

MYOSITIS OSSIFICANS CIRCUMSCRIPTA IN THE MASSETER MUSCLE: CASE REPORT

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ABSTRACT

Circumscribed ossifying myositis is defined to the formation of ectopic non-neoplastic non-calcified bony tissue that forms within the skeletal muscle or soft tissue. When affecting the masticatory muscles, limitation of mouth opening and pain are the most common of Observed Symptoms. Radiographically, are well-circumscribed lesions. To present a 45-year-old female patient who Attended the outpatient clinic of the Hospital das Clínicas of the Federal University of Goiás, complaining of pain near the anterior border of the right mandibular branch, Which Increased intensity in mouth opening and chewing, where the procedure was Performed under anesthesia general, by intraoral access. Presenting diagnosis compatible with circumscribed ossifying myositis. It was observed that the proposed treatment is effective in face of the presented pathology, being necessary a medium and long-term follow-up, to avoid possible recurrences of the lesion. We observed that the treatment of complete circumscribed myositis had satisfactory functional results when the total lesion was performed. However, the development and validation of surgical and non-surgical treatment protocols is required.

KEYWORDS: Masseter, Myositis ossificans Circumscribed, Myositis ossificans Traumatic.

1. INTRODUCTION

Thorna¹, first described the circumscribed myositis ossificans, in 1958 as a condition usually caused by

calcification and progressive ossification of an intramuscular hematoma. It defined as the formation of ectopic calcified tissue from non-neoplastic nature, extra bone that forms the skeletal muscle or soft tissue. Etiological factors include local trauma (single or repetitive) and crush injury to the affected muscle².

It has been classified two different groups: myositis ossificans progressive (MOP), also called fibroplasia ossificans progressive, which describes an autosomal dominant disorder confined myositis ossificans and (MOC)³. Usually develops systemically in the muscles, ligaments, fascia and tendons, reported mainly in the orthopedic literature as a result of repeated trauma in muscles like the femoral quadriceps⁴.

Although described, the pathogenesis of MOC remains uncertain, and several theories have been proposed. Having the most accepted concept, the differentiation of extraosseous cells by stimulating morphogenetic proteins released from native bone sources after injury or trauma is the most accepted one⁵.

Over 80% of lesions appear in the large muscles of the extremities, rarely occur in the head and neck region⁶. Among the cases, Arima *et al.* (2002)⁷, in a literature review, reported 26 cases involving the head and neck. The most commonly affected muscles are the masseter (75%), temporal, genioglossus, buccinator, and medial pterygoid. Rare are the cases that have been reported with bilateral involvement.

Myositis ossificans in the chewing muscles is infrequently observed in the literature, and the most

common clinical finding is the mouth opening limitation and painful condition⁸.

The MOC diagnosis can be performed in the evaluation of clinical and radiological signs characteristic, and histopathological confirmation. The differential diagnosis must be performed to rule out malignancies such as sarcomas or chondrosarcoma, like other cancers, such as nodular fasciitis, osteoma, hemangioma or osteocondroma⁹.

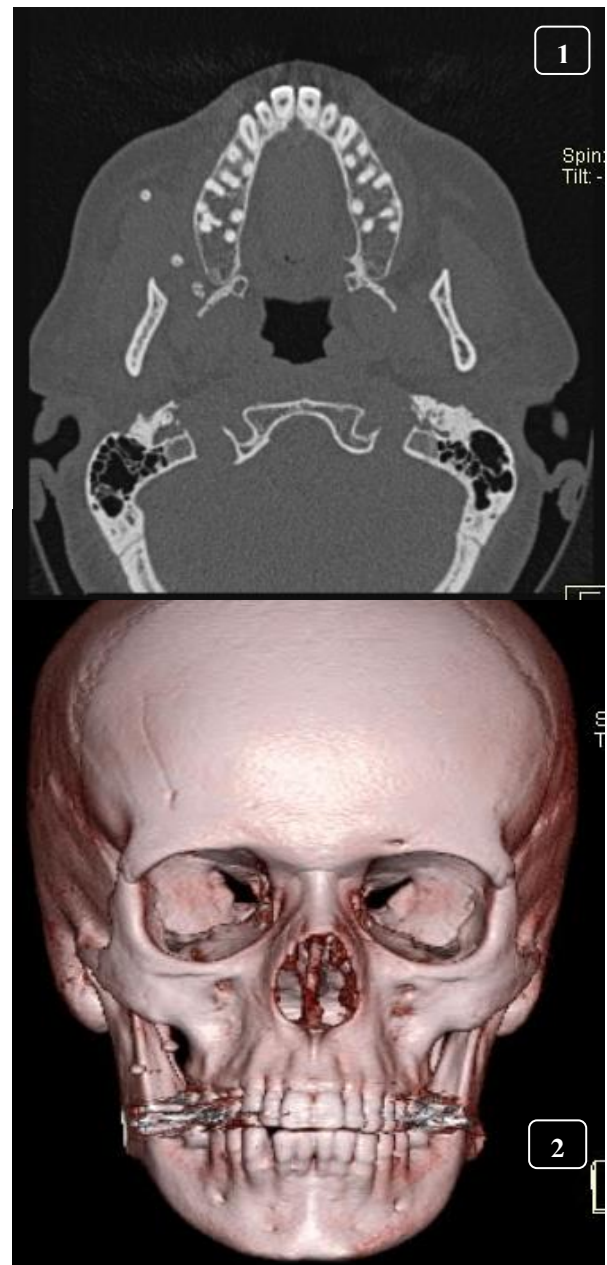
The objective of this study is to present and discuss a case of circumscribed myositis ossificans (MOC) of the right masseter muscle, focusing on diagnosis and treatment.

2. CASE REPORT

A female patient, 45 years old, attended the outpatient clinic of the Hospital das Clínicas, Federal University of Goiás, complaining of pain near the front edge of the right mandibular branch, which increased in intensity in the mouth opening and chewing. It reported that began approximately two years, with a worsening of the last two months before the initial consultation. During history, the patient did not mention conditions or basic systemic alterations. Clinically, it was noted isolated mobile masses and painful evident in the anterior ramus by bimanual palpation of the masseter muscle. It showed no limitation in range of jaw movement, and the skin over the cheek region and intraoral soft tissues with respect to normal. The duct Stenon showed normal salivary flow.

Computed tomography (Figure 1 and 2) revealed two circumscribed masses, characterized by small rounded areas with central calcifications, surrounded by peripheral rings high density, suggestive of bone ectopic mature, and a smaller mass completely calcified in the anterior portion of the mandible branch right side. The combination of patient history and clinical and radiographic results in allowed a diagnosis of myositis ossificans hypothesis Circumscribed involving the masseter muscle.

It was decided to perform the procedure in the operating room because of anxiety presented by the patient in consultation and thinking about the comfort of it. The procedure performed under general anesthesia, intubation, infiltrated with bupivacaine and epinephrine (5 ml), intra-oral and extra antisepsis with 2% aqueous chlorhexidine, affixing the field and installation of the oropharyngeal buffer; Background intraoral access right maxillary vestibule mucoperiosteal detachment and excision of the lesion (Figure 3). Sutures of accesses with vicryl 4-0, removal of oropharyngeal cap, reversal of general anesthesia, extubation and referral to post anesthesia recovery room. Referred the specimen (Figure 4) for histopathological analysis presented diagnosis compatible with Myositis ossificans Circumscribed. Conducted clinical and radiographic 6 months.



Figures 1 and 2. Computed tomography in axial and 3D reconstruction, showing calcified masses in the region of the muscle masseter right.

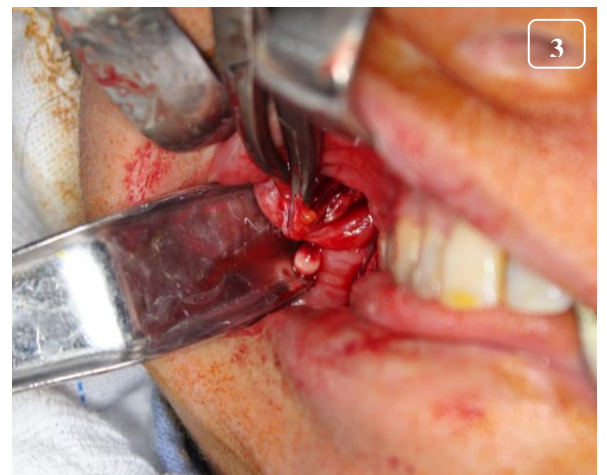


Figure 3. Transoperative aspect after lesion excision, showing the surgical site.

presence of circumscribed calcified mass.



Figure 4. Specimen



Figure 5. Histologically calcified mass has an irregular spot surrounded by muscle fibers.

3. DISCUSSION

Myositis ossificans comprises a group of rare disease with clinical characteristics, radiographic and histological distinct. It is a potentially crippling entity, characterized by the formation of non-neoplastic bone extra bone in skeletal muscle or soft tissue¹⁰.

The etiology of myositis ossificans is generally limited in response to a single episode of severe concussion injury or trauma of repeated minor impact on esquelético muscle. MOC is more common in men, and usually occurs in patients between the ages of 20 and 30, which differs from case report in question^{10,12}. Most often occurs in the muscles flexor arm, the quadriceps, and the abductor muscles of the thigh. The occurrence involving the head and neck muscles is unusual, but when found, is described in the masseter and temporal⁸.

For best accuracy in the diagnosis, it is essential the patient's history. 75% report direct trauma of the event on the affected area. In the acute inflammatory

symptoms predominate, pain and fever, while as the chronic symptoms due to muscle atrophy. The main clinical symptom of MOC is progressive restriction of mouth opening^{6,7,12}. Moreover, the radiographic features of the disease can be distinguished from other bone forming lesions, such as osteoblastoma, osteoma, osteochondroma, chondroma, sarcoma, chondrosarcoma and hemangioma intramuscular^{3,9}.

The calcified masses in our patient could have been interpreted as an intramuscular hemangioma presenting phleboliths. Or a diffuse swelling with a floating palpable mass or a red-blue discoloration and outside the mouth or intraoral, however, was detected. No obvious intramuscular vascular injury following CT scan was unnecessary to magnetic resonance¹³. The patient reported blunt injury to the right masseter muscle few years ago, followed by pain, which increased in chewing and mouth opening. Thus, the presumptive diagnosis was a heterotopic calcification within the masseter muscle associated with the trauma.

Microscopically presents a typical pathological picture, with 3 layers zoning, by fibroblast proliferation with irregular areas of osteoid production. The phleboliths macroscopically resemble the MOC, however, histologically presents calculations of characteristic concentric structure that shows red cells and calcified fibrinous material^{13,14}. In the current case, MOC was confirmed by the absence of any vascular component in the sample.

Since the MOC is a benign lesion and pseudoarcomatous with a limited potential for growth, Conservative surgical excision and prevention of muscle trauma are repeated dressings. The excision of the MOC is best accomplished during the mature phase of injury, when it is chiseled from surrounding soft tissue and skeletal muscle. Surgical treatment of MOC in its early stages can lead to recidives¹⁵.

4. CONCLUSION

According to the present study, we observed that the treatment of complete circumscribed myositis obtained satisfactory functional results when the total removal of the lesion was performed. However, the development and validation of surgical and non-surgical treatment protocols is required.

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