SHORT REPORT

Repair of a Dorsalis Pedis Artery Aneurysm

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Introduction

True aneurysms of the dorsalis pedis artery are a rare occurrence and their management includes resection of the aneurysm and either ligation or anastomosis. More work has been performed on traumatic aneurysms of the dorsalis pedis artery where reconstruction is advocated.

Case Report

A 56-year-old man presented to the vascular clinic with a tender swelling on the dorsum of his left foot. His main complaint was of pain on walking and tenderness when wearing shoes. There was no history of trauma and he had no significant past medical history. On examination, he had a minimally tender, expansile, 1 cm mass suggestive of an isolated dorsalis pedis artery aneurysm. Duplex scanning of the aorta was normal but imaging of the left lower limb confirmed a 7 mm aneurysm of the dorsalis pedis artery.

At operation, an interior saccular aneurysm was identified (Fig. 1). The aneurysm sac was excised and primary reconstruction performed with 6-0 prolene. Good pulsation was noted distal to the repair after closure. The patient’s recovery was straightforward and no further problems were identified on follow-up. Histology showed focal loss of the intima and media of the artery wall with aneurysm formation, mural fibrosis and haemorrhage. A 6-month follow-up duplex scan shows no recurrence.

Discussion

Aneurysms may be classified as either true or false. A true aneurysm is a dilatation of the artery wall whereas a false aneurysm is a breach of the artery wall with the aneurysmal sac composed of surrounding structures. Cases of false aneurysms of the dorsalis pedis artery are more frequent, most being attributed to trauma. However, only five cases of true aneurysm of the dorsalis pedis artery have previously been reported. Two of these cases had resection of the aneurysm and re-anastomosis of the dorsalis pedis artery and the other three had resection and ligation only. It has been suggested that anastomosis of the remaining normal dorsalis pedis is important especially in children or diabetic patients. In this case, primary closure performed was straightforward due to the saccular nature of the lesion.

Various techniques have been used to image dorsalis pedis artery including computed tomography, arteriography and duplex scanning. Several authors recommend duplex scanning of the aorta and peripheral vascular tree in cases of true dorsalis pedis artery aneurysm because of the theoretical risk of multiple peripheral aneurysms or associated aortic aneurysms. However, in our case and the other five documented cases, no associated aneurysm of the aorta or lower limb vessels has been identified.

Our case demonstrates the simplicity and patient satisfaction of resection and primary closure of a dorsalis pedis artery aneurysm.

References
