Acute haemorrhage secondary to arteriovenous haemodialysis fistula pseudoaneurysm—the challenge of restoring a deformed upper limb

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DESCRIPTION
A 48-year-old man presented with active bleeding from an infected ulcer overlying a large pseudoaneurysm arising from a 10-year-old brachiocephalic arteriovenous fistula (AVF) in a grossly swollen and deformed upper limb (figures 1 and 2). The patient had end stage renal disease secondary to polycystic kidney disease and hypertension. At the time of presentation with bleeding, he had intercurrent community acquired pneumonia, treated with cefuroxime 500 mg twice daily. Bleeding was controlled with local pressure. Haemoglobin on admission was 10.2 g/dL (it was 12.9 g/dL a week earlier). Two months prior, as an elective procedure, a radiocephalic AVF was constructed on the contralateral wrist in anticipation of rupture of the pseudoaneurysm.1,2

Surgery—ultrasound guided brachial plexus block—was performed under regional anaesthesia. Owing to the size of the vessels, the arm and the ulcer, surgery proceeded with arterial (brachial) and venous dissection followed by resection of the pseudoaneurysms (figure 3). Fixation of the skin was achieved using a haemostatic dressing (Surgicel Nu-Knit, Ethicon) to maintain the coverage of the skin edges. The arm was then repositioned into a straight arm splint, and the patient was transferred to the high dependency unit. Two days later patient was mobilised and the arm was released from the splint. Haemoglobin levels were maintained with blood transfusions. Prophylactic cephalosporins were stopped 48 hours after surgery, and the patient was treated with metronidazole 400 mg twice daily. Prophylactic anticoagulation was not used, and he was discharged home on post-op day 4. Six weeks later (figure 4), the patient was discharged in good condition with the skin remaining viable. The patient has returned for further follow-up and high-dose warfarin therapy was recommended in order to achieve the therapeutic INR range.
control in the mid-arm. The enlarged (2 cm) artery was controlled in a vascular sling.\textsuperscript{3} The skin was incised at the site of the original incision, with careful dissection to the arterial-venous anastomosis. The brachial artery proximal and distal to the anastomosis was controlled and clamped. The vein was incised and separated from the AVF. Arterial closure was achieved with a running 5/0 prolene suture.

Reconstruction of the upper limb involved the excision of a large flap of skin and excision of the infected ulcer. The skin was incised over the medial border of the arm, and the pseudoaneurysm was dissected free. Spare skin, including the ulcer, was excised and primary closure achieved with a 1/0 Prolene suture and skin staples (figure 3). A long drain was inserted on the left and an elastic bandage from fingers-to-shoulder was applied. Postoperatively, the hand was viable. The drain was removed after 24 h. The contours of the arm were significantly reduced and the skin well perfused. Six weeks postoperation, the patient had viable skin, no oedema and normal wound healing (figure 4).

Competing interests None declared.

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REFERENCES