Iliac vein stenosis as a reversible cause of renal transplant dysfunction

Gareth Jones1, Jonathan Tibballs2, Mahmoud Al-Akraa1 and Paul Sweny1

1Centre for Nephrology and 2Department of Radiology, Royal Free Hospital, Pond St, London NW3 2QG, UK

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Case report

A 47-year-old female received a well-matched cadaveric renal transplant for treatment of end-stage renal failure secondary to type 1 diabetes. The kidney had three arteries on a patch with a single vein and was anastomosed end to side onto the corresponding right external iliac vessels. The iliac vessels were normal at the time of surgery. The post-operative period was complicated by bleeding around the transplant and formation of a peri-transplant collection which required repeated surgical drainage.

During the first 4 weeks, she had delayed graft function and was dialysed via an internal jugular line. She did not have any femoral venous access inserted. A transplant biopsy on day 23 showed acute tubular necrosis and mild tubulitis, suggestive of rejection, and she was treated with methylprednisolone. By day 36 post-transplant, she was noted to have a swollen right leg. A leg venogram excluded thrombosis but revealed a tight right iliac vein stenosis (Figure 1a) for which she underwent a successful venoplasty with good radiological resolution (Figure 1b). Her urine output started to improve, and by day 41 she was dialysis independent with a falling creatinine. Her creatinine stabilized at 140–150 μmol/l but 72 days post-transplant, her creatinine started to rise in association with swelling of her leg. On day 81 post-transplant (creatinine 194 μmol/l), she underwent a further successful venoplasty. One year post-transplant, the patient remains well with a creatinine of 128 μmol/l and no swelling of her leg.

Discussion

Iliac vein stenosis is a rare complication of transplantation which has been reported in both pancreatic [1] and renal transplantation [2]. Iliac vein stenosis may occur prior to transplantation due to the insertion of femoral dialysis catheters, or, on the left side, chronic compression of the left iliac vein by the overriding right iliac artery (May-Thurner or Cockett syndrome) may also cause stenosis. Post-transplantation, iliac vein stenosis has been reported to occur secondary to fluid collections or haematomas [1,2] which may cause a local inflammatory reaction and subsequent vessel stenosis.

The complications of iliac vein stenosis include thrombosis [2] and graft dysfunction, although a direct improvement in renal function with treatment of a recurring stenosis has not been reported until now. Treatment of the venous stenosis requires either
surgical reconstruction or venoplasty either with or without endovascular stenting.

Iliac vein stenosis is a rare and reversible complication of renal transplantation which should be thought of when faced with a transplant patient with graft dysfunction and a swollen leg.

Conflict of interest statement. None declared.

References