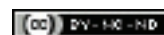


A Rare Case of Concrescence of Upper Left Second and Third Molar

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ABSTRACT

Concrescence is the fusion of two or more teeth by cementum alone after the formation of the crown. Concrescent teeth are reported to be found mostly in the posterior maxilla. The presence of concrescent teeth may have influence on diagnosis and treatment planning. The unforeseen complications arising from this condition may result in legal complications. The purpose of this article is to report a rare case of concrescent upper left second and third molar discovered accidentally upon routine extraction, explore the potential complications and discussion of similar cases described in the literature. Even though dental concrescence is found very rarely, it is important that clinicians are informed about its presence to ensure that whenever possible, it is diagnosed prior to surgical intervention. If the clinicians fail to diagnose and neglect to inform the patients regarding the potential risks, the patient may suffer tooth loss and complications leading to potential legal action against the clinician.

Keywords: Difficult extraction, Incidental finding, Upper molar

CASE REPORT

A 64-year-old female patient reported to Melaka Manipal Medical College with a chief complaint of difficulty in mastication due to partially edentulous arch since eight months. There is no relevant past dental history other than periodic extraction of mobile teeth. Patient was referred to the Oral and Maxillofacial Surgery department for complete extraction of maxillary arch. On examination, 16,15,14,13 and 27 presented with gingival recession and grade III mobility. All the remaining teeth were missing. The patient was listed for routine extraction of 27 under local anaesthesia.

After obtaining informed consent, the patient was anaesthetised with Lidocaine 2% and Epinephrine 1:100000. Extraction was attempted using forceps with slow luxation. Even though the tooth had grade III mobility, the extraction of 27 was more difficult than anticipated with a moderate amount of resistance. After changing the direction and pathway of exit, the 27 was extracted along with an additional tooth, the 28, through the same socket [Table/Fig-1].



[Table/Fig-1]: Concrescence of 27 and 28 extracted through the same socket.

On examination of the extracted specimen, the root of the 27 was bulbous and the root of the 28 was fused in a horizontal direction

to the root of the 27. A diagnosis of concrescence was made due to the fusion of cementum between 27 and 28. The patient was informed of the unpredicted situation. Excessive bleeding was noted which was managed by curettage and irrigation. Other complications such as oro-antral communication or fracture of the tuberosity were not observed. A figure of eight suture was placed due to the significant size of the extraction site and anti-inflammatory medicines were prescribed.

The patient was recalled after one week for suture removal and had no post-operative sequelae and healing was satisfactory.

DISCUSSION

Odontogenic anomalies comprise of changes in shape, number or size of teeth [1]. Thousands of anomalies with genetic as well as multifactorial aetiologies have been reported in the orofacial region [2]. The most important dental twinning anomalies are termed as concrescence, germination, and fusion. Concrescence is a rare dental anomaly whereby the roots of adjacent teeth are united by cementum only and not dentin [3]. Most frequently involved teeth are the maxillary molars and it is accidentally diagnosed during extraction [4]. The presence of concrescent teeth may have an influence on surgical procedures, hence identification of the condition and alteration in treatment plan is important to prevent any complications.

Although intrinsic and extrinsic factors such as nutritional deficiencies, trauma, radiation or hormonal changes can affect the number or shape of teeth, it is usually affected due to agitations during odontogenesis. The literature shows concrescence to be a rare clinical phenomenon that has predominance in maxillary molar region [4,5]. However, age, gender, and race of the patient have no correlation to the predominance of this condition [6].

The exact aetiology of concrescence is not known, but factors such as lack of space during development, trauma, excessive occlusal forces, and local infections are thought to contribute to its occurrence [6]. It is stated that concrescence occurs during root formation or after the radicular phase of tooth development [7]. It is classified as "true concrescence" if it occurs during root formation as it is developmental and is attributed to the close proximity of the developing roots. If it develops after radicular formation, it is considered as "acquired concrescence", as it may result from a response to chronic inflammation [8]. This case was most likely an

'acquired concrescence', as the patient had generalised periodontal disease with grade III mobility and gingival recession associated with the upper left second molar tooth.

Owing to the fusion of the teeth subgingivally and the absence of any enamel involvement, detecting and diagnosing concrescence clinically is practically impossible [9]. Radiographically, it can be misdiagnosed as superimposition of roots of adjacent teeth. Identification of concrescence is very important as to prevent potential complications during exodontia such as fracture of buccal plate, tuberosity or the floor of the sinus [10]. Many studies highlight the use of Cone-Beam Computed Tomography (CBCT) in diagnosing concrescent teeth to avoid the possible complications during extraction, however it is not a justifiable routine pre-extraction practice. However, whenever the roots of adjacent teeth cannot be distinguished radiographically, it is mandatory to use CBCT to diagnose the suspected concrescence [11,12].

The accidental loss of two posterior teeth could lead to decreased masticatory function or compromised aesthetics resulting in a negative psychological impact on the patient. If any complications occur during the removal of concrescent teeth, there is possibility of dento-legal action being taken against the operator if the patient was not informed prior, regarding the associated potential risks. The diagnosis of concrescence is generally made inadvertently during extraction of the teeth [13,14].

Shazli N and Almasri M, reported a case which was similar to this case, of a patient with loose maxillary complete denture which was clasped to a lone standing maxillary second molar. OPG revealed a horizontally impacted maxillary third molar in close proximity to second molar. Upon extraction of the second molar, the third molar was removed along with it and fused to it at the furcation area. The possible complications due to concrescence were discussed [15].

Unlike this case, Patil SB et al., reported a case of a patient with a complain of pain in the lower right third molar area. IOPA revealed fusion between mandibular second and third molar at the root region. Upon extraction, the distal root of mandibular second molar was fused to third molar root [16].

Puttaswamy S et al., also reported a case with discoloured central incisors with fused cemento-enamel junction. Radiographic evaluation showed fused upper central incisors on the entire root surface [17].

Mohan B reported a case of a patient with pain in the upper right back tooth since two weeks. Examination revealed slightly infra-occluded third molar and 6 mm pocketing and pain on percussion in second molar. The OPG revealed a periapical radiolucency and deep caries associated with second molar. The roots of both teeth appeared very close to each other. During extraction of second molar, even the third molar was removed accidentally. This case is in accordance with the above-mentioned case [18].

Similar to this case, Palermo D and Davies-House A, reported a case of chronic apical periodontitis with a complaint of pain and swelling with respect to the maxillary left first molar. In OPG, the roots of upper first and second molar were bulbous and overlapping each other. During extraction of upper first molar, even the second molar was removed accidentally [14].

CONCLUSION(S)

It is extremely imperative for clinicians to be aware of concrescence and should suspect whenever difficulty is encountered while extracting a posterior maxillary tooth. This can prevent further complications and prevent fracture of tuberosity or establishment of oro-antral communication.

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