

# Peripheral Cemento-Ossifying Fibroma in a Child: A Case Report

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*Peripheral cemento-ossifying fibroma is a gingival lesion of reactive nature and unknown etiology. Such a lesion can either interfere with normal tooth eruption or become a factor in plaque development, which usually results in caries formation in newly erupted teeth. Therefore, the objective of the present article was to report a case of peripheral cemento ossifying fibroma occurring in the mandibular posterior region of a 11-year-old girl in association with both absence of premolar eruption and presence of severely caried first permanent molar.*

**Keywords:** ossifying fibroma, diagnosis, child, oral pathology.

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## INTRODUCTION

Peripheral ossifying fibroma is a reactive lesion characterized by the growth of a non-neoplastic mass in the gingiva.<sup>1, 3, 8, 9, 10</sup> Its color may resemble that of a normal mucosa or may be slightly reddish, and its surface may be either intact or ulcerated.<sup>2</sup>

Although this lesion is thought to be relatively common, it accounts for less than 1% of all oral biopsies performed.<sup>5, 9</sup> The lesion usually does not exceed 2.0 cm,<sup>6, 8</sup> involves predominantly the anterior region of the mandible,<sup>5, 8, 9</sup> affects more females than males,<sup>1, 3, 6, 8</sup> and it is more frequently found during the second decade of life.<sup>2, 3, 5, 8</sup>

The etiology of the peripheral ossifying fibroma is unknown. Although some authors have suggested that the lesion is associated with inflammatory hyperplasia of the periodontal ligament,<sup>5, 8</sup> others speculate about a possible hormonal influence since prepubertal patients are rarely

affected and the disease incidence falls significantly after the third decade of life.<sup>5</sup>

Histologically, the lesion consists of fibrous proliferation associated with formation of mineralized tissue, which can resemble both cemento and dystrophic calcification. When former is observed, the lesion is called peripheral cemento ossifying fibroma.<sup>7, 8</sup>

Therefore, the objective of the present article was to report a case of peripheral cemento ossifying fibroma occurring in the mandibular posterior region of a 11-year-old girl.

## CASE REPORT

A black girl aged 11 years old was brought to the stomatology clinic of a public university of Rio de Janeiro, Brazil, because of the asymptomatic growth of a gingival mass in the mandibular left posterior region. The patient's mother reported that such a mass had appeared some time ago, but the precise moment could not be determined. No relevant information regarding the general health was obtained during anamnesis.

The extraoral examination revealed facial symmetry, and no ganglionic change in head and neck was noticed under palpation. Good oral hygiene, clinical absence of carious lesion, and presence of all erupted permanent teeth, except the second molars and lower left premolars, were observed in the intraoral examination. In the region surrounding such elements a light brown mass, solid and non hemorrhagic under palpation, could be observed (Figure 1). The tissue involving distally the first permanent mandibular left molar (36).

A bitewing radiograph (Figure 2) allowed to see the lack of bony involvement, however a carious lesion involving tooth 36 was diagnosed.

Based on the clinical and radiographic data regarding the lesion history, differential diagnosis was suggested for the reactive nature of such a disease: Peripheral ossifying

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Figure 1. Initial clinical aspect of the lesion



Figure 4. Final aspect

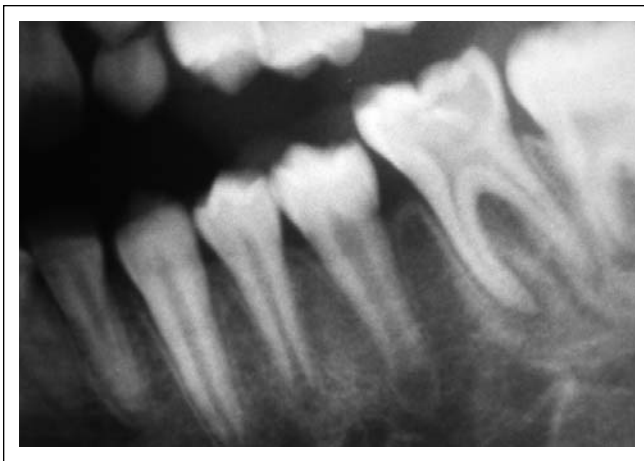


Figure 2. Initial radiographic aspect of the lesion

fibroma, piogenic granuloma, peripheral giant cell granuloma, and fibrous hyperplasia. Excision biopsy was performed and the lesion was diagnosed as a peripheral cemento ossifying fibroma (Figure 3).

Blood count for checking the hormonal levels was required in order to support the diagnosis and to observe

both patient's development phase and possible association with the lesion. The results showed that the patient was pubescent.

Two weeks after the biopsy, it was observed that the region surrounding the premolars had normally healed, but the lesion involving tooth 36 had relapsed. Surgical removal was carried out to clinically increase crown length in order to allow the tooth in question to be endodontically treated and prosthetically rebuilt.

The patient has been followed since its surgical intervention and it was possible to observe full cicatrization of the tissues after six months, and the premolars erupted normally (Figure 4).

#### DISCUSSION

The term "peripheral cemento ossifying fibroma" was coined due to the presence of cementum in a previously characterized peripheral ossifying fibroma.<sup>7,8</sup> Kenney *et al.* (1989)<sup>5</sup> believe that such a tissue originates from the remaining dental lamina rather than the lesion itself, but its composition should be differentiated.

Some authors have suggested that an inflammatory hyperplasia of the periodontal ligament can result in such a

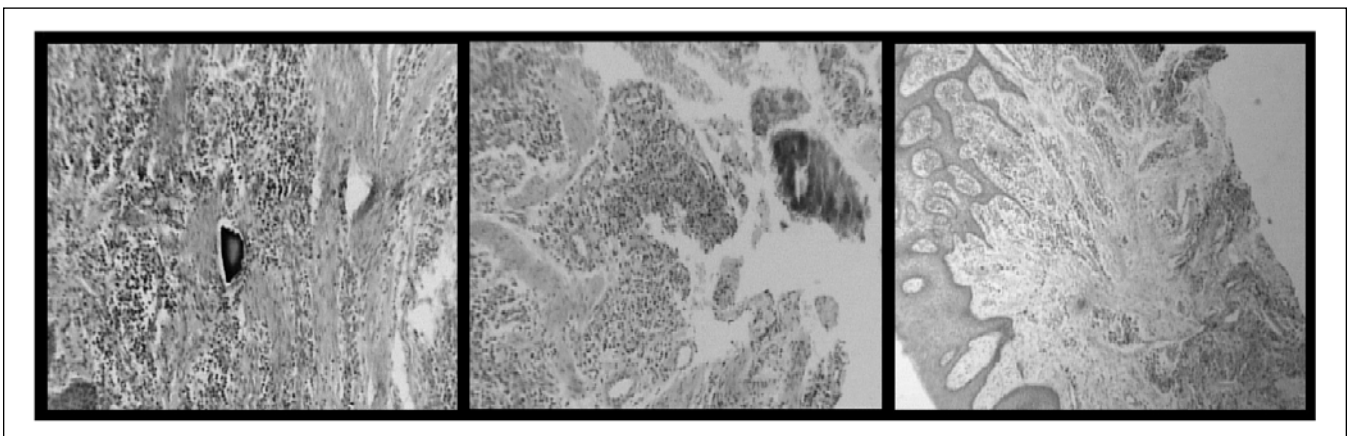


Figure 3. Histological examination (400 X)

lesion.<sup>3,8</sup> It is known that high levels of periodontal ligament activity (e.g. formation and degradation) are more commonly seen in children, and the constant irritation associated with both primary tooth exfoliation and permanent tooth eruption can contribute for the increased prevalence of reactive lesions.<sup>3,4</sup> Similarly, the involvement of hormonal factors<sup>5</sup> is also described in the literature.

In the present case, both inflammatory hyperplasia of the periodontal ligament and hormonal factors could explain the emergence of peripheral cemento ossifying fibroma. The former would be supported by odontogenic inflammatory disease, whereas the latter would be supported by laboratory tests corroborating the patient was pubescent.

Although peripheral cemento ossifying fibroma is not rare and has some common characteristics described in the literature (e.g. affecting more females than males during their second decade of life), one can observe differences regarding the site of occurrence (e.g. mandibular posterior region), since such lesions usually occur in the maxillary anterior region.

Presence of severe carious lesion involving tooth 36 seems to be associated with accumulation of bacterial plaque in the region between lesion and tooth, thus making cleaning of this area very difficult.

Absence of tooth eruption (teeth 34 and 35) was also associated with the fact that the teeth were beneath this fibrous lesion, which prevented their eruption from normally occurring.

The present case report emphasizes the need for clinical and radiographic follow-up during the mixed dentition phase since many factors, such as the presence of lesions (e.g. peripheral cemento ossifying fibroma), can interfere with

the normal eruption of permanent teeth by causing either occlusal problems or carious lesions. Caries may be associated with the loss of tooth vitality because the lesion can make oral hygiene difficult, thus resulting in plaque accumulation.

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