SHORT REPORT

Rupture of a Giant Popliteal Artery Aneurysm, Associated with Type III Aortic Dissection: A Case Report

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Popliteal artery aneurysms are the most common peripheral artery aneurysms. We present a case of rare combination of chronic aortic dissection type III and rupture of a giant popliteal aneurysm in 74 years old patient. We ligated the ruptured popliteal aneurysm with interposition of PTFE 8/5 prosthesis with a distal venous ‘cuff’. Postoperatively, the patient had palpable pedal pulses. He was discharged on the twenty-third postoperative day not on anticoagulant therapy because of the chronic aortic dissection type III, but on aspirin.

Keywords: Popliteal aneurysm; Chronic aortic dissection; Computed tomography; PTFE prosthesis.

Popliteal artery aneurysms are the most common peripheral artery aneurysms. Nearly all popliteal aneurysms are atherosclerotic.1 The diagnosis of popliteal aneurysm can be made on clinical examination of the popliteal fossa, ultrasound and CT with contrast infusion.2

The rationale for surgical management of all symptomatic popliteal aneurysms is straightforward. The procedure of choice for popliteal aneurysm is construction of a reversed saphenous vein arterial bypass and exclusion of the aneurysm. In the absence of adequate vein, PTFE can be used as a conduit with or without venous ‘cuffs’ or patches.1,3-5

Case

A 75-year old male patient, presented with a history of a fast growing mass in the left thigh. Physical examination revealed a pulsatile mass engaging the medial aspect of the distal third of the left thigh. There were no distal pulses in both legs. Laboratory findings showed moderate anemia. A CT scan showed a type III dissection of the thoracic aorta reaching the bifurcation of the abdominal aorta, dilatation of the common iliac arteries and an aneurysmal right common femoral artery. The most significant findings were bilateral popliteal artery aneurysms, measuring of 4 cm, on the right, and over 14 cm on the left. At operation we found rupture of the left popliteal aneurysm with formation of a massive haematoma. A ligation of the aneurysm was performed followed by interposition of a PTFE 8/5 prosthesis with a distal venous ‘cuff’ because of lack of a suitable vein. A contra-lateral releasing incision for isolation of the prosthetic graft was performed. This healed by secondary intention. Postoperatively, the patient had palpable pedal pulses of the left foot. He was discharged from hospital on the twenty-third postoperative day with palpable pedal pulsations and only a slight lymphatic leakage from the operative wound from the contra-lateral incision. The patient was discharged on antiplatelet therapy because of the presence of chronic dissection type III. At 1 month follow up the patient presented with healed operative wounds and palpable pedal pulses and patent deep veins. Only slight lymphoedema was present (Fig. 1).

Discussion

The atherosclerotic aneurysm of the popliteal artery affects mostly men. The presence of associated
aneurysms at other sites was reported in literature at up to 70%. An association with dissection of thoracic aorta is a very rare and is reported only in a few cases in the literature. Rupture of a popliteal aneurysm is a very rare complication, occurring in only 3% of the patients. The case we present is a combination of ruptured popliteal aneurysm with contra-contralateral popliteal and femoral aneurysms and chronic

Fig. 1. CT angiogram showing ruptured giant popliteal aneurysm, associated with type III aortic dissection.
dissection type III of the thoracoabdominal lateral aorta. We performed ligation of the ruptured aneurysm with interposition of ringed PTFE 8 mm graft. The operative wound healed by secondary intention and the patient was discharged at twenty-third postoperative day with palpable pedal pulses.

We conclude that popliteal aneurysm should be a concern of physicians who treat elderly patients. It is essential that this disease be diagnosed and treated promptly in order to prevent complications such as thrombosis and rupture, which could worsen the prognosis of these patients.

References


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