

Radial artery pseudoaneurysm as an extremely rare complication associated with transradial catheterisation

Tętniak rzekomy jako bardzo rzadkie powikłanie koronarografii wykonywanej poprzez nakłucie tętnicy promieniowej

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The transradial approach has recently been recommended as the first choice of arterial access to reduce vascular complications during percutaneous coronary diagnostic and interventional procedures. Radial artery pseudoaneurysm is an extremely rare complication associated with transradial access. We report such a case in an 85 year-old woman with a diagnosis of coronary artery syndrome who underwent cardiac catheterisation via the transradial approach.

An 85 year-old woman with a history of hypertension and recurring chest pain, slightly elevated level of troponin I (0.9 [n: < 0.1] ng/mL), left bundle branch block and atrial fibrillation on ECG tracing (duration unknown) was referred to our department with a diagnosis of acute cardiac syndrome. Before admission, she was treated with acetylosalic acid, perindopril, bisoprolol and indapamide. Echocardiography showed a slightly enlarged left ventricle with decreased ejection fraction (45%), moderate mitral regurgitation and slightly enlarged left atrium. Coronary angiography performed via the left radial artery using a 6 F catheter sheath and 5 F diagnostic catheters revealed non-significant atherosclerosis in coronary arteries. As per convention, a 5,000 IU heparin bolus was administered though the sheath. The arterial sheath was withdrawn just after the procedure and a compressive dressing was applied for 2 h. The next morning, enoxaparin was administered because of sustained atrial fibrillation (AF) with a CHA₂DS₂-VASc score of 4. Two days after the radial artery puncture, a painful swelling with a small haematoma was noted at the site of radial access. Colour Doppler ultrasonography (USG) revealed a pseudoaneurysm (Fig. 1A) with a typical to-and-fro flow in its neck (Fig. 1B). Enoxaparin was stopped and prolonged compression was applied for the next 24 h, but only partial thrombosis with continued flow through the neck was seen on follow-up USG (Fig. 2).

After obtaining verbal informed consent, the patient underwent ultrasound-guided compression therapy for 25 min at the neck of the pseudoaneurysm, successfully obtaining complete thrombosis (Fig. 3). The sinus rhythm was restored spontaneously, but short episodes of AF were recorded on 24-h ECG monitoring. After confirmation 2 weeks later of complete resolution of the radial artery pseudoaneurysm and normal blood flow in the radial artery, oral anticoagulation was recommended. Although uncommon, radial-related vascular complications are possible and may not be trivial. Early confirmation and treatment of a radial artery pseudoaneurysm using USG is essential to avoid further complications such as hand ischaemia, compartment syndrome, neurologic complications and spontaneous rupture.

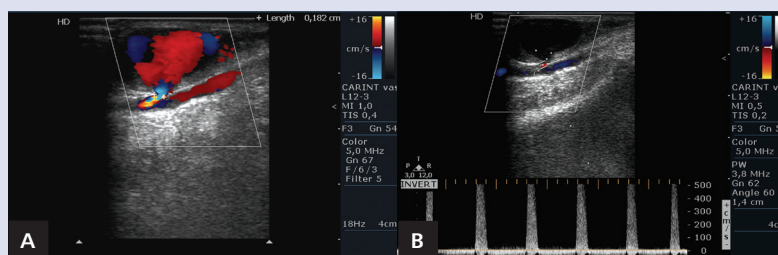


Figure 1. A. Colour Doppler ultrasonography; the radial artery pseudoaneurysm with a typical to-and-fro flow (B) in its neck

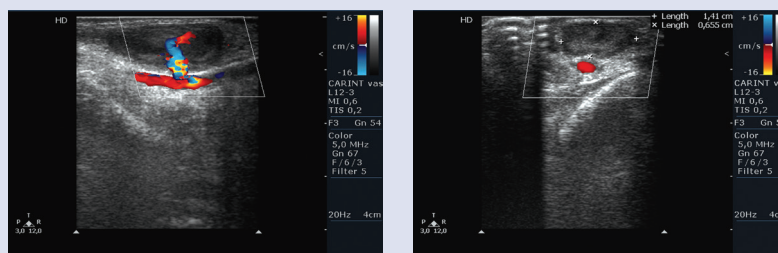


Figure 2. Colour Doppler ultrasonography; partial thrombosis of the pseudoaneurysm with continued flow through the neck

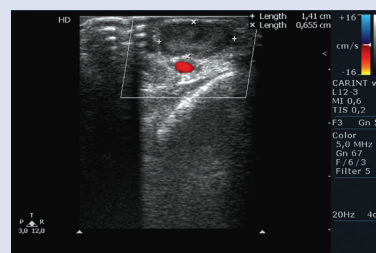


Figure 3. Colour Doppler ultrasonography; complete thrombosis of the pseudoaneurysm and normal flow in the radial artery

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Conflict of interest: none declared