

Peripheral osteoma of the mandible: Clinical Case

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Abstract

This reports a case of peripheral osteoma occurring at the mandibular border in a 16-year-old girl. Clinically, a swelling with a hard surface was observed at the inferior border of the right mandibular body, causing facial asymmetry. Radiographic examination revealed radiopacity and a well-circumscribed mass approximately 2 cm in size. The lesion was treated surgically. The histopathological evaluation revealed features compatible with osteoma, such as vital compact and mature medullary bone tissue, showing osteocytes and medullary spaces containing a loose connective tissue with capillaries. There was no evidence of any recurrence.

Key Words:

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Introduction

Osteomas are benign osteogenic lesions characterized by proliferation of either cancellous or compact bone and can be central, peripheral or extraskeletal. They may arise in medullary (endosteal) bone or on the bone surface as a polypoid or sessile mass (periosteal)¹⁻⁴. Furthermore, the term peripheral osteoma can be used for soft tissue lesions. The most common site is in the skull^{1,2,5-6}. When affecting the facial bones, they are frequently found in the mandible^{2-3,6-7}, the most common locations being the posterior lingual surface⁵ and the mandible angle area⁸. Clinically, the peripheral osteoma is usually asymptomatic^{3,6-7} and can be found during a routine radiographic examination. The lesion has been reported to have a slow growth rate, but it can produce swelling and cause asymmetry¹⁻². The radiographic appearance is a well-circumscribed radiopaque lesion³⁻⁴.

Patients with multiple osteomas should be evaluated with regard to Gardner's syndrome^{2-3,5,7,9}. These patients may present with symptoms of rectal bleeding, diarrhea, abdominal pain and sebaceous cysts. The triad of colorectal polyposis, skeletal abnormalities, and multiple impacted or supernumerary teeth is consistent with this syndrome³.

Treatment, when necessary, consists of surgical excision^{2-5,7-9} and its indication is based on the degree of disfigurement, limitation or loss of function^{2,7}. Osteomas rarely recur when treated surgically^{1,3,5-7}.

This study aimed to present an uncommon case of peripheral osteoma in the mandible and discuss it in relation to cases reported in the literature.

Case Report

A 16-year-old white girl was referred to the clinical radiological service of the Piracicaba Dental School-UNICAMP-SP for evaluation of a symptomatic mass in the right posterior portion of the mandible. The patient had noted the mass growing approximately three years earlier and denied any history of previous trauma. Clinically, a hardened nodular lesion could be observed, causing swelling and facial asymmetry at the right inferior border, anterior to the angle of the mandible with approximately 2 cm in size (Fig 1). The patient complained of pain during palpation. Radiographic examination showed a dense, spherical and well-circumscribed radiopaque mass, approximately 2 x 1,5 cm in size at the inferior border of the right side of the mandible (Figs 2 e 3). The main radiological hypotheses were osteoma and exostoses. There was no clinical and radiographical evidence consistent with Gardner's syndrome. The patient's family had no history of osteomas and gastrointestinal surgery. The proposed treatment involved surgical excision with the patient under general anesthesia. A submandibular approach was adopted. Following exposure of the lesion (Fig 4), a fissure burr was used to delimit both osteoma and mandibular inferior border and chisels were applied to remove the benign tumor. A round finishing burr

was used to shape the area. Closure was done by layers and a dressing applied on top. Microscopically, a vital, compact and mature medullary bone tissue was observed, showing osteocytes and medullary spaces containing a loose connective tissue with capillaries, and histopathological features compatible with osteoma (Fig 5). Up to now (ten months later) no tumoral recurrence has been observed (Fig 6).



Fig 1: Extra oral view, the patient presents a hard and visible mass near the right angle of the mandible.



Fig 2: Initial panoramic radiograph showing a radiopaque mass associated with the inferior border of the mandible.

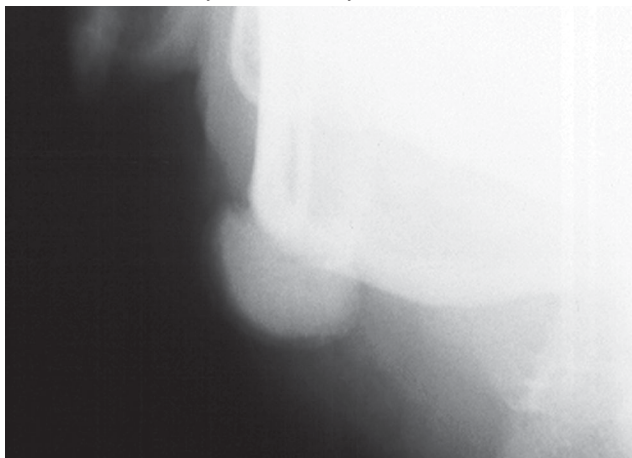


Fig 3: Anteroposterior x-ray of the right side of the mandible showing a radiopaque mass.



Fig 4: Trans-surgical view of the nodular mass excision.

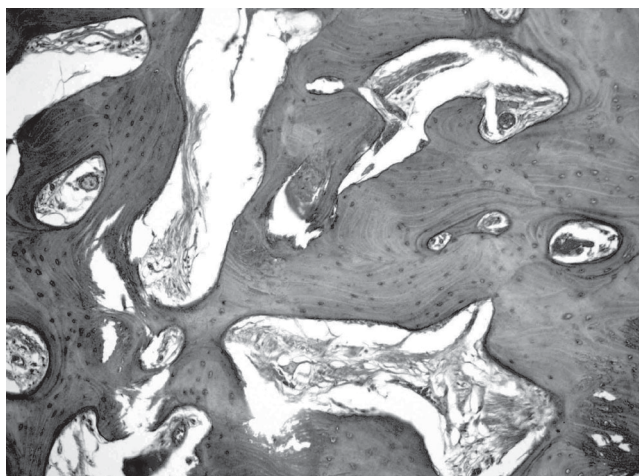


Fig 5: Histopathologic feature of the lesion, showing a vital mature bone tissue, with compact and medullary areas, osteocytes and medullary spaces containing a loose connective tissue with capillaries.



Fig 6: Post-operative panoramic x-ray after 10 months, without evidence of recurrence.

Discussion

The etiology of this tumor is unknown^{3,5-6}. Authors have suggested various factors that contribute to the development of the disease, such as trauma, infection and/or inflammation,

congenital and hereditary endocrine disorders and external causes. The suggested mechanism that best explains its pathogenesis is a combination of trauma and muscle traction. The former may cause subperiosteal bleeding or edema, and the latter could be related to local elevation of the periosteum. These two probabilities might initiate an osteogenic reaction that could be perpetuated by the continuous muscle traction in the area^{1,3,7}.

Osteoma usually occurs in patients between 15 and 35 years of age^{1-3,5} and may occur as a central⁶ or peripheral lesion¹⁻³, as in the present case. Clinically, this lesion appears as a hard, slow growing mass, but it may cause facial asymmetry when its size increases⁹. The most common site is the skull^{1,2,5-7} though it is infrequently seen in jaw bones^{2,7}. This is in contrast to other authors^{1,3} who state that frontal, ethmoidal, and maxillary sinuses are the most common locations. With regard to facial bones, it is more common in the mandible than in the maxilla, and the lingual surface of the mandible body and the lower border in the angle region are the most common sites⁷. In the present case, the site of the lesion was at the lower border of the mandible. Although the reports^{3,6-7} stated that this lesion is usually asymptomatic, the patient complained of pain. The differential diagnoses include exostoses, which are bony excrescences, odontomas that are benign odontogenic tumors, and osteoblastomas, which are very similar to osteoid osteoma³. The present case presented clinical and radiographic features similar to exostoses, however the diagnoses of osteoma was established after histopathological examination.

The complete surgical removal of the osteoma may be indicated to correct the deformity, or if other problems occur, such as blockage of cavities, compression of nerve terminals or noble tissues¹⁰. In asymptomatic patients, whose lesion presents sufficiently slow growth or has stopped growing, follow-up is recommendable¹¹.

Although it is uncommon, a case of recurrence nine years after surgical excision was reported². The patient, in this paper, did not show any evidence of recurrence and a clinical and radiographic follow-up protocol was provided.

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