

CONTINUING MEDICAL EDUCATION ΣΥΝΕΧΙΖΟΜΕΝΗ ΙΑΤΡΙΚΗ ΕΚΠΑΙΔΕΥΣΗ

Vascular Diseases Quiz – Case 12

A 57 year-old man was electively admitted to our hospital to assess a known abdominal aortic aneurysm (AAA) and right intermittent calf claudication. Physical examination revealed slightly reduced femoral and popliteal and absent pedal pulses on the right but normal pulses on the left. A diagnostic angiogram was performed that revealed a 4.2 cm AAA and bilateral persistent sciatic arteries (PSAs). A 26 mm fusiform aneurysm arising from the right PSA and an ipsilateral post-aneurysmatic stenosis were shown (fig 1).

Comment

Persistent sciatic artery (PSA), a persisting embryologic continuation of the internal iliac artery, represents a rare yet clinically important vascular anomaly. Green first reported in 1832 the presence of a persistent sciatic artery (PSA) –a remnant of the earliest axial artery of the lower extremity in the human embryo– in a post mortem case.



Figure 1. Right iliac bifurcation. Persistent sciatic artery's aneurysm and significant stenosis of external iliac artery's origin.

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The sciatic artery, a continuation of the internal iliac artery into the popliteal-tibial vessels, represents the major blood supply to the lower limb bud in early embryologic development. With development of the femoral arteries, the sciatic artery normally involutes. The incidence of the persistent sciatic artery has been estimated to be between 0.01% and 0.05%. Bilateral persistent sciatic artery has been observed in 12% of cases. There is no apparent sexual prevalence. In modern literature, few cases of PSAs have been described with variable pathology. The PSA has been advocated to be prone to early atherosclerotic degeneration and particularly aneurysm formation. The high frequency of PSA aneurysms is potentially associated to the reduced elastic elements of the hypoplastic vascular wall and the frequent, repeated trauma in the gluteal region due to pressure against the sacrospinous ligament, piriform muscle and hip during flexion of the hip joint.

Most commonly PSAs are discovered incidentally. In cases that the femoral artery is severely hypoplastic or absent, the PSA may be suggested by the finding of palpable popliteal or pedal pulses in the presence of a markedly diminished or absent femoral pulse. In most cases, however, the femoral artery is sufficiently pulsatile in the groin to result in a normal pulse examination. Aneurysms of the PSA present as pulsating masses in the buttocks in 31% of the cases. Arterial insufficiency as a result of thrombosis of the aneurysm or distal embolization of mural thrombus from the aneurysm may also occur. Sciatica manifested by pain, numbness, or motor impairment has been also reported due to compression of the sciatic nerve by the aneurysm. Rupture has rarely been documented.

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Diagnosis: Persistent sciatic artery aneurysm