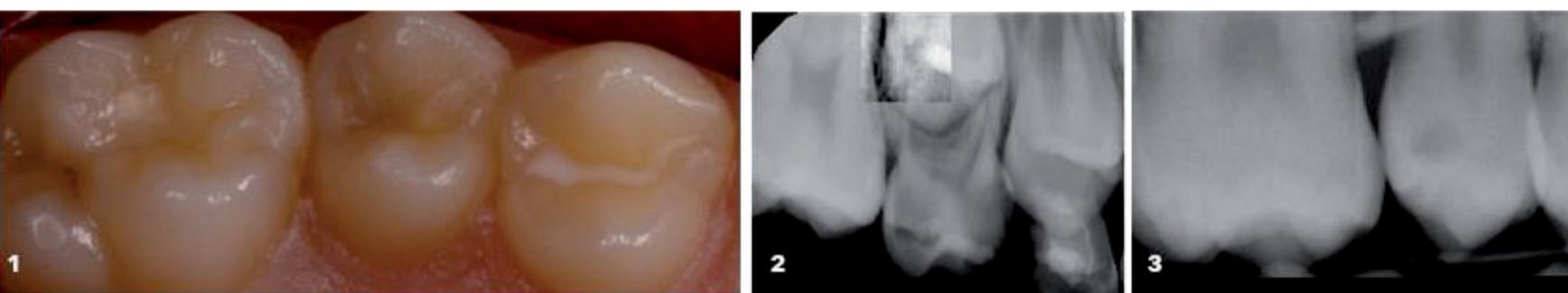


## CASE REPORT

A 12 years-old with a preliminary diagnosis of a pre-eruptive radiolucency lesion (PEIR) on the distal surface of tooth 15 was identified on exam. The differential diagnosis with an interproximal caries lesion was performed and was confirmed on clinical observation after placing a separator orthodontic elastic between teeth 15 and 16.



**Fig. 1** – Pre-operative photograph; **Fig. 2** – Periapical radiography of tooth 15, showing a pre-eruptive radiolucency lesion on the distal surface of the tooth (2016); **Fig. 3** – Periapical radiography of the tooth 15, after tooth eruption (2019)



**Fig. 4** – Rubber dam isolation; **Fig. 5, 6** – Cavity preparation



**Fig. 7** – Final photograph; **Fig. 8** – Final photograph after finishing and polishing; **Fig. 9** – Final periapical radiography of tooth 15; **Fig. 10, 11** – Clinical and radiographic follow-up at 6 months.

## DISCUSSION

Pre-eruptive intracoronal radiolucency is characterized by a well circumscribed radiolucent area within the dentine of unerupted teeth and close to the amelodentinal junction<sup>1-5</sup>. In the literature, the aetiology is not fully understood, however some evidence suggests that these lesions may result from a resorption process<sup>1,2</sup>. The diagnosis is mainly radiographic, mainly on routine intraoral radiographs. Hence, many of these lesions are only identified retrospectively<sup>1-5</sup>.

The prevalence of this lesion ranges between 0.7% and 8.1%, depending on the radiographic technique<sup>2,5</sup> and is higher in molars and premolars<sup>1,5</sup>.

There is no consensus regarding the clinical management of this lesion, due to the low predictability of its clinical course. However, O'Connell *et al.* suggest that in cases of minor lesions or teeth close to eruption, follow-up is recommended. When indicated, the restoration should be performed after tooth eruption. Complementarily, surgical exposure may be necessary, in cases of major lesions, with apparent pulp involvement or with evidence of fast progression. In more extensive lesions, tooth extraction may be the only treatment option<sup>1</sup>.

## CONCLUSION

The early diagnosis is crucial to stop further progress of the lesion, reducing the risk of pulp involvement<sup>1,2</sup>. Thus, the assessment of radiographs of permanent teeth still under development becomes essential in odontopediatric consultation<sup>1,4,5</sup>.

There are no reports of progression or reactivation of the lesion after dental restoration. Therefore, this seems to be, whenever possible, the most appropriate therapeutic option<sup>1</sup>. However, more clinical studies are required in order to develop clinical guidelines for the treatment of this type of structural defect.

## BIBLIOGRAPHY

- 1- Counihan KP, O'Connell AC: Case Report: Pre-eruptive intra-coronal radiolucencies revisited. *European Archives of Paediatric Dentistry*, 2012.
- 2- Demirtas O, Tarim Ertas E, Dane A, Kalabalik F, Sozen E: Evaluation of pre-eruptive intracoronal resorption on cone-beam computed tomography: A retrospective study. *Scanning*, 2016 Sep, 38(5):442-7.
- 3- Umansky M, Tickotsky N, Friedlander-Barenboim S, Faibis S, Moskovitz M: Age Related Prevalence of Pre-Eruptive Intracoronal Radiolucent Defects in the Permanent Dentition. *J Clin Pediatr Dent*, 2016, 40(2):103-6.
- 4- Lenzi R, Marceliano-Alves MF, Alves F, Pires FR, Fidel S: Pre-eruptive intracoronal resorption in a third upper molar: clinical, tomographic and histological analysis. *Australian Dental Journal*, 2017, Vol. 62, p. 223-7.
- 5- Demirtas O, Dane A, Yildirim E: A comparison of the use of cone-beam computed tomography and panoramic radiography in the assessment of pre-eruptive intracoronal resorption. *Acta Odontol Scand*, 2016 Nov, 74(8):636-41.