An uncommon but important complication of renal biopsy

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DESCRIPTION

A 27-year-old man with stage 2 chronic kidney disease was referred for evaluation of resistant hypertension. He was on three antihypertensives including a diuretic. He was evaluated 3 years previously for uncontrolled hypertension with acute kidney injury and had undergone renal biopsy at that time. On examination, he had abdominal bruit on the left lumbar region. A renal angiography was performed which revealed a large renal arteriovenous (AV) fistula on the lower pole of the left kidney (figures 1 and 2, videos 1 and 2, respectively). He also underwent CT angiography which revealed a dilated left renal artery and lower polar artery which was tortuous with multiple saccular outpouchings. Multiple dilated venous tributaries were noted in mid pole with early opacification of

Video 1 Selective Left renal artery angiography showing the AV fistula.

Figure 1 Selective left renal artery angiography showing the arteriovenous (AV) fistula.

Video 2 Subselective injection in to left lower polar renal artery (digital subtraction angiogram) showing the AV fistula draining into the dilated renal vein.

Figure 2 Subselective injection into left lower polar renal artery (digital subtraction angiogram) showing the arteriovenous (AV) fistula draining into the dilated renal vein.

Figure 3 CT scan showing renal arteriovenous (AV) fistula.

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Figure 4 Three-dimensional reconstruction image of renal arteriovenous (AV) fistula.

dilated left renal vein suggestive of renal AV fistula (figures 3 and 4).

Renal AV fistula is a direct communication between the artery and vein. These vascular malformations are due to renal biopsy, trauma or percutaneous nephrectomy. There is a 5–10% incidence of AV fistula after renal biopsy.¹ Majority of them (70%) recover spontaneously in about 2 years.² Thirty per cent do not recover and develop symptoms in the form of haematuria, hypertension, cardiac and renal failure.² Late manifestations are hypertension, microscopic or macroscopic haematuria and

worsening renal failure. Patients presenting with haematuria or worsening renal dysfunction need early intervention. Management options include partial or total nephrectomy or transcatheter selective embolisation of AV fistula with micro-coils.³ Transcatheter interventions require coil/vascular plug closure of feeding artery/arteries and the tributaries so as to prevent recurrence.

Learning points

- ▶ Renal arteriovenous fistula is an uncommon but important biopsy-related complication.
- ▶ Common presentations include resistant hypertension, haematuria and worsening renal failure.
- ▶ Intervention is required if there are significant symptoms.

Competing interests None.

Patient consent Obtained.

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