

micrognathia, stunted roots, and multiple carious lesions. In addition to presenting a thorough clinical and dental profile of this case, we intend to conduct a literature review on this rare condition and compare the findings from our case with those reported in the literature and examine the treatment options that have been published for such cases.

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LAMINAR MORPHOLOGY OF THE HEADS OF THE MASSETER: IS THERE VARIATION?

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Background: Two- and 3-dimensional cadaveric studies have established that the masseter muscle (MM) is composed of a superficial head (SH) and a deep head (DH). The SH and DH are thought to take part in separate functions, including elevation, protrusion, retrusion, and ipsilateral excursion of the mandible. It has been proposed that the heads of the MM have a laminar arrangement. However, the precise morphology of the SH and DH has not been previously compared and studied in vivo using ultrasound. Comparison of the morphology of the SH and DH could suggest an anatomic basis for the differences in functions between the 2 heads of the MM.

Objective(s): The aim of this study was to investigate and compare the in vivo morphology of the SH and DH in relaxed asymptomatic participants. We hypothesized that the SH and DH will have different laminar morphologies.

Study Design: Ultrasound scanning of 48 MMs in 24 participants (mean age 25.8 ± 4.1 years) involved the use of a Logiq E real-time ultrasound scanner (General Electric) equipped with 2 linear probes (L10-22 and L4-12 T). Axial and coronal images were analyzed to determine the morphology of the SH compared with that of the DH.

Results: It was found that the SH and the DH had different laminar arrangements. The SH consisted of 3 or 4 laminae in 28 and 20 MMs, respectively. The DH had 2 (11 MMs), 3 (30 MMs), 4 (4 MMs), or 5 (3 MMs) laminae. The laminae of both heads had distinct aponeurotic separation, but their spatial arrangement varied. Visual inspection showed that SH laminae were oriented parallel to the long axis of the mandibular ramus, whereas the DH laminae were oriented at an acute angle toward the mandibular ramus.

Discussion/Conclusions: The orientation of the laminae of the SH and DH suggest different functions. The laminar

morphology of the SH was less varied compared with that of the DH. The more diverse laminar morphology of the DH may allow for more complex functional partitioning relative to the SH.

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LOCALIZED MYOSITIS OSSIFICANS TRAUMATICA: CASE SERIES. M. ALMAHNDR, A. RUPRECHT, D. KASHTWARI. UNIVERSITY OF FLORIDA, GAINESVILLE, FL

Background: Myositis ossificans traumatica (MOT) is defined as deposition of bone or ossification in muscles and/or soft tissues with a history of trauma or hematoma. It is uncommon to see MOT in the head and neck region, including the masticatory muscles. We report a series of 3 cases with calcifications in the temporalis muscles, as seen on cone beam computed tomography (CBCT) images.

Clinical and Radiographic Findings: Case 1: A 97-year-old male patient with osteonecrosis of the mandible. CBCT revealed several incidental linear radiopaque masses in the 2 temporal fossae, representing calcifications in the temporalis muscles. The appearance was consistent with localized MOT.

Case 2: A 52-year-old female patient with a swelling of the anterior maxilla and history of Le Fort I osteotomy. CBCT showed several incidental linear radiopaque masses in the region of the temporalis muscles bilaterally. These calcifications were not seen in the CBCT image made 6 years previously. The appearance was consistent with localized MOT.

Case 3: An 80-year-old male with right maxillary alveolar ridge squamous cell carcinoma who underwent right maxillectomy and neck dissection. His CBCT image displayed several incidental linear radiopaque masses in the right temporal area. These calcifications appeared to be related to the surgical procedure performed near this area. The appearance was consistent with localized MOT.

Discussion/ Conclusions: MOT involving muscles of mastication mostly affects the masseter muscle, whereas the temporalis muscle is the least affected. Removal of the calcification is indicated only if it occurs near a joint in the origin or the insertion of a muscle. The maxillofacial radiologist should carefully investigate the areas near the surgical procedure because it might cause contusion/trauma to nearby structures, which can lead to calcification of the muscles.

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