extract an additional tooth may be confusing and frustrating for patients as the patient is generally informed midway through the procedure. The dentist should be able to explain its cause aptly.

REFERENCES

- [1]. Killian M, Croll T. : Dental twinning anomalies : the nomenclature enigma - Quint Int. 1990 ; 21 : 571-576.
- [2]. Romito L.M. : Concrescence : Report of a rare case - Oral Surgery, Oral Medicine, Oral Pathology, Oral Radiology & Endodontics. 2004 ; 97 (3) : 325-327.
- [3]. Surgiyama M, Ogwa 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) : 60-62.
- [4]. Gernhofer K. : Concrescence of a maxillary second and third molar : Journal of California Dental Asso.; 2009 ; 37 (7) : 479-481
- [5]. Badjate S J, Cariappa K M : Concrescence : Report of a rare complication N Y State Dental Journal, January 2008, 56-57.
- [6]. Gundu Z.K. et. al. : Concrescence of a mandibular third molar and a supernumerary fourth molar : Report of a rare case BDJ : 2006 ; 200 (3) : 141-142.
- [7]. Mader C L. : Concrescence of Teeth : A Potential Treatment Hazard - General Dentistry : 1984 : 32 : 52-55.

Figure Legends

Fig. 1. Concrescent teeth post-extraction

