CASE REPORT

False Aneurysm of the Peroneal Artery: an Unusual Complication of Femoroperoneal Bypass Grafting

D. J. Parry, D. Kessel and D. J. A. Scott

Department of Vascular and Endovascular Surgery, St. James’s University Teaching Hospital, Beckett Street, Leeds LS9 7TF, U.K.

Introduction

False aneurysm formation involving the peroneal artery is rare. We present a case of a peroneal artery false aneurysm arising as a complication of femoroperoneal bypass grafting. This is previously unreported in the literature.

Case Report

A 76-year-old gentleman was admitted to hospital with a critically ischaemic right foot and gangrene of the first toe with surrounding cellulitis. Methicillin-resistant Staphylococcus aureus (MRSA) was cultured and he was commenced on intravenous vancomycin according to sensitivities. He underwent right-sided femoroperoneal artery bypass grafting using in situ long saphenous vein (LSV) as a conduit. An anterolateral calf incision was made and the fibula excised to gain access to the peroneal artery. On-table operative Doppler assessment showed a flow of 160 ml/min and resistance of 0.31 p.u. after the administration of 20 mg papaverine. The patient was heparinised overnight and duplex ultrasound scan performed the following day. This showed the presence of two residual valve cusps within the graft and that the distal graft appeared to be of small calibre. The patient returned to theatre the same day and underwent replacement of the distal portion of the “at risk” graft using LSV from the contralateral thigh. Additionally, two valve cusps were excised and vein patch angioplasties performed.

Postoperatively the patient made a good recovery and received a total of 7 days’ intravenous vancomycin until the cellulitis had resolved. He was discharged on the 13th post-operative day but was re-admitted 6 weeks later with cellulitis of the calf wound and a white cell count of 17.2. Wound swabs cultured MRSA and he was recommenced on vancomycin according to sensitivities. After 2 days of conservative treatment the patient had a secondary haemorrhage from the calf wound.

An immediate graft duplex ultrasound was performed which showed a 3.4 × 2.7 cm false aneurysm related to the distal portion of the graft. The patient was returned to theatre for emergency surgical exploration. At operation, the false aneurysm was found and was seen to be arising from a pin-hole sized defect in the peroneal artery at the level where the upper fibula was divided, 5 cm above the distal anastomosis. The in situ vein graft and distal anastomosis were incorporated within a mass of fibrinous scar tissue. Primary suture of the defect in the peroneal artery was performed, the distal portion of the vein graft was excised and the graft extended on to the dorsalis pedis artery using the contralateral calf LSV. The calf wound was debrided and left open.

Postoperatively the patient made a good recovery and has been followed up for 1 month without incident.

Discussion

False aneurysm formation is a recognised complication after vascular bypass surgery with an incidence of 2-3% after femoral anastomosis.1 After arterial reconstruction false aneurysm formation usually involves anastomosis and is related to the use of...
prosthetic material, infection, suture failure, graft failure or poor surgical technique.\textsuperscript{23} Patients may be asymptomatic or present with pain, swelling or haemorrhage.

False aneurysm formation involving the peroneal artery is rare. It has previously been reported as a complication of ankle sprain and fracture.\textsuperscript{4,5} In this case there was no evidence of trauma to the peroneal artery, sustained during division of the fibula. It seems likely that this false aneurysm, involving the native peroneal artery, arose as a complication of MRSA-related wound infection. This is previously unreported.

Awareness of a false aneurysm as an unusual cause for secondary haemorrhage should be highlighted.

References

4 Pai VS. Traumatic aneurysm of the perforating peroneal artery following ankle fracture. \textit{J Foot Ankle Surgery} 1999; \textbf{38}: 417–419.