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Agressive osteoblastoma in a seven-year-old girl's mandible: Treatment and six-year monitoring



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ABSTRACT

INTRODUCTION: Osteoblastoma is a rare benign bone tumor with locally aggressive behavior in some cases; however, with rare malignant transformations. A case of osteoblastoma in a seven-year-old patient's mandible is presented.

PRESENTATION OF CASE: After the diagnosis, the patient underwent two stages of treatment. In the first intervention, an intralesional curettage was performed as well as a marsupialization of the lesion, in order to reduce its volume and allow a second and more conservative surgical period. In the second surgery, after reducing the lesion, enucleation and rigid internal fixation of the mandible were performed.

DISCUSSION: The treatment has proven to be satisfactory, without recurrence of the injury for two years, when the patient suffered a car accident that caused the synthetic material to fracture. Conclusion: The internal fixation was surgically replaced and the patient is being monitored after six years of the initial intervention, without presenting further changes.

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1. Introduction

Osteoblastoma is an uncommon benign bone tumor and accounts for less than one percent of all bone tumors [1]. The most frequently affected bones are the backbone, sacrum, calvaria, the longer bones, and small bones of the hands and feet [2]. Approximately 15% of the cases occur in the maxillofacial area, with a higher frequency of occurrence in the mandible [3].

In radiographs, the lesion may appear radiolucent, well or poorly defined, and containing variable amounts of mineralization [4].

Pain and swelling of the affected area are typical features presented by osteoblastoma in the facial bones. However, the damage can be discovered on routine clinical examination, while it shows no signal or causes any symptoms [5].

In both clinical and histological terms, a distinctive diagnosis for osteoblastomas varies between benign and malignant tumors, such as cementoblastoma, osteoid osteoma, fibrous dysplasia, ossifying fibroma, focal cemento-osseous dysplasia to low-grade osteosarcoma [6].

The treatment for osteoblastoma is defined by a complete excision of the lesion or curettage [6]. There are reports of regression after biopsy or incomplete removal, suggesting that the osteoblastoma may be a reactive process [7].

This study describes a case of osteoblastoma in a seven-year-old patient's mandible, her six-year treatment and monitoring.

2. Case report

Female patient, leucoderma, seven years old, was referred from the Department of Pediatric Oncology from Hospital de Câncer de Mato Grosso to the Department of Dentistry of the same institution for the purposes of assessment and management. The patient was accompanied by her father and reported as the main complaint an abnormal swelling in her face, with six months of development and pain in the area. No other morbid medical history of clinical relevance reported.

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Fig. 1. Initial image of the patient in front (A) and inferior/superior (B) view. The patient showed facial asymmetry with volumetric increase in the submandibular and left parotid-masseteric region, extending to the ipsilateral neck region, hardened, with resilient and crackling areas.

When the headgear physical examination was performed, an asymmetrical face with volumetric increase in the submandibular and left parotid-masseteric region extending to the ipsilateral neck region, hardened, with resilient and crackling areas, painful on palpation and with intact integument were detected (Fig. 1).

The intraoral physical examination revealed healthy, colored mucous membranes, and obliteration of the lower gingival sulcus on the left. Patient presented mixed dentition, with some cavitated teeth. However, in the lower left quadrant, teeth were intact.

The requested additional tests were panoramic radiography (Fig. 2), chest radiography (AP and lateral), computed tomography of the face (Fig. 3), ultrasound of cervical and submandibular areas and routine preoperative examinations (blood count, coagulogram, fasting glycaemia, creatinine, urea, bilirubin, GOT and GPT). The laboratory examinations results were within the normal standards and Class 1 Grade I surgical risk.

Lymphoma, ameloblastoma, keratocystic odontogenic tumor and aneurysmal bone cyst have been proposed as differential diagnoses.

An incisional biopsy was performed with headgear access under local anesthesia with the use of intravenous sedation in a surgical center. The histological analysis revealed a richly vascularized lesion, with many tissue trabeculae with gaps filled by osteocytes, osteoid matrix, osteoblasts and giant multinucleated cells leading to the diagnosis of osteoblastoma (Fig. 4).



Fig. 2. Initial panoramic radiograph showing patient in mixed dentition and presence of destructive lesion with poorly defined margins and a predominantly mixed radiographic pattern in the left mandibular body, angle and ramus.

Considering the age of the patient, a decision was made: To perform the marsupialization of the lesion with intralesional curettage, followed by a cyst removal technique with furacin gauze, in order to reduce its volume and allow a second and more conservative surgical procedure (Fig. 5). During surgery, a pathological fracture in the left mandibular angle occurred, due to the large extent of the lesion and the remaining bone fragility, however, the rigid inter-

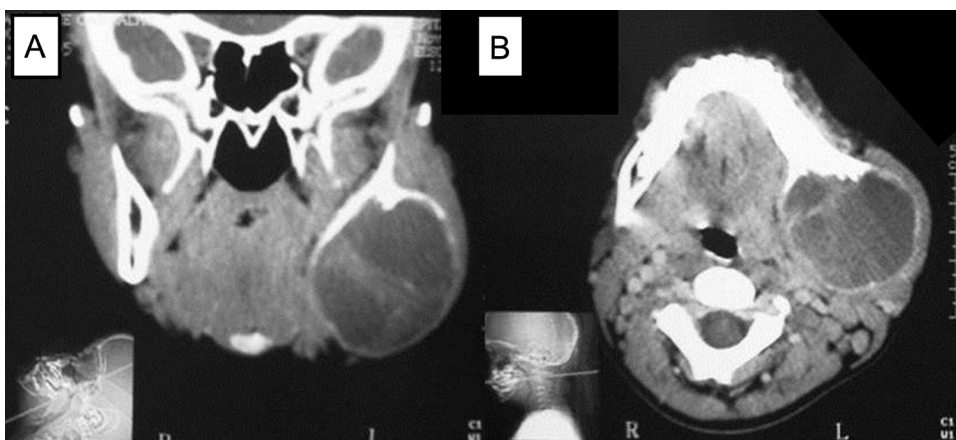


Fig. 3. Computed tomography in coronal (A) and axial (B) sections showing an hypodense area of approximately 8 mm in its largest diameter in the mandibular angle and left mandibular body areas, well-defined margins, cortical bone expansion and solid-cystic component.

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