

Hypothenar hammer syndrome

Sir,

Hypothenar hammer syndrome [1] is a rare and often incorrectly diagnosed form of secondary Raynaud's phenomenon which exists predominantly in men who engage in occupational [2] or recreational activities that require the use of the hand as a hammer.

A 72-year-old retired saddle-maker presented with a 3-week history of coolness and pain of the small, ring and index fingers of his right hand as well as morphologic changes such as blackening of the fingertips, ulceration and nail loss.

At physical examination a pulsatile mass measuring 1 cm in diameter located over the dominant right hypothenar eminence was found.

At sonography (7- to 10-MHz transducer) a partially thrombosed aneurysm of the ulnar artery was found, being located proximal to the first digital artery at the level of the base of the fourth metacarpal bone and measuring 10 mm in length and 8 mm in diameter. Frequency and amplitude-coded Doppler sonography allowed clear differentiation of the perfused residual lumen from thrombosis and confirmed occlusion of the digital arteries of the third to fifth fingers (Fig. 1). For precise surgical planning digital subtraction angiography via a transfemoral route was performed, and the ulnar artery aneurysm as well as occlusions of the digital arteries were confirmed (Fig. 2).

Treatment consisted of resection of the aneurysm and end-to-end anastomosis of the ulnar artery. Pathological examination of the resected specimen showed an organized thrombus occupying two thirds of the lumen and an outer degraded media as an indicator of a true aneurysm.

Postoperatively the patient was put on anticoagulation therapy. At 6-week follow-up the trophic changes had completely disappeared and colour duplex sonography showed regular perfusion of the anastomosis, the ulnar artery, the superficial palmar arch and, in part, perfusion of the digital arteries of the third to the fifth finger.

Ulnar artery aneurysms, with or without thrombosis, are an uncommon but well-recognized cause of digital ischaemia, usually from digital artery embolization. Constant striking of the hypothenar eminence where the ulnar artery lies quite unprotected on the hook-like process of the hamate bone leads to damage of the intima and to thrombosis, whereas repetitive injury to the media re-

sults in a true aneurysm. Recurrent embolization of a thrombus within the aneurysm, as in our case, finally causes occlusion of the digital arteries, and the most common clinical symptom is the sudden onset of Raynaud's syndrome of the affected digital arteries.

Ultrasound should be the first imaging modality in suspected vascular disease. Performed thoroughly high-resolution ultrasound, including Doppler techniques [3], allows an accurate and fast diagnosis and follow-up in vascular pathologies. Angiography may still be required by the vascular surgeon for precise planning, as resection of the aneurysm with or without interposition of vein grafts or end-to-end anastomosis followed by long-term anticoagulation is the treatment of choice.

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References

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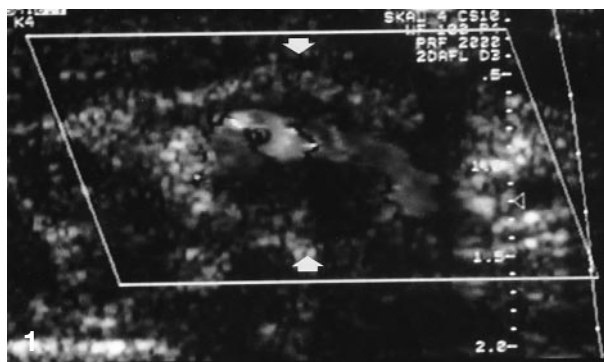


Fig. 1. Colour duplex sonography of the hypothenar. Transverse imaging plane. Ulnar artery aneurysm (between arrows) with mural thrombosis and perfused residual lumen

Fig. 2. Digital subtraction angiography. Ulnar artery aneurysm (arrow) and occlusion of the digital arteries of the third to the fifth finger