Giant Cell Granuloma in a Child: Case Report

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This article describes a case of central giant cell granuloma in the right posterior region of mandible in a 10-year-old girl. The lesion was removed by curettage and a histopathological examination was carried out. Clinical and radiographic follow-up showed total removal of the lesion. The importance of early diagnosis of this type of lesion is emphasized, mainly in children.

Key words: *granuloma, giant cell; diagnosis; bone cysts; child*
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INTRODUCTION

Central giant cell granuloma or lesion of giant cells is a non-neoplasic lesion of unknown etiology.[2,8,9] Initially, this lesion was classified as reparative (Jaffe, 1953), but this term was abandoned when it was proven to be more destructive than reparative in nature.[6,7,12]

In the literature consulted, no data were found relative to the general prevalence of central giant cell granuloma in population. However, it is known that among the benign maxillary lesions, the prevalence of this lesion figures in approximately 7% of them .[1]

Its occurrence is generally associated with young patients, before the age of 30, with a distinct predilection for the female gender, responsible for 65% of the cases. It occurs predominantly in the mandible and it most affects the anterior region, being common at the height of the midline.[2,9,10,11,12,14,16]

Although it may cause bony cortical crowning and/or expansion, it is characterized as an intra-osseous lesion, generally asymptomatic. Histologically it is constituted of multinuclear giant cells, surrounded by mesenchymal ovoid and fusiform cells, with locations of blood extravasation, associated with pigmentation caused by the phagocytic hemosiderin. It may also have locations of osteoid and recently formed bones.[3,5,9,12]

Radiographically, central giant cell granuloma may present as a radiolucid uni or multilocular lesion.[2,13]

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Diagnosis of central giant cell granuloma is made by histopathological examination. The usual treatment is the total removal of the tissue by curettage[2,9], however, other treatments like curettage followed by cryosurgery[15] and peripheral osteotomy[4] have been suggested. The prognosis is good, however, there may be recurrence of the lesion.[9]

The non-treatment of these lesions may lead to bone destruction and may evolve into paresthesia or perforation of the bony cortical.[9,12]

This article aimed to report a case of central giant cell granuloma in a child, with emphasis on the importance of the early diagnosis of this type of lesion.

CASE REPORT

A 10 year-old girl presented to the Stomatology clinic of public university dentistry school in Rio de Janeiro, Brazil.
The main complain was the increase of soft tissue in the right lower region with an inflamed appearance. According to mother's report, this growth had appeared about a month ago; at this time, the patient was taken to a private dentist, who diagnosed the lesion as being the result of an inflammatory process due to the presence of caries in teeth 84 and 85. The extraction of these teeth was performed, without prior radiography. Two weeks after the extractions, the patient returned to the same dentist with the complaint that the lesion had not regressed, so a periapical radiograph was taken and the patient referred to the dental school.

No relevant medical data was found during the anamnesis. Intraoral clinical exam showed a tissue growth at the lower right gingival ridge in premolar region (Figure 1). The tissue presented with a firm and painless mass, bleeding on palpation. The patient presented a deficient oral hygiene and multiple carious teeth. At this session oral hygiene instruction was given and panoramic and occlusal radiograph were requested.

The radiographs showed presence of a single radiolucent area suggestive of ameloblastoma, giant cell granuloma or neoplasic lesion (Figure 2). A biopsy followed by histopathological examination were carried out.

Surgery was performed under local anesthesia; Due to the fact that the lesion was friable and bleeding, complete curettage was chosen without involving teeth 44 and 45. The tissue removed

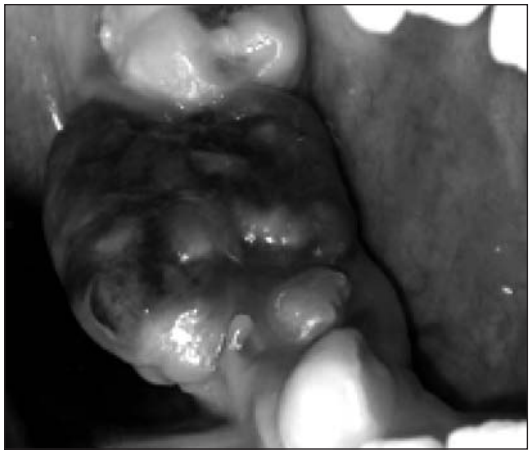

Figure 1: Inicial aspect of the lesion

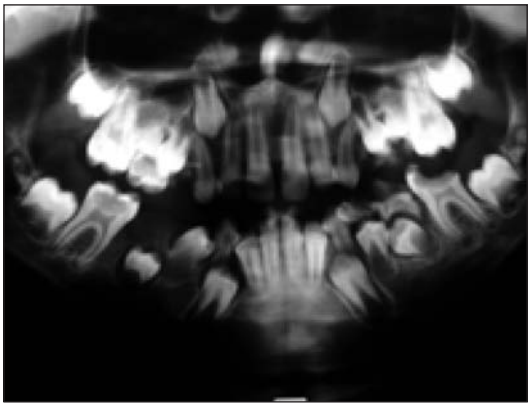

Figure 2: First panoramic radiography

was of a fibrous appearance and had some firm areas. The material was stored in 10% formol and sent for histopathological examination. The patient was given instructions about post-operative care, and a new appointment was made to remove the sutures.

The histological examination showed the presence of poorly defined form multiple giant cells. These cells had multiple nuclei. These were surrounded by new bone cells and with presence of erythrocites extravasation into the tissue (Figures 3 and 4). A diagnosis of a central giant cell granuloma was made.

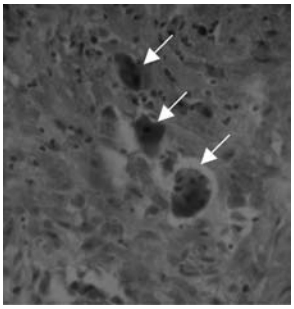

Figure 3: Histological image (200X) of multinuclear giant cells

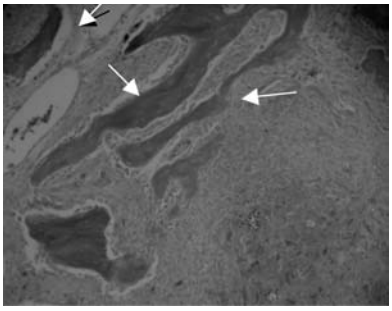

Figure 4: Histological image (400X) of multinuclear giant cells

The patient did not come back for her scheduled appointment but only returned three months after the surgery. At this time a new panoramic radiograph was taken, in which the complete removal of the lesion was found, associated with normal eruption of teeth 44 and 45 (Figure 5). Clinically, there was complete disappearance of the lesion and a satisfactory cicatrisation process (Figure 6).

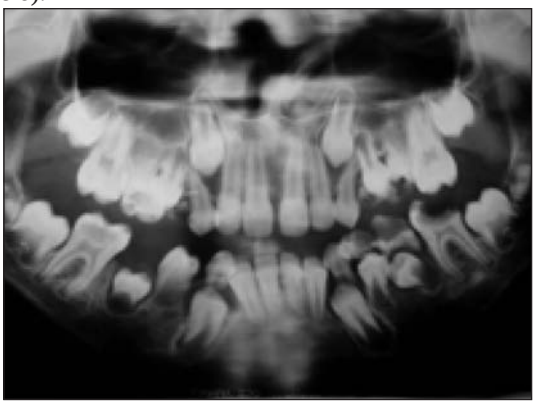

Figure 5: Second panoramic radiography

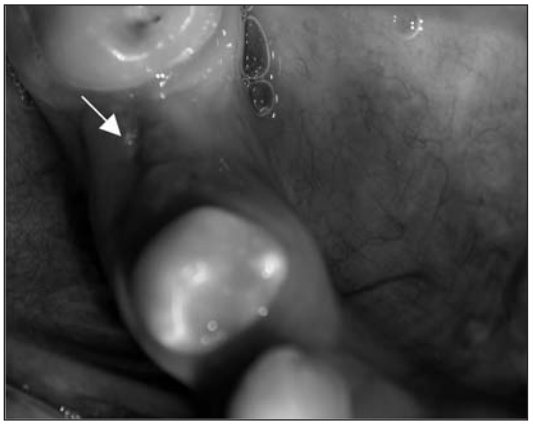

Figure 6: Final clinical aspect of the region

The patient was referred to the Pediatric Dentistry clinic for dental treatment, where six-monthly radiographs would be taken to follow up the case.

DISCUSSION

This article described the case of a 10-year-old girl, who presented with an asymptomatic enlargement in the region of the right lower pre-molars. These characteristics corroborate with clinical description of central giant cell granuloma, however, the majority of reports emphasize that this lesion occurs predominantly in the anterior region and may reach the midline, and this case described a giant cell granuloma in the posterior region. Furthermore, in the literature there are few reports of this type of lesion in children.[2,9,10,11,12,14]

In spite of radiographic examination having elucidated the presence of a lesion, it is not sufficient, together with the clinical exam, for making the diagnosis of central giant cell granuloma, should be guarded as both the clinical and radiographic characteristics may be confused with other types of lesions like the ameloblastomas and neoplasic lesions.[2,13] The histological examination revealed the presence of innumerable multinuclear, giant cells surrounded by cells of neoplasic bone and presence of hemosiderin, which is characteristic of a central giant cell granuloma.[3,5,9,12] The hypothesis of cherubism, which also has these histopathological characteristics, was discarded as a result of the differentiation in the clinical and radiographic findings.

Because a central giant cell granuloma could appear in its initial stage in radiographic examinations, this case emphasizes the need of an early diagnosis and treatment, mainly in children at the stage of mixed dentition, in order to avoid harm to the permanent teeth.

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