VIA MEDICA

IMAGE IN CARDIOVASCULAR MEDICINE

Cardiology Journal
2023, Vol. 30, No. 4, 675–676
DOI: 10.5603/cj.94372

ISSN 1897–5593
eISSN 1898–018X

Ulnar artery thrombosis after percutaneous thrombin injection of a pseudoaneurysm with a concomitant radial artery occlusion: Three complications after percutaneous coronary intervention

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A 78-year-old woman was admitted to our hospital for ongoing chest pain. Electrocardiogram showed ST-segment elevation in inferior leads and primary percutaneous coronary intervention (PCI) was successfully performed from the right ulnar artery, as a result of cannulation failure of the ipsilateral radial artery. The patient reported a right transradial PCI some years earlier. After removal of the hemostatic device, a painful pulsatile mass was revealed in the distal forearm. Color Doppler ultrasonography (CDUS) showed complete occlusion of the right radial artery and iatrogenic ulnar artery pseudoaneurysm (Fig. 1). Ultrasound-guided percutaneous thrombin injection (UGPTI) was implemented. After 24 hours, CDUS revealed the complete pseudoaneurysm thrombosis and a segmental thrombotic occlusion of the ulnar artery. No signs of digital ischemia were found and anticoagulant therapy was started. Six-month follow-up CDUS showed fully restored vessel patency.

All PCIs are potentially at risk of both systemic and local complications, including arterial occlusion and pseudoaneurysm. In contrast to the femoral and brachial approach, transradial access is favoured due to better outcomes and patient preference. The transulnar approach has been proposed as a valuable alternative, however burdened with the same procedural risks. In the present case report, UGPTI of ulnar artery pseudoaneurysm leads to native arterial thrombosis, a feared complication, possibly leading to limb threatening ischemia. Assessment of radial artery patency with the reverse Allen test in patients with a previous transradial catheterization may be a simple practice to better plan vascular access and avoid ominous complications.

Conflict of interest: None declared

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Received: 23.02.2023 Accepted: 28.04.2023

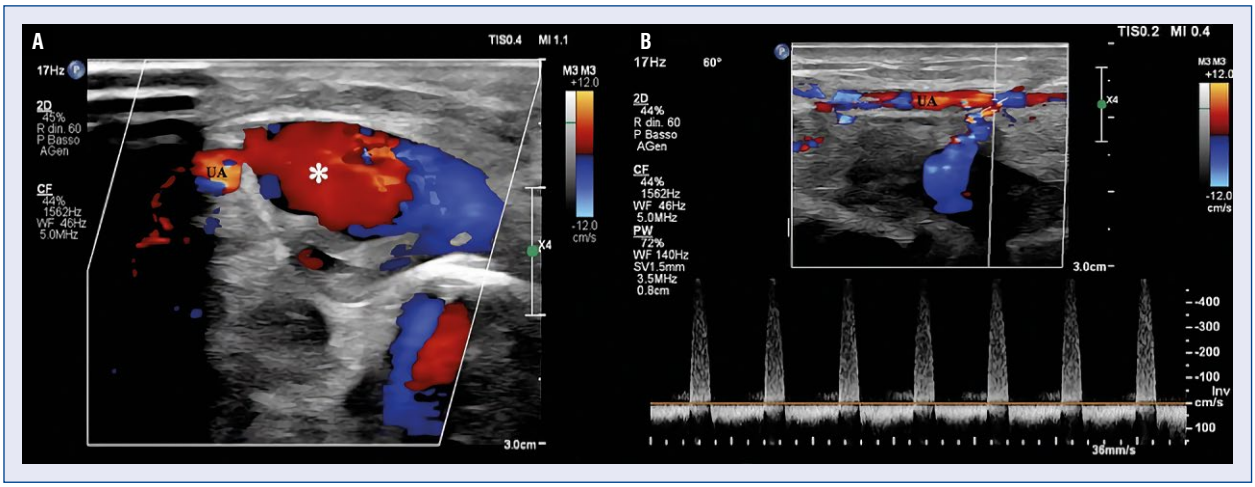

Figure 1. A. Color Doppler ultrasonography showing a 15 × 35 mm pseudoaneurysm (asterisk) of the ulnar artery with a kind of 'yin and yang' pattern, indicating bidirectional blood flow inside the cavity; **B.** Spectral Doppler revealing systolic and diastolic turbulent blood flow with traditional "to-and-fro" waveform.