Iliac artery false aneurysm following renal allograft: presentation with non-specific inflammatory response and treatment by endovascular stent graft

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Case report

A 41-year-old male received a cadaveric renal transplant 12 months after commencing haemodialysis. The allograft developed vascular occlusion requiring transplant nephrectomy. He was readmitted 15 days later with malaise and fever. He underwent evacuation of a haematoma from the wound. Three days later, there was evidence of further bleeding. He was found to have a defect in the donor patch that had become aneurysmal and to have an associated large retroperitoneal haematoma. The donor patch was trimmed and repaired with 5/0 prolene. Cultures taken from the artery grew Candida, which was treated with intravenous fluconazole. Patient review revealed erythropoetin resistance, persistently elevated C-reactive protein (CRP) 141 mg/l, and a low albumin 32 g/dl. He described intermittent sweats and pain in his right thigh. Patella tendon reflex was absent on the right side and he had an extensive area of numbness on the medial aspect of the right thigh. Computed tomography (CT) scanning demonstrated a large mass with an enhancing central lumen consistent with a false aneurysm (Figure 1). Diagnostic angiography confirmed the presence of a false aneurysm arising from the right external iliac artery (Figure 2). The lumen of the false aneurysm was treated successfully by placement of a stent graft (JoMed UK Ltd) across the arterial defect. The right internal iliac artery and distal run off were preserved (Figure 3). An ultrasound scan a week later showed reduction in size of the false aneurysm with no flow demonstrated on colour Doppler. The patient’s right lower limb neurological symptoms started to resolve and his inflammatory state also resolved. An ultrasound scan at 3 months shows a patent stent graft with no evidence of false aneurysm, and resolution of the right hydronephrosis.

Discussion

False aneurysms are a rare complication of renal transplantation, occurring in <1% of cases [1]. Aneurysms may be intrarenal, resulting from needle biopsy of the transplant kidney, or extrarenal, arising from the iliac vessels adjacent to the arterial anastomosis of the transplant. Our patient presented with raised inflammatory markers, erythropoetin resistance and hypoalbuminaemia. This non-specific inflammatory state associated with pseudoaneurysm formation has been described previously in transplant patients [2]. In our patient, the inflammatory state resolved with the correction of the arterial defect and without antibiotics.

False aneurysms require treatment to prevent rupture, to prevent local pressure-related symptoms and to stop the inflammatory response that they can cause. Endovascular stent graft placement was considered to be the optimal treatment option, thus avoiding the need for major vascular reconstructive surgery and its associated morbidity [3].

The long-term patency and durability of stent grafts is unknown and, therefore, patients require long-term follow-up.

The presence of a false aneurysm should be considered in patients presenting with evidence of an underlying inflammatory process where there is a history of trauma, or a previous vascular surgical or radiological procedure. In the case of renal allograft patients, the use of endovascular stent grafts should be considered in the treatment options for false aneurysms following transplantation nephrectomy.

Conflict of interest statement. None declared.

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References


Fig. 1. Contrast-enhanced CT scan. A large haematoma in the right side of the pelvis (black arrow), with an enhancing eccentric lumen (*) consistent with a large false aneurysm. Note the close proximity to the right iliac vessels (white arrow).

Fig. 2. Digital subtraction angiogram. Right external iliac artery false aneurysm (large arrow) with marked extrinsic compression and displacement of the right external iliac artery (small arrows) by the large thrombus around the false aneurysm seen on the CT scan.

Fig. 3. Digital subtraction angiogram confirms exclusion of the false aneurysm following stent graft deployment, with preservation of the right internal iliac artery (arrow).