Images in Nephrology
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Renal cyst mimicking arteriovenous malformation

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We describe a 34-year-old male who was well, but who had been noted 4 years earlier to have a cyst in his right kidney. Regular follow-up with ultrasound showed that the cyst was increasing in size and he was referred to us. Ultrasound showed mild pelvicalyceal dilatation with a hypo-echoic mass (4 × 3 cm) in the central sinus of right kidney near the dilated pelvis; colour Doppler showed flow in the mass (Figure 1), suggesting an arteriovenous malformation (AVM). Computerized tomography (CT) was also consistent with this diagnosis (Figure 2). Trans-arterial embolization of the AVM was attempted, but failed due to the large vascular diameter. Surgical reconstruction of the kidney with auto-transplantation was performed successfully. The patient remains well with normal function.

Discussion

Renal AVM is usually congenital and characterized by multiple communications between the main or segmental renal arteries and veins. They comprise 14–27% of all arteriovenous anomalies [1]. The most common presenting symptoms are gross haematuria and hypertension. The AVM may rupture and present with bleeding and shock [2]. Imaging, including duplex ultrasound [3], CT and arteriography, demonstrate the vascular lesion.

We suggest that duplex ultrasound examination should follow routine renal ultrasound whenever a vascular lesion is suspected, as conventional ultrasound may miss this diagnosis. Nephrectomy is the most common treatment for large AVM, but percutaneous embolization can be successful [4].

Conflict of interest statement. None declared.

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Fig. 1. The colour Doppler showing reactivity in the hypo-echoic lesion of right kidney.

Fig. 2. Computerized tomography angiography confirming the right renal AVM.
References


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