

## **Idiopathic Intracoronal Resorption in Impacted Maxillary Tooth - Report of a Rare Case**

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### **Abstract**

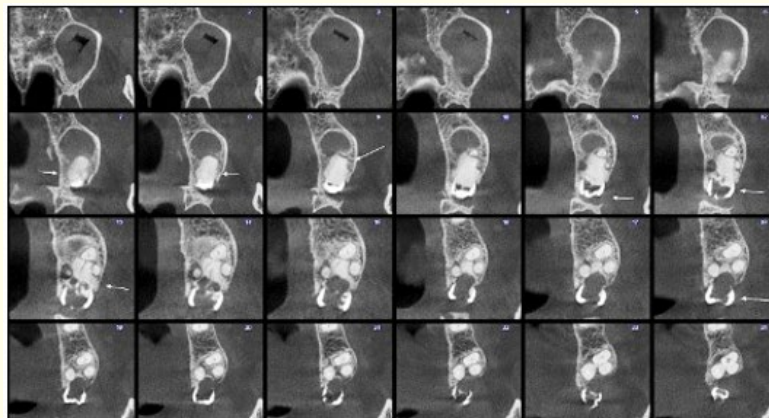
Human teeth have been found with impacted and remain un-erupted resulting with multiple complications which will be diagnosed on radiographic examination. The present article shows an impacted maxillary left third molar in a 73-year-old female Indian patient which had idiopathic intra-coronal resorption in association with large periapical cyst. Reports of idiopathic intra-coronal resorption are rarely found in the literature and hence with intention of reporting such rare dental phenomenon the present article is reported.

**Keywords:** Coronal Resorption; Cone-Beam Computed Tomography; Impaction: Maxillary Molar; Third Molar

A 73-year-old female patient reported to a private dental clinic complaining of pain in the upper left back tooth region in the past one month. Physical examination revealed moderately build and nourished with absence of signs and symptoms of systemic, metabolic and syndromic features. On intraoral examination, patient had some permanent teeth and some missing teeth due to extraction and crown placement in some teeth. On left side, the maxillary third molar appeared to be clinically missing. On contralateral side, the third molars both in maxillary and mandibular arch also appeared to be missing. On mandibular left side, the mandibular third molar was erupted. To rule out the presence of these missing third molars, an orthopantomograph radiograph was advised. Examination of the radiograph resulted in congenital agenesis of maxillary and mandibular third molars on right side and on left side of the maxillary arch the third molar appear to be distally impacted with crown facing towards ramus of the mandible and root towards maxillary sinus (Figure 1). The coronal part of the third molar showed a radiolucency resulting in ghost appearance of the radiographic image of the tooth. The root was fused with bulbous due to hypercementosis. There was an ill-defined radiolucent lesion involving this tooth at the periapical region and extending to the maxillary sinus (Figure 1). Cone-Beam computed tomographic (CBCT) scan evaluation also revealed the above radiographic features from different sections (Figure 2). Based on the clinical, radiographic and literature search this case was diagnosed as idiopathic coronal resorption. Treatment plan consisting of extraction of the affected tooth followed by cyst enucleation under general anesthesia was planned and carried out. The extracted tooth showed irregular crown morphology due to resorption and resulting in moth-eaten appearance of the tooth (Figure 3).



**Figure 1:** Orthopantomograph radiograph showing distal impaction of maxillary left third molar along with intracoronal radiolucency (yellow arrow).



**Figure 2:** CBCT scan image of the maxillary left third molar at different sections showing intracoronal resorption.



**Figure 3:** Extracted maxillary third molar with coronal resorption showing moth-eaten appearance of the crown structure. Bulbous fused roots can also be seen.

Idiopathic coronal resorption [ICR] or intra coronal resorption is mentioned by various synonyms as ‘intra-follicular caries’, ‘lesions resembling caries’ or ‘pre-eruptive caries’, ‘idiopathic external resorption’, ‘pre-eruptive intra-coronal resorption’ and ‘idiopathic coronal resorption’ [1]. The exact etiology behind the resorption of impacted teeth is not known and several theories have been stated in the literature. It is characterized by a well-circumscribed radiolucent area, occurring within the coronal tooth tissue of impacted teeth. Impacted teeth having idiopathic coronal resorption are usually detected and diagnosed incidentally on radiographic examination. Radiographically, the affected tooth appears like ghost-like crown and sometimes replaced with bone in the resorbed area. It is stated that the prevalence of coronal resorption could not be correlated with age or gender; however numerous articles were reported in pediatric patients [2]. Recent research article evaluated 3405 digital panoramic radiographs and revealed that idiopathic coronal resorption was observed in 26 of 622 patients with a frequency of 4.2%. there was positive correlation between advanced age and frequency of this [1]. Seow, *et al.* classified the extent of resorption (size of the defect) relative to coronal dentin thickness in his classification from score 1 to 3 [3]. Based on this classification, the present case was categorized as score 3 as the resorption defect was extending through the full dentin thickness (Table 1). Most of the time only one tooth was diagnosed with ICR in a patient. However, more than one tooth having ICR within the same individual have also been mentioned. Literature shows extent of the resorptions from amelodentinal junction and extending from this area to various depths within the tooth. The prevalence of 39% - 50% for scores 1 and 2 and for score 3 a prevalence of 40% has been reported [4].

Type	Description of the Classification
Score 1	Defect seen within one third of dentin thickness
Score 2	Defect seen with two-thirds of dentin thickness
Score 3	Defect extending through the full dentin thickness

**Table 1:** Classification of idiopathic intra-coronal resorption of impacted tooth based on size of the defect relative to coronal dentin thickness - Seow, *et al.* classification [3].

The mechanism behind the resorption of impacted teeth is not known and different theories have been suggested in the literature. Ectopic positioning of the tooth is mentioned as a local factor in the initiation of coronal resorptions and it is justified with 70% of ectopically positioned teeth were found with coronal resorption [4]. It is also mentioned that prolonged pre-eruptive period is associated with probability of formation with coronal resorption. With respect to treatment planning a dentist should make a suitable option for teeth with ICR. Different treatment modalities like extraction, eruption and radiographic follow-up were suggested for children and young adults by various authors [5]. In the case reported here, extraction was done along with cystectomy as patient has symptoms associated with maxillary third molar having intracoronal resorption and cyst formation.

**Conclusion**

Knowledge about occurrence of rare dental malformations like ICR is highly essential among all practicing dentist in order to diagnose and provide appropriate treatment.

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