

CASE IMAGE

Traumatic myositis ossificans of the temporal muscle after dental local anesthesia

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Key Clinical Message

Traumatic myositis ossificans of the temporal muscle can occur following local trauma. The diagnosis could be considered for patients presenting with therapy-resistant trismus after intraoral procedures.

Abstract

A female in her 30s developed ossification of the temporal muscle attachment after local trauma during dental treatment, resulting in an inability to open her mouth. Following surgical treatment and physical therapy acceptable mouth opening and masticatory function was achieved.

KEYWORDS

dental anesthesia, heterotopic ossification, myositis ossificans, trismus

1 | CLINICAL IMAGE

A healthy female in her 30s presented with an inability to open her mouth. Four months earlier, during root canal treatment of a maxillary premolar tooth, an injection of local anesthesia was administered near the right temporal muscle attachment. The patient described a sharp pain immediately following the injection and persistent limited mouth opening after the dental treatment was completed. Her mouth opening was measured at 8 mm during the first consultation and she could not move her mandible laterally. Computer tomography showed a bony growth approximately 3 cm in length extending from the right coronoid process of the mandible to the cranial base (Figure 1).

A coronoidectomy with partial removal of the bony lesion was performed via an intraoral access (Figure 2). The histological diagnosis was normal bone tissue and combined with the radiological findings, the diagnosis of traumatic myositis ossificans was made. A mouth opening of 32 mm was achieved immediately after surgery. However, after 1 month, maximum mouth opening was only 14 mm,

although no bony interferences could be identified radiologically. After physical therapy and regular jaw exercise, the patient presented 5 months later with a mouth opening of 27 mm. She reported acceptable function and limited local symptoms, and it was therefore decided not to perform additional surgical treatment. Five years after surgical treatment she had a mouth opening of 40 mm and normal masticatory function.

Traumatic myositis ossificans (TMO) is very rare in the head-neck region. The masseter is the masticatory muscle most commonly affected, and the majority of cases described are following minor surgical procedures such as wisdom tooth removal. The onset of symptoms typically occurs 3–6 weeks following local muscle trauma.¹ There are very few reports occurring after dental treatment, but TMO affecting the medial pterygoid muscle following mandibular nerve block has been described.² Differential diagnoses for such lesions should include several osteochondral tumors. Also, the severe genetic disease myositis ossificans progressiva should be considered, in particular if there is no history of local tissue trauma.

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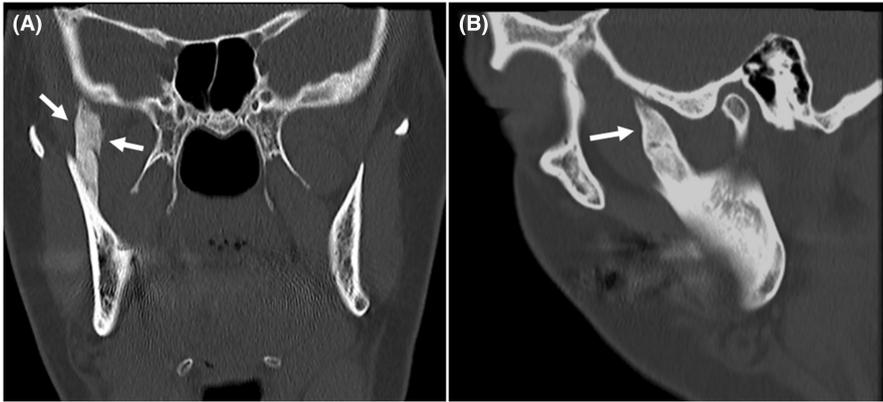


FIGURE 1 Computer tomography in frontal (A) and sagittal (B) view showing ossification of the right temporal muscle attachment extending to the cranial base (arrows).



FIGURE 2 (A) Panoramic radiograph after surgical treatment showing partial resection of the lesion and the coronoid process (arrow). (B) Clinical photo of the resected lesion.

This patient developed ossification of the temporal muscle attachment following infiltration of local anesthesia—an extremely rare complication. Recommended treatment is removal of the ossified muscle to increase mouth opening. Due to the rarity of the disease, there is no consensus regarding preferred timing of surgical treatment or if interpositional grafts should be placed to prevent relapse. In this case, physical therapy was essential to increase the mouth opening and masticatory function for the patient.

AUTHOR CONTRIBUTIONS

Saeedeh Bagheri Helland: Conceptualization; investigation; writing – review and editing. **Torbjørn Østvik Pedersen:** Conceptualization; investigation; writing – original draft; writing – review and editing.

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None.

CONFLICT OF INTEREST STATEMENT

The authors have no conflict of interest to declare.

DATA AVAILABILITY STATEMENT

Data sharing is not applicable to this article as no new data were created or analyzed in this study.

ETHICS STATEMENT

Consent from the patient was considered sufficient and additional ethical approval was not required.

CONSENT STATEMENT

Written informed consent was obtained from the patient to publish this report in accordance with the journal's patient consent policy.

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REFERENCES

1. Fité-Trepat L, Martos-Fernández M, Alberola-Ferranti M, Romanini-Montecino C, Saez-Barba M, Bescós-Atín C. Myositis ossificans of the masseter muscle: a rare location. Report of a case and review of literature. *J Clin Exp Dent*. 2016;8(2):e210-e213.
2. Trautmann F, de Moura P, Fernandes TL, Gondak RO, et al. Myositis ossificans traumatica of the medial pterygoid muscle: a case report. *J Oral Sci*. 2010;52(3):485-489.

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