

CONTINUING MEDICAL EDUCATION ΣΥΝΕΧΙΖΟΜΕΝΗ ΙΑΤΡΙΚΗ ΕΚΠΑΙΔΕΥΣΗ

Vascular Diseases Quiz – Case 35

A 60-year-old man presented to our outpatient clinic with complaints of a right blue first toe. His past medical history was significant for hypertension, hypercholesterolemia and tobacco use.

On physical examination of the right lower limb, he had intact femoral pulse and a prominent popliteal pulse. The posterior tibial artery was not palpable. The patient had no pulsatile abdominal mass, while the pulses of the arteries of the left lower limb were normal. There were no abnormal laboratory findings. The patient underwent a duplex ultrasound scan of the arterial tree of the right lower limb (fig. 1).

What is the diagnosis?

Comment

Popliteal artery aneurysms are the most frequently encountered peripheral artery aneurysms. The normal diameter of the popliteal artery is 0.7–1.1 cm. Thus a diameter of more than 1.5 cm is considered aneurysmal. These aneurysms occur almost exclusively in men in their 60s and 70s. Most of them are degenerative-atherosclerotic in nature. About half of the patients have bilateral lesions and 30–50% of them have a concomitant abdominal aortic aneurysm.

From a clinical point of view, about one third of popliteal aneu-

rysms are asymptomatic. Limb ischemia due to distal embolization or acute thrombosis of the aneurysm is the presenting symptom in about 55% of the cases. Local compression of adjacent structures or rupture occur rarely. The occurrence of symptoms depends on the diameter of the aneurysm and the presence of mural thrombus, as a cause of peripheral embolization.

Duplex ultrasonography is an important diagnostic tool. It can detect the aneurysm size and the presence of any mural thrombus. The peripheral arterial flow can also be assessed. Computed tomography angiography (CTA) or magnetic resonance angiography (MRA) can be used to further evaluate the patient especially with the prospective of a surgical repair.



Figure 1

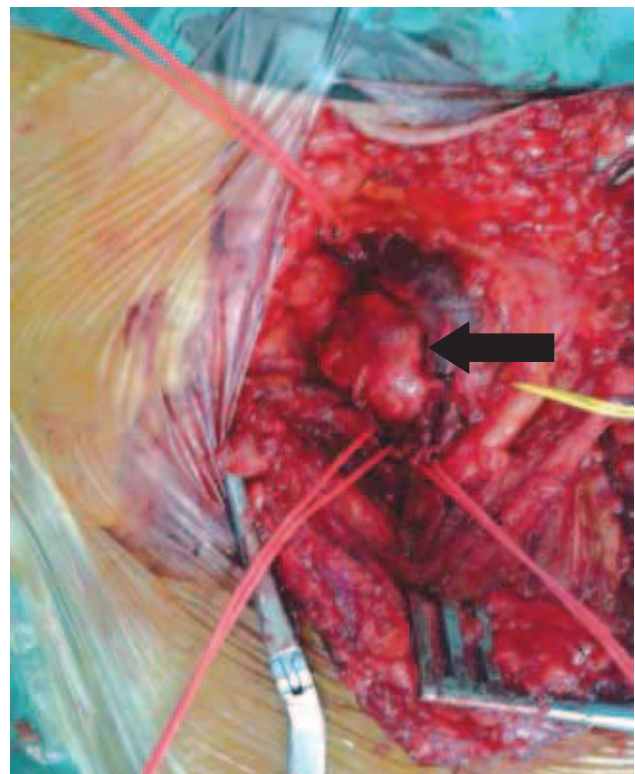


Figure 2. The arrow shows the popliteal artery aneurysm.

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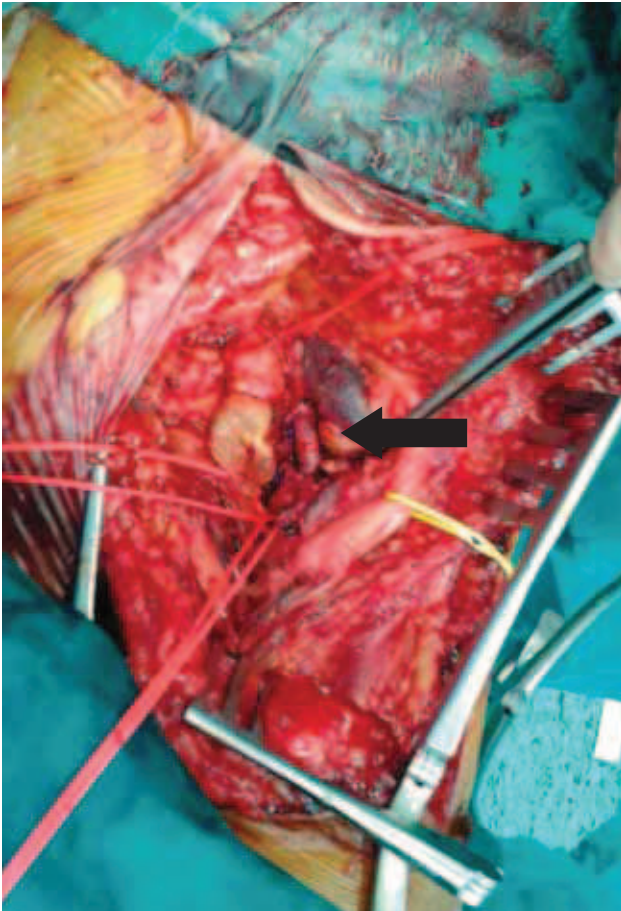


Figure 3. The arrow shows the autologous interposition graft.

Every symptomatic popliteal aneurysm must be repaired. The indication for asymptomatic aneurysms is somewhat controversial. Most authors recommend intervention once the diameter reaches 2 or 2.5 cm.

Open repair is the gold standard as a treatment modality for popliteal aneurysms. Endovascular repair is a minimally invasive treatment especially for patients at high risk for open repair.

In our case, the patient had a symptomatic popliteal aneurysm. Because of the presence of abundant mural thrombus peripheral embolization has occurred, causing blue toe syndrome. The patient undergone open repair of his popliteal aneurysm of 2.6 cm in diameter, through the posterior approach (fig. 2). This is performed by making an S-shaped incision through the popliteal fossa with the patient in the prone position. The aneurysm was resected and an autologous interposition graft (ipsilateral greater saphenous vein) was used to replace the aneurysmal segment of the popliteal artery (fig. 3). The postoperative course of the patient was uneventful and discharged from hospital 4 days later.

References

1. DAWSON I, SIE RB, VAN BOCKEL JH. Atherosclerotic popliteal aneurysm. *Br J Surg* 1997, 84:293–299

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