

Images in Clinical Rheumatology

Giant Lipoma of the Forearm as a Cause of Extracarpal Compression of the Median Nerve[☆]

Lipoma gigante en antebrazo como causa de compresión extracarpiana del nervio mediano

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Case Presentation

A female nurse, 42 years of age, who uses her right hand, consulted due to a 4-month history of paresthesia in the first, second and third fingers of the left hand, dependent on carpal flexion or grasping an object with her fingers. She reported recently the presence of a lump on her ipsilateral ventral forearm.

The patient had no significant medical history.

Physical examination of the hand was normal, without any dystrophic signs. The pulses and capillary filling were normal. The strength and sensitivity were unchanged. Tinel and Phalen signs were negative. A soft mass was palpable on her forearm, painless, round, in the proximal third of the ventral surface, which did not displace itself with the movements of the wrist.

Laboratory analysis showed normal acute phase reactants and normal thyroid profile with no other notable laboratory findings.

We conducted a comparative carpal ultrasound, which was absolutely normal, and an ultrasound of the elbow and forearm, showing a fusiform mass of 4.9 × 1.9 cm, with no evidence of contact with bone, muscle or tendon (Fig. 1). An MRI revealed the presence of a structure surrounding the biceps tendon 5 cm in a craniocaudal direction by 1.8 cm anteroposterior by 1 cm transversely. The lesion showed an increase in signal intensity on T1 and T2 sequences that disappeared in the fat suppression sequence (Fig. 2).

She underwent a complete resection of the lesion, with complete resolution of symptoms. Histopathology reported the injury as a lipoma.

Discussion

Paresthesias in the typical median nerve innervation territory induce clinically suspected carpal compression of this nerve, known as carpal tunnel syndrome (CTS). The CTS predominantly affects the dominant hand wrist.¹ Initially, it courses with paresthesias of

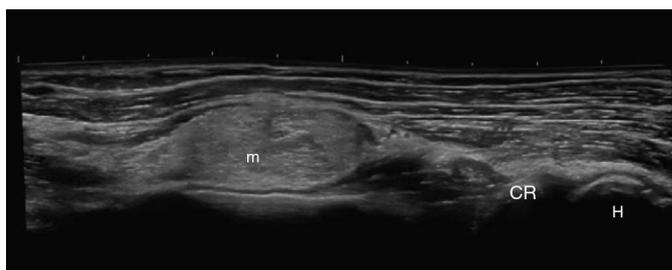


Fig. 1. Longitudinal ultrasound view of the left elbow and forearm. CR, radial head; H, humerus; m, mass.

the first, second and third fingers, while in advanced stages it may be associated with motor impairment that correlates with lesions demonstrable by electromyography.^{2,3}

Characteristically, the CTS is manifested in the evenings, usually relieved by movement of the hand. This leads to non-drug therapies based on nocturnal carpometacarpophalangeal splinting, fixing the carpus in a single position during sleep.^{4,5}

In the case of our patient, the history suggested a CTS with a negative Tinel and Phalen signs. Up to 90% of patients diagnosed with carpal tunnel syndrome exhibit symptoms similar to those of the patient (sensory involvement of first, second and third fingers) while Tinel's and Phalen's signs have a sensitivity between 48%–73% and 67%–83%, so their absence does not exclude the diagnosis. Furthermore, the presence of lipomas in the forearm has been described anecdotally, without documented CTS.¹ This case does not contradict existing knowledge of median nerve injuries, but illustrates the case of a compression in a region of the same which is extremely rare. While the most common point of compression of the median nerve is near the carpal bones, other possible points of compression proximal to the carpus should be considered when physical examination does not support the suspicion and especially when ultrasound examination is normal.^{3,6–8} These are cases where an ultrasound or MRI of the forearm and elbow can identify an extracarpal compression in which the causative agent may be a lipoma, as it has been reported sporadically in the literature and thus both tests should be considered as part of the protocol.^{7,9} Other lesions, along with lipomas, which may give rise

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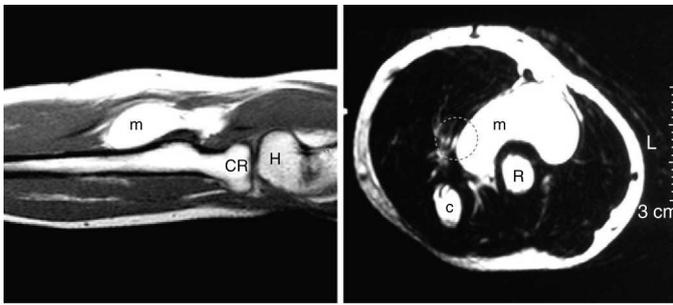


Fig. 2. T2 MRI of the forearm. (Left) Longitudinal aspect where the mass is observed above the radius. (Right) Cross section showing the mass causing a displacement of the theoretical area through which the median nerve passes (dotted circle). c, ulna; CR, radial head; H, humerus; m, mass; R, radio.

to nerve compression in both the carpus and ventral regions of the forearm, and which may behave clinically as CTS are hamartomas, sarcomas and bone tumors.^{6,8,9}

Conflicts of interest

The authors have no conflicts of interest to declare.

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