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Case Report

Conservative Management of Concrescence - A Case Report

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Abstract

Concrescence represents a rare developmental anomaly of teeth. It is a condition showing union of adjacent teeth by cementum along the root surfaces. Maxillary molars are the teeth most commonly involved teeth. This is one such case report in which concrescence is observed between a second and third molar in the maxilla. This article highlights the presence of a concrescence between maxillary second molar and third molar with radiographic findings along with its conservative management.

Keywords: Cementum; Concrescence; Developmental Anomaly; Maxillary Tuberosity

Introduction

The type of fusion that occurs during or after root formation stage is called Concrescence. Possible etiological factors can be due to trauma, malaligned teeth with adjacent bone loss, distal inclination of adjacent teeth, restricted space during development, excessive occlusal load and local infection after development.

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 [1-4]. Therefore, the union happens only in the cementum of the adjacent teeth [5,6]. The degree of union may vary from one small site to a solid cemental mass along the entire extent of the root.

Concrescence typically affects maxillary molars, especially maxillary second and third molars, irrespective of age, gender, or race [8].

In this case it is an occurrence of concrescence between second molar and third molar, in which the third molar is submerged.

Case Report

A 28 years old male patient, walked into our Dental Surgery, with the chief complaint of missing teeth in the right upper back tooth region since a few days (Figure 1). Prosthodontic perspective was to extract the third molar so that the adjacent tooth (second molar) can be prepared in order to serve as an abutment for the future fixed partial prosthesis.

The rationale of the tooth to be extracted for prosthetic reasons is well accepted.

Figure 1: Pre-operative radiograph.

Procedure

After administering a right Posterior Superior Alveolar nerve block and Greater Palatine Nerve block with 2% Lignocaine and 1:100000 adrenaline, a ward's incision was placed in relation to the second molar. Full thickness mucoperiosteal flap was raised. Distal bone clearance done. Attempt to luxate the tooth was done. But the second molar also was seen moving. An intra oral periapical radiograph was done to reconfirm the position (Figure 2).

Then an intraoperative decision of not removing the tooth was made.

The flap was closed primarily using 3-0 silk suture.

The wound has healed uneventfully at the end of 1st week after the surgical intervention. Sutures were removed.

Figure 2: Intra oral periapical radiograph.

The patient was re-evaluated 1 month later who demonstrated well healed surgical site with normal mouth opening, occlusion and function, ready for the prosthetic rehabilitation.

Discussion

The formation of concrescence is expected to happen once the root formation is complete. Based on whether the concrescence can happen before or after the root formation, it can be classified into in two. i.e. 1) developmental, 2) inflammatory.

Close proximity of the developing roots is speculated to be the aetiology of Developmental concrescence. Whereas the excess cemental deposition that happens between roots of teeth with completed root formation as a sequence of chronic inflammation is inflammatory concrescence. Usually the inflammatory response is from a non-vital tooth.

The current case scenario would indicate that the teeth involved exhibit concrescence of developmental origin. The submerged position of the third molar with no loss of vitality and very close approximation of the adjacent tooth contribute to the aetiology.

Owing to the potential complications that can follow during an endodontic or extraction procedure of the involved teeth, the preoperative diagnosis of concrescence is of paramount significance [1,5,9].

Clinically always there appears two complete and separate crowns which raises no suspicion of an underlying concrescence and can always be considered as a mal-positioned tooth. The diagnosis has to be supported by a sequence of radiographs done at different angulations that may show indistinguishable root margins of the involved teeth which almost always does not happen. One of the cases discussed the use of cone-beam CT to better diagnose a concrescence when a plain film radiograph suggests union [7].

The overlapping of the involved teeth in this case in the preoperative radiograph should have raised concerns of a possibility of concrescence before the procedure.

Diagnosis of teeth with concrescence occurs mainly after a surgical mishap. Our case scenario is no different. But the better of all, the decision of not further going ahead in the procedure is justified by the following points:

1. The extraction of the tooth for prosthetic reasons can be overlooked by arriving at alternate treatment plans.
2. Aborting the procedure has saved the maxillary tuberosity, maxillary sinus floor, alveolus from suffering the risk of fracture
3. An obvious postoperative inflammatory phase is negated and hence patient enjoyed a better quality of life.

Conclusion

It is imperative for a clinician to be aware of this phenomenon of concrescence. Although reported cases can raise the awareness of such a condition, a sudden encounter of an unexpected concrescence situation clinically, would teach the best of what it actually is. So, the key is to have a suspicious eye, a defensive practice methodology and a fair sense of clinical judgement that can benefit the patient.

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