CLINICAL IMAGE

Unusual presentation of polyarteritis nodosa with unilateral pseudoaneurysm of the posterior tibial artery

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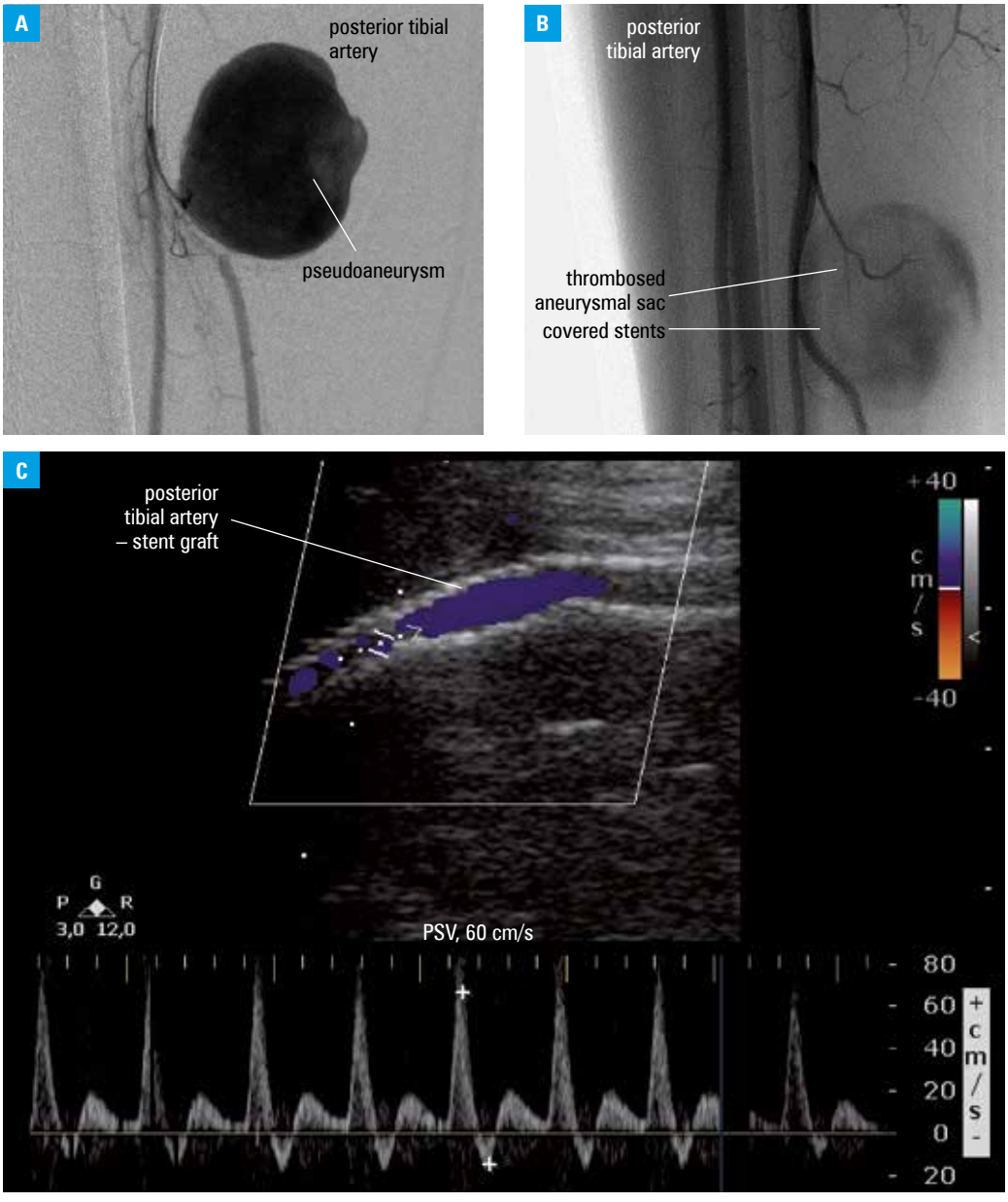

FIGURE 1 **A** – an angiogram with a visible pseudoaneurysm in the posterior tibial artery; **B** – a final angiogram with a pseudoaneurysm in thrombosed posterior tibia maga.pawel@gmail.com l artery and covered stents within the arterial lumen; **C** – a Doppler ultrasound of the posterior tibial artery during a 6-month follow-up Abbreviations: PSV, peak systolic velocity

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Polyarteritis nodosa (PAN) is a primary systemic necrotizing vasculitis that usually affects medium-sized muscular arteries and is not associated with antineutrophil cytoplasmic antibodies.[1] Patients typically show systemic symptoms. An aneurysm and vessel rupture may be a part of the disease spectrum. The involvement of peripheral arteries is a rare presentation, while the most affected vessels are mesenteric, renal, and hepatic arteries.[2] So far, only 1 case of an aneurysm rupture in the tibial artery in PAN has been described.[3]

A 32-year-old Caucasian man was admitted to the Department of Rheumatology with a 7-day history of a painful lump in the right calf, multiple tender erythematous nodules in the forearm, and skin ulcerations in the lower extremities. His medical history included recurrent talocrural joint arthritis, 2 incidents of acute orchitis, and recurrent skin ulcerations in the lower extremities. He was diagnosed with reactive arthritis in 2011 and was treated with nonsteroidal anti-inflammatory drugs with good response.

On the present admission, the patient did not report any recent trauma, weakness, weight loss, or fever. He noted an increase in diastolic blood pressure above 90 mmHg. The levels of the erythrocyte sedimentation rate, C-reactive protein, and other acute-phase reactants were elevated. Infections (particularly hepatitis B and C), positive antineutrophil cytoplasmic antibodies, and secondary vasculitis (rheumatoid arthritis and other connective tissue diseases) were excluded. A Doppler ultrasound revealed reduced blood flow within the ulnar artery and the presence of multiple segments with wall thickening (>2 mm). The pulsating lump appeared to be a pseudoaneurysm (4 × 4 cm) of the right posterior tibial artery (PTA).

Abdominal computed tomographic angiography was performed but did not reveal any mesenteric, kidney, liver, or spleen aneurysms. Selective angiography of the right lower extremity was performed, confirming damage to the 15-mm PTA wall and the presence of a false aneurysm (**FIGURE 1A**). A consensus algorithm for the classification of PAN and other necrotizing vasculitides, developed by combining the American College of Rheumatology and Chapel Hill criteria, was used to establish the diagnosis of PAN.[4] Owing to the lack of the involvement of internal organs and a five-factor score of 0, the patient received corticosteroids at a dose of 0.5 mg/kg/d. Because of the significant risk of pseudoaneurysm rupture, which could result in hemorrhage, a decision was made to use endovascular treatment, which is less invasive than vascular surgery and is often used in aneurysms and pseudoaneurysms.[5] Two stent grafts were implanted (AneuGraft® ITGI-Medical Ltd., Or Akiva, Israel) with the nominal dimensions of 3.5 × 28 mm, completely covering the wall defect of the PTA. The final angiography revealed patency of the PTA with no evidence of extravasation (**FIGURE 1B**).

During a 6-month follow-up, the physical examination revealed easily palpable pulses and correct ankle brachial index and toe brachial index. A Doppler ultrasound showed well-deployed stents and a patent PTA, with no evidence of pathological blood flow and visible thrombosis of the aneurysmal sac (**FIGURE 1C**). The patient receives a sustained dose of 10 mg of methylprednisolone per day, with methotrexate as a steroid-sparing agent.

Patients who present with aneurysms at unusual sites and abnormal levels of acute-phase reactants should be screened for vasculopathy and vasculitides.

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