Combined hypothenar and thenar hammer syndrome

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DESCRIPTION

A previously healthy patient in his 50s presented with a history of post-traumatic pain to the left thumb for a couple of months after a blunt trauma to his left hand. The patient has no medical or surgical history, is a non-smoker, drinks a glass of wine weekly and does not take any regular medication. Initially, the hand became swollen and turned blue for a couple of days followed by intermittent cold sensation and tingling of the hands with the skin turning white during the following weeks. There was no loss of strength and the patient had no history of Raynaud disease. He had minor complaints of lower back pain, without morning stiffness and nocturnal pain. On clinical examination the left hand was paler and colder than the right and he had decreased capillary refill in the fingers with absent arterial pulsation. Laboratory examinations did not reveal any suspicious findings. Family history was negative for rheumatic disease. Ultrasound examination showed an occlusion of the left radial and ulnar artery and subsequent MRI confirmed a thrombosed aneurysm of the distal ulnar artery (figure 1A–D). Conventional angiography showed a segmental occlusion in the distal part of the radial (figure 2A) and ulnar artery (figure 2B) with extensive secondary collateral formation to the superficial and deep palmar arch.

A diagnosis of a combined thenar and hypothenar hammer syndrome was made and initial treatment with vasodilating drugs relieved the symptoms with ganglion stellatum blockage or bypass surgery as options if symptoms recur. Follow-up showed sustained symptom relief with vasodilation treatment.

Hypothenar and thenar hammer syndrome occurs following acute or chronic trauma to the upper extremities, generally occupational related.1 In both disease entities, there is a structural circulatory disorder, that is, either the radial or ulnar or both arteries, such as in our case, are affected. Several clinical tests such as the Doppler-Alen test and duplex sonography provide clues for diagnosis but the golden standard is digital subtraction angiography. Angiographic findings include an irregular vascular lumen, intra-arterial filling defects, segmental occlusions and distal embolisations, as well as pseudoaneurysms and collateral formation. The morphological detection of vascular lesions through imaging is essential since the thenar and hypothenar hammer syndrome can be associated with critical limb ischaemia, which may require bypass surgery.

Learning points

► Hypothenar and thenar hammer syndrome occurs following acute or chronic trauma to the upper extremities.
► The morphological detection of vascular lesions through imaging is essential since the thenar and hypothenar hammer syndrome can be associated with critical limb ischaemia.
► Angiographic findings include an irregular vascular lumen, intra-arterial filling defects, segmental occlusions and distal embolisations, as well as pseudoaneurysms and collateral formation.
Images in...

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Case reports provide a valuable learning resource for the scientific community and can indicate areas of interest for future research. They should not be used in isolation to guide treatment choices or public health policy.

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