Clinical Management of Pre-eruptive Intracoronal Resorption: A Case Report

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Introduction

A pre-eruptive intracoronal resorption (PEIR) is an abnormal radiolucent lesion within non-erupted teeth, first described by Skillen in 1941. Typically located directly below the dentin-enamel junction on the central or mesial portion, the crown appears to be intact, and it rarely affects the pulp. Histologically, PEIR exhibits soft tissue with similar spindle-shaped cells, resorption cells, and fibrous connective tissue cells. The pathogenesis involves resorptive cells, multinucleated giant cells, ectopic eruption and chronic inflammatory cells, which attack the dentin through the micro-perforation, originating from the surrounding bone in the dental follicle. No correlation with race, gender, medical conditions, or use of fluoride supplementation has been established. However, Seow suggests a link between PEIR and ectopic tooth positions due to abnormal local pressure, which initiates resorption. According to Yüksel, the classification of the lesions involves enamel, dentin and root. Most PEIR defects are found in the permanent dentition, and the mandibular first molar and maxillary first molar are mainly affected. At the moment there are no standard protocols for the treatment of PEIR. Suggested options include restoration of the defect, root canal treatment, and extraction. In cases classified as nonprogressive, most authors recommend the conservative approach of monitoring the lesion until eruption occurs. After the tooth has erupted, a restoration is required. On the other hand, in cases classified as progressive, immediate treatment is needed to avoid complications. If the tooth has not erupted yet and a big defect is found, a flap elevation and curettage of the defect with a manual instrument may be justified. In the case of pulp exposure, pulp covering and glass ionomer cement restoration are the correct therapies. Extraction is indicated if the lesion is large and causing problems.

Case Report

The case report examines a 7-year-old female with a history of asthma, currently treated with Flovent, and allergy to red dice. She was evaluated for missing teeth and dental caries. Clinical and radiographic assessment showed multiple instances of dental caries, teeth missing due to caries (specifically teeth K and T), and congenitally missing teeth (numbers 4, 13, 20 and 29). Notably, pre-eruptive intracoronal resorption was observed in teeth 19 and 32. Tooth 19 was partially erupted, displaying a defect that involved both enamel and dentin, yet no cavitation was found on the crown. Tooth 32, which had not yet erupted, also showed a defect affecting both enamel and dentin. The patient did not report any pain during the evaluation.

Clinical Assessment

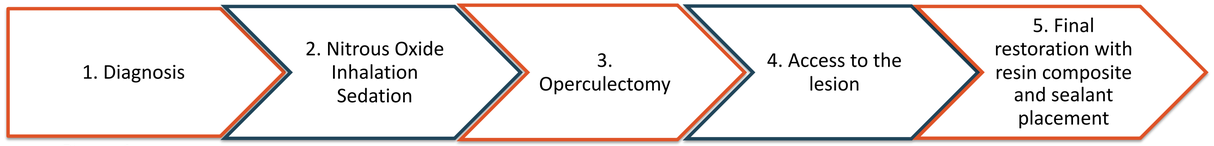

Diagram 1

Clinical and Radiographic Examination

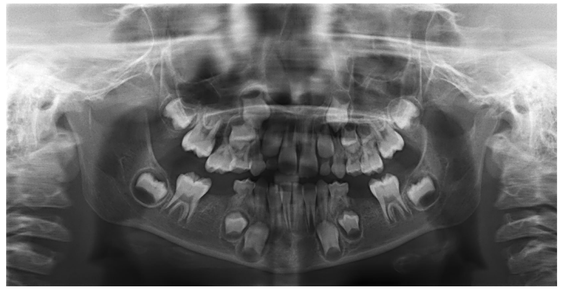

Fig. 1: Pretreatment Panoramic X-ray

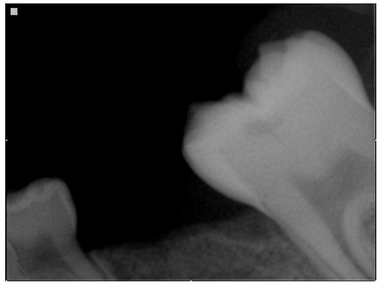

Fig. 2: Pretreatment Periapical X-ray

Fig. 3: Pre-operative

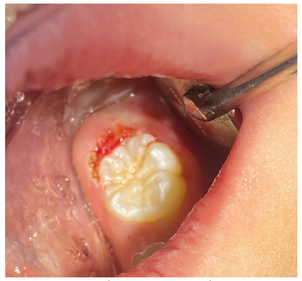

Fig. 4: Operculectomy procedure

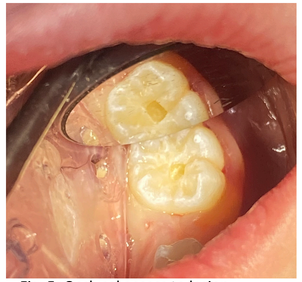

Fig. 5: Occlusal access to lesion

Fig. 6: Final restoration

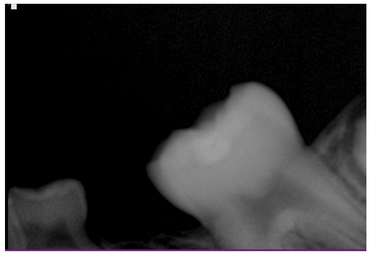

Fig. 7: Post-operative x-ray

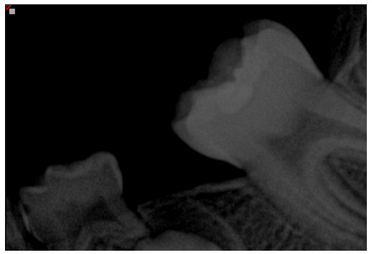

Fig. 8: 8 months follow up

Conclusions

Pre-eruptive intracoronal resorption (PEIR) lesions are often discovered incidentally during routine radiographic examinations. Typically, these lesions primarily affect the dentin, though in more severe instances, they can also impact the enamel. Over time, there has been an increase in the prevalence of these defects, which are now also observed in the root portions of teeth. In the case report presented, the lesion on tooth 19 was treated, while the lesion on tooth 31 has been under observation without any change in its size. A thorough and meticulous assessment of the radiological findings in non-erupted teeth is crucial for early detection, to determine whether the lesion is progressing or static, and to ensure appropriate management of PEIR lesions.

References

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