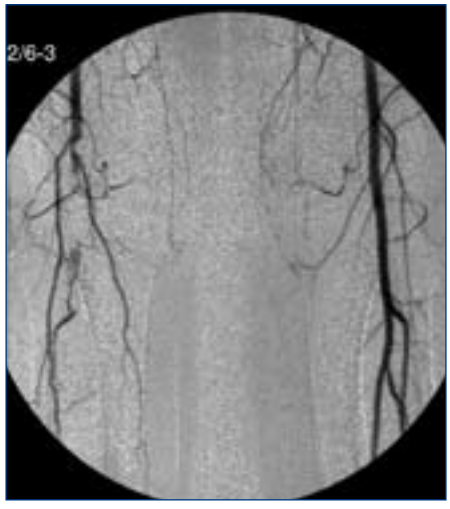
A case of claudication in a young man

Introduction

Calf claudication in the young presents a unique diagnostic challenge. Stenosis, occlusion or aneurysm formation secondary to atheromatous disease is the most common cause. In the young, a number of other rare pathologies including popliteal artery entrapment syndrome and cystic adventitial disease should also be considered. This article presents a case of cystic adventitial disease in a 37-year-old man.

Figure 1. Digital subtraction angiogram of right popliteal artery demonstrating smooth round filling defect in above knee segment.



Discussion

Cystic adventitial disease is a rare condition usually involving the popliteal artery which should be contemplated in the appearance of claudication in the young non-smoking male.

Symptomatology usually relates to calf claudication which tends to wax and wane, and may even spontaneously disappear only to return months later. Abrupt onset of symptoms after vigorous activity and prolonged recovery time are also reported features. It has been suggested that the fluctuation in intensity may relate to the communication sometimes demonstrated between the cyst and knee joint and that the prolonged recovery time is as a result of exercise-induced elevation of cyst pressure gradually improving as fluid passively redistributes out of the cyst.

Following initial Doppler examination confining the extent of arterial disease to the popliteal artery, computed tomography (CT) angiography has been proposed as the next line of investigation where the diagnosis is uncertain. The CT appearance of cystic adventitial disease is characterized by the presence of single or multiple hypoattentuating masses in the arterial wall, and the cyst wall may demonstrate contrast enhancement (Beregi et al, 1997). CT will also delineate the relationship with the knee joint cavity aiding therapeutic planning.

The arteriographic appearance of cystic adventitial disease, however, is non-specific. A curvilinear or spiralling narrowing, a lack of collateral vessels, a smooth tapering occlusion and slight displacement of the artery are cited (Bunker et al, 1981).

Various methods of treatment have been reported in the literature. In patients not known to have involvement of a joint cavity, cyst aspiration or resection and vein grafting have been reported to be effective (Bourke et al, 1982; De et al 1989). There is one case of recurrence reported in an autologous vein graft used for bypass (Ohta et al, 1994). Angioplasty has not been shown to be effective in cystic adventitial disease. **BJHM**

Case Report

A 37-year-old man presented with a 2-month history of right-sided calf pain when he walked. This had started suddenly. The pain was forcing him to stop after 5 minutes of walking and subsided following a prolonged period of rest. He smoked 5 cigarettes a day, but had no other risk factors for peripheral vascular disease.

On examination of his peripheral vascular system the right posterior tibial and dorsalis pedis pulses were absent and the popliteal pulse was markedly diminished compared to the left. Femoral pulses were present and there were no other stigmata of peripheral vascular disease.

A femoral angiogram was performed which demonstrated a normal aorta, iliac and femoral vessels. There was a short occlusion of the distal right popliteal artery for a segment of 3 cm with a smooth rounded filling defect arising from the anteromedial wall of the popliteal artery just above the occlusion (Figure 1).

Exploration of the popliteal artery revealed a cyst arising from the above knee popliteal artery which was incised, expressing clear fluid similar to that found in joint ganglia. A short jump graft using the long saphenous vein was fashioned around the occluded segment with good symptom relief. Histological examination of the cyst wall showed fibrocollagenous connective tissue devoid of an epithelial lining. A diagnosis of cystic adventitial disease was made.

Beregi JP, Djabbari M, Desmoucelle F, Willoteaux S, Wattinne L, Louvegny S (1997) Popliteal vascular disease: evaluation with spiral CT angiography. *Radiology* **203**(2): 477–83

Bourke BM, Appleberg M, Reeve TS, Hollings RM (1982) Cystic adventitial disease of the popliteal artery: a report of two cases and a review of the literature. *Aust NZ J Surg* **52**(2): 171–3

Bunker SR, Lauten GJ, Hutton JE Jr (1981) Cystic adventitial disease of the popliteal artery. *AJR Am J Roentgenol* **136**(6): 1209–12

De MA, Pricolo R, D'Alessandro A (1989) [Cystic adventitial disease of the popliteal artery. Report of 2 cases and review of the literature]. *Minerva Chir* **44**(8): 1315–22

Ohta T, Kato R, Sugimoto I, Kondo M, Tsuchioka H (1994) Recurrence of cystic adventitial disease in an interposed vein graft. *Surgery* **116**(3): 587–92

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