

Concrescence of Erupted Second Molar and Impacted Third Molar: A Rare Case Report

V Bellapu, S Nagarakanti

Citation

V Bellapu, S Nagarakanti. *Concrescence of Erupted Second Molar and Impacted Third Molar: A Rare Case Report*. The Internet Journal of Dental Science. 2009 Volume 8 Number 2.

Abstract

Concrescence represents an uncommon developmental anomaly in which juxtaposed teeth are united in the cementum but not in the dentin. The incidence of concrescent teeth is reported to be highest in the posterior maxilla. The presence of concrescent teeth may influence teeth extraction as well as periodontal, endodontic, orthodontic and even prosthodontic diagnosis and treatment planning. Unexpected complications arising from this condition may lead to legal complications. Therefore, consideration should be given to the possible occurrence, recognition, and implications of this anomaly in diagnosis and treatment planning. The purpose of this article is to report a case of teeth concrescence between an impacted third molar and an erupted second molar with grade III mobility that was identified post-extraction, with a review of literature.

INTRODUCTION

Concrescence of teeth is actually a form of fusion that occurs during root formation or after the radicular phase of development is complete. In order for concrescence to take place, 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 (1, 2, 3, 4). Therefore, the union is only in the cementum of the adjacent teeth (5, 6). One case was reported showing concrescence of the crown of an impacted tooth and the roots of the erupted tooth (4). The degree of union may vary from one small site to a solid cemental mass along the entire extent of the root.

Two adjacent roots become fused by deposition of cementum between them after the resorption of interdental bone, which may be secondary to traumatic injury, crowding or chronic inflammation (e.g., carious lesion) (7). Concrescence typically affects maxillary molars, especially maxillary second and third molars, but its prevalence is not influenced by age, gender, or race (8).

In this case the roots of third molar are located with-in the furcation area of second molar. This type of concrescence is not reported before.

CASE REPORT

A 35-year-old female patient presented at our private dental clinic (Sri Prasanna Kamakshi Super Specialty Dental

Clinic, Kavali, Nellore District, INDIA) with a complaint of painful mobile tooth in the upper right back teeth region lasted for three days. She mentioned history of dull continuous pain which aggravated on mastication and relieved temporarily on medication (Dinal_Plus: Combination of Diclofinac Sodium, -50mg and Paracetamol, -500mg) twice daily for 3 days. The patient also mentioned history of mobility of same tooth since six months which gradually increased till the date of examination. This was her first visit to a dentist. The patient reported her past medical history to be negative. No history of any drug or food allergy.

A clinical examination was performed. The examination identified few teeth to be non restorable due to caries or periodontal disease. No unusual pathological conditions were noted. Tooth # 17 showed grade III mobility with clinical attachment loss of greater than 6mm in all the six sites (Mesiobuccal, Midbuccal, Distobuccal, Mesiopalatal, Midpalatal and Distopalatal), and tender on percussion with purulent discharge from the sulcus on digital pressure along with a caries with pulpal involvement on the distal aspect. Tooth # 18 is missing. The reason might be congenital missing or impacted which is not confirmed by radiographic investigation due to unavailability of the radiographic equipment in the clinic. With proper sterilization tooth # 17 was extracted with slow luxation and bimanual palpation of the alveolar ridge. The right maxillary second molar was extracted without fracture of the tuberosity and with the third

molar still fused to it. Both teeth were extracted through the site occupied by tooth # 17 with out tearing of the alveolar mucosa distal to tooth # 17 and there is no sinus perforation. The patient was explained about the situation and was prescribed Amoxicillin, -500mg thrice daily for five days and Metronidazole, -400mg thrice daily for five days and combination of Diclofinac Sodium, -50mg and Paracetamol, -500mg twice daily for three days. The teeth were cleaned under running water and tissue tags were removed using a curette and preserved in a plastic bottle containing 3% Weight/Volume hydrogenperoxide.

Photographs were taken in different views (Figure 1,2,3) and radiographs using digital radiograph device (Satelec, Sopix², Ace, Merignac, France) at two different views (Figure 4,5) to determine what odontogenic tissues were involved in the affected teeth.

DISCUSSION

Concrescence is believed to occur during root formation or after the radicular phase of development is complete (1,2,3,9). If concrescence occurs during root formation, it is categorized as developmental and attributed to the close proximity of the developing roots of the adjacent teeth. If concrescence occurs after root formation, it is categorized as post-inflammatory and it may result from a chronic inflammatory response to a non-vital tooth.

In this case, the reason for concrescence might be developmental, due to the position of the third molar into the furcations of second molar and also inflammatory due to the presence of deep carious lesion with the involvement of the pulp and chronic periodontitis.

The detection of concrescence is important because of the potential complication it poses during extraction and endodontic therapy (1, 5, and 9). It is impossible to be detected clinically, and may defy radiographic detection as well when it may be misdiagnosed as simple radiographic overlap or super-imposition of adjacent teeth (2). Therefore, it is important to consider this possibility when the roots of adjacent teeth are radiographically indistinguishable. Radiographs with different angulations and exposure parameters may aid in diagnosis. Concrescent teeth may give rise to complications, such as an extraction of an adjacent tooth, fracture of the tuberosity or floor of the maxillary sinus. Therefore, it is very important to inform the patient about the condition and potential complications. In such cases, sectioning should be considered to minimize adverse and unexpected outcomes.

CONCLUSION

Diagnosis of teeth concrescence occurs mainly after a surgical mishap. Therefore, it is important for clinicians to be aware of such odontogenic anomaly in order to minimize adverse and unexpected outcomes during dental treatment.

Figure 1

Figure 1: Apical view, showing the third molar located with in the furcations area of second molar; Figure 2 and 3: Distal view, tooth # 17 showing deep carious lesion

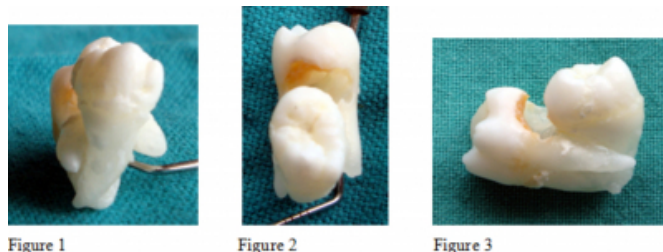
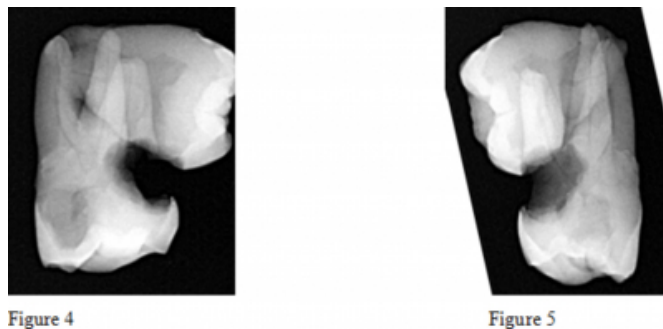


Figure 2

Figure 4 and 5: Two different radiographic views of extracted teeth # 17 and # 18



References

1. Mader CL. Concrescence of teeth: a potential treatment hazard. *General Dentistry* 1984; 32:52-5
2. Badjate SJ, Cariappa KM. Concrescence: report of rare complication. *New York State Dent Journal* 2008; 74:(1):56-7.
3. Romito LM. Concrescence: Report of a rare case. *Oral Surgery Oral Medicine Oral Pathology Oral Radiology and Endodontics* 2004; 97:(3):325-7.
4. Sugiyama M, Ogawa I, Suei 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
5. Eversole LR. *Clinical Outline of Oral Pathology: Diagnosis and Treatment*. 2nd Edition. Philadelphia: Lea and Febiger. 1981; 318-9.
6. Killan CM, Kroll TP. Dental Twinning Anomalies: The Nomenclature Enigma. *Quintessence International* 1990; 21:571-6.
7. Shafer WG, Hine MK, Levy BM. *Text Book of Oral Pathology*. 4th Edition. Philadelphia:Saunders. 1983:38-40.
8. Kyle J.Gernhofer. Concrescence of a maxillary second and third molar. *Journal of California Dental Association* 2009; 37(7):479-81.

9. McCoy-Collins RA, Tatum RC, Marfatia-Rege A. Fused maxillary second and third molars: report of a rare case with

literature review. Journal of the Maryland State Dental Association 1988; 31:102-5.

Author Information

Venkateshwara Babu Bellapu

Professor, Department of Periodontics, Narayana Dental College & Hospital

Sreenivas Nagarakanti

Senior Lecturer, Department of Periodontics, Narayana Dental College & Hospital