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Case Report

Osteoma in Mandibular Angle: Case Report

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Abstract: Osteoma is described as an osteogenic neoplasm of mature and well differentiated bone tissue that has as main pathogenic hypotheses reactions to infections and local traumas. They are classified as peripheral osteomas, also called paraosteal, periosteal and exophytic, are the most common and originate from periosteal tissue, central osteomas or endosteal, originated from medullary tissues, and extra skeletal osteomas with soft tissue development. To report a case of peripheral osteoma with mandibular angle involvement, diagnosed and treated in a 30-year-old male patient. On clinical examination, a slight increase in volume was observed in the region of the right mandibular angle, absent from symptomatology, limitation of oral opening or any motor deficit. Tomographic examination showed an expansive bone lesion, densely calcified, with a sessile base and well delimited with approximately 4 cm in its largest diameter, suggesting Peripheral Osteoma. Peripheral osteomas occur more frequently in the mandible, which may affect the mandible body, angle region, condyl, corticosteroid process and sigmoid notch. There is no predilection for gender, occurring in an average age group of 36.5 years. The patient has 2 years of follow-up without stitic-functional sequelae and any signs1 of recurrence of the lesion.

Keywords: Osteoma; Mandibular body; Tumors.

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1. Introduction

Osteoma is described as an osteogenic neoplasm of mature and well-differentiated bone tissue, with the main pathogenic hypotheses being reactions to infections and local trauma [1-2]. They are classified into peripheral osteomas, also known as paraosteal, periosteal, and exophytic, which are considered the most common. Peripheral osteomas originate from periosteal tissue; central or endosteal osteomas originate from medullary tissues; and extraskeletal osteomas develop in soft tissue. Gardner's syndrome includes multiple osteomas as one of its findings [3].

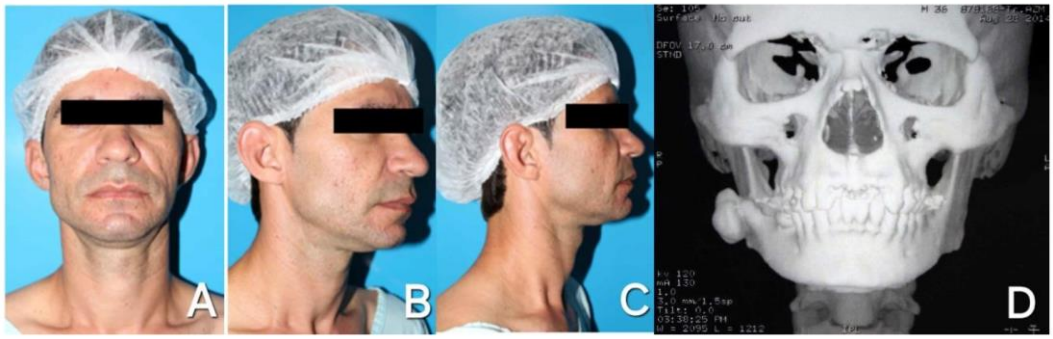
Clinically, peripheral osteomas commonly present as unilateral masses, which can be sessile or pedunculated, well-circumscribed, and approximately 10 to 40 mm in diameter. They show no gender preference and are asymptomatic, although they may be associated with facial asymmetries, functional interferences in the oral cavity, and malocclusion [4-5-6]. Radiographically, they are defined as an oval, well-circumscribed radiopaque mass with a broad base or peduncle attached to the bone of origin [7]. Histologically, they can be classified into two types: compact, with few medullary spaces and some osteoblasts, or spongy, with trabecular bone and fibroglandular marrow surrounding osteoblastos [2-8]. Surgical treatment is indicated for all cases, with no reports in the literature of malignant transformation [2].

Thus, the objective of this work is to report a case of a peripheral osteoma involving the mandibular angle, diagnosed and treated in a 30-year-old male patient.

2. Case Report

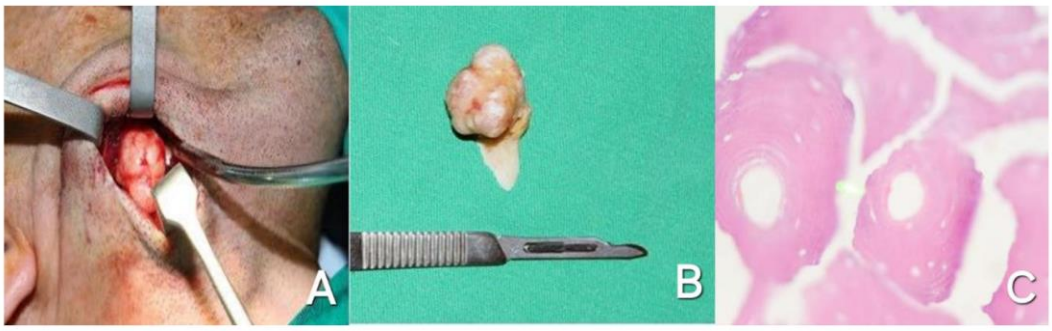
A 30-year-old male patient was admitted to the emergency service of a reference hospital for maxillofacial traumatology located in northeastern Brazil, presenting with a complaint of facial asymmetry due to a painless increase in volume in the right mandibular angle area. Clinical examination revealed a slight increase in volume in the right mandibular angle region, without any symptoms, limitation of mouth opening, or any motor deficits (Figure 1A to 1C). No alterations were found intraorally. A tomographic examination showed an expansile, densely calcified bone lesion with a sessile base and well-defined margins, approximately 4 cm in its largest diameter, suggesting a Peripheral Osteoma (Figure 1C).

Figure 1: A, B and C. Initial appearance before surgery. D. 3D Reconstruction of a Computed Tomography Scan, in frontal view.



Material for histopathological analysis was collected under general anesthesia, allowing for definitive treatment involving the excision of the lesion with mandibular osteoplasty, which improved facial contour. During the surgical procedure, a submandibular incision was made to expose the lesion, followed by osteotomy for excision and osteoplasty for bone contouring. Sutures were placed in layers with Vicryl 3.0 and on the skin with Nylon 4.0.

Figure 2: (A) Intraoperative view. (B). Dimension of the lesion. (C). In the histological analysis, dense bone lamellae with vascular spaces inside them are observed.



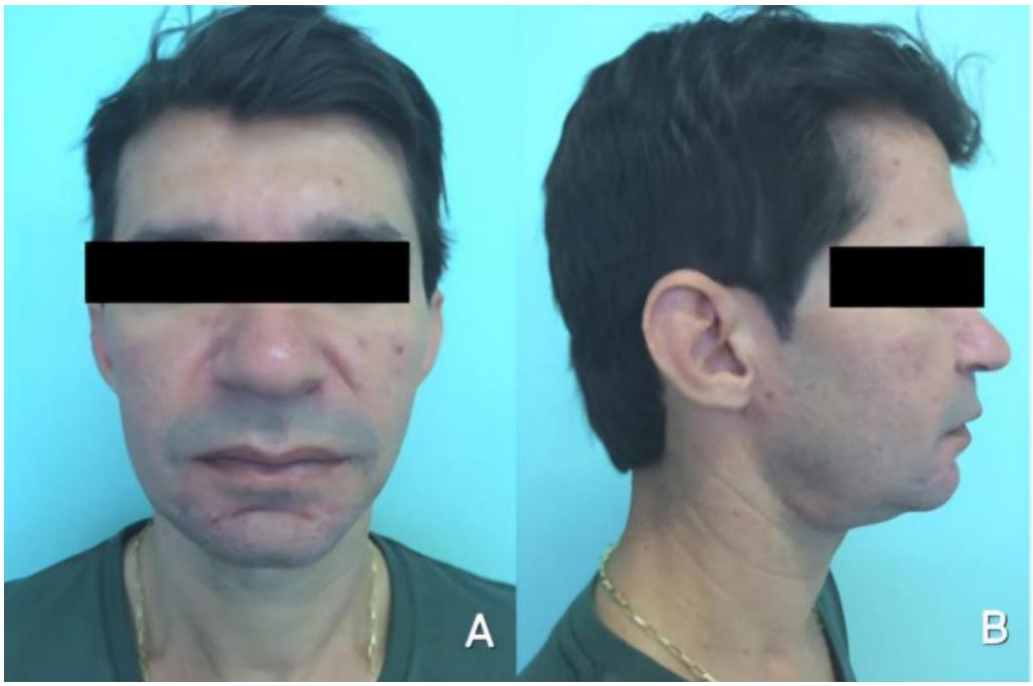
After 2 years of follow-up, the patient remains under clinical and radiographic evaluation, with no signs of lesion recurrence.

3. Discussion

Osteomas are benign tumors that maintain a pattern of slow growth over time, presenting as well-circumscribed radiopaque masses. Osteomas, usuallyasymptomatic, are most frequently detected in routine X-rays during the sixth decade of life, although there are reports in the literature of osteomas affecting individuals ranging

from 16 to 74 years of age [9]. The gnathic bones are the most commonly affected by non-syndromic, solitary osteomas in the peripheral pattern, with the mandibular condyle being the most frequently involved área [10], potentially causing facial asymmetry and functional impairment in cases affecting the temporomandibular joint regions [9].

Figure 3: (A) and (B). Facial appearance one month after surgery.



The present case was unilateral and pedunculated, located in the right mandibular angle with a clinical appearance similar to a mushroom, as well as a slight asymmetry due to increased volume associated with the lesion, as described in the literature. In this context, surgical planning, aided by three-dimensional reconstruction from tomography, allowed for better visualization of the lesion's margins in this case. Osteomas are well-documented in the literature as slow-growing lesions, with no reports of malignant transformation [9]. In this case, the patient could not specify the duration of the volume increase, presenting a lesion measuring 4 cm in its largest diameter after excision. The patient is currently in the second year of postoperative follow-up, with no clinical signs of recurrence, facial contour within normal ranges, satisfactory healing of the surgical access, and no motor deficits in the mandibular branch of the facial nerve.

The presence of multiple osteomas, associated with numerous adenomatous colorectal polyps, anomalies in soft and hard tissues, and congenital retinal hypertrophy, suggests a syndromic condition known as Gardner's Syndrome [9-11]. Although its etiology is not yet determined, some possible origins described in the literature include fetal periosteum or residual cartilage, lesions caused by trauma, muscle traction or infection, and neoplasms [12].

4. Conclusion

Peripheral osteomas occur most frequently in the mandible, potentially affecting the body of the mandible, the angle region, the condyle, the coronoid process, and the sigmoid notch. There is no gender predilection, with a mean age of occurrence around 36.5 years. Histopathologically, they may be present in either the spongious or compact pattern with approximately equal frequencies. Postoperative clinical and

radiographic evaluation is recommended for monitoring potential recurrence of the lesion.

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Research Ethics Committee Approval: We affirm that the participant consented to the research by endorsing a clear consent document, and the investigation adhered to the ethical standards outlined in the Helsinki Declaration.

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Conflicts of Interest: None.

Supplementary Materials: None.

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