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Functional medicine

Recurrent hematuria in renal angio-venous malformation, delay diagnosis and endovascular treatment, a case report

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Evaluation included Contrast Enhanced abdominal Computerized Tomography (CECT) and Magnetic Resonance Imaging (MRI) which demonstrated caliectasis of the upper pole of right kidney with clot at renal pelvis without any mass, stone or vascular lesion (Fig. 1).

Cystoscopy and ureteroscopy was normal. The patient had normal clotting profile. Again hematuria settled itself and Patient was discharged without any diagnoses. Recently the patient had an episode of hematuria and refer to our hospital and underwent CCT which in the early phase showed caliectasis of the upper pole of

Introduction

Renal atriovenous malformation (AVM) is an abnormal communication between the renal blood vessels in which the arterial and venous circulation communicate with each other bypassing capillary bed.[1] Renal AVMs are classified as congenital, idiopathic, and acquired. AVMs are mostly associated with gross hematuria, may also present itself with flank pain, high-output heart failure and hypertension.[2]

Case report

A 27 years old male was referred to our hospital for evaluation of gross hematuria. The patient had an episode of recurrent painless gross hematuria 4 years ago without history of trauma and surgical procedure on kidney. The patient did not visit any physician and hematuria settled itself. Two years later the patient had an episode of severe painless hematuria and was hospitalized for 45 days.

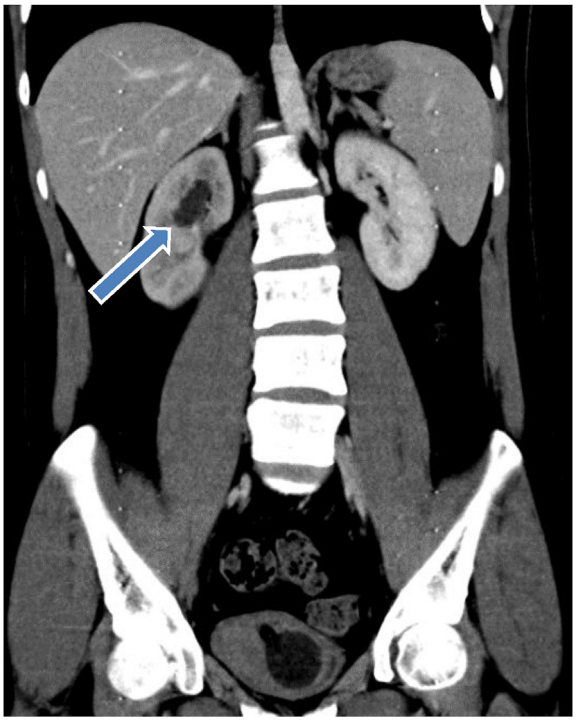

Fig. 1. CT shows dilated vessels in lower pole of right kidney. (arrow).

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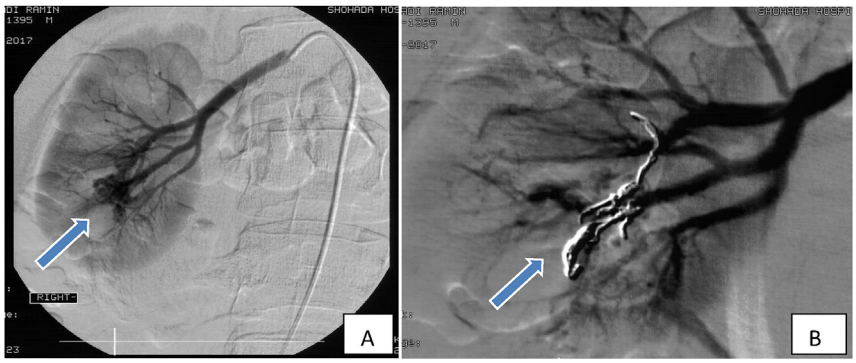

Fig. 2. A) Renal vessels angiography showing tangled vessels in lower pole of right kidney with early venous filling (arrow). B) Embolization of feeding arteries of right renal AVM (arrow).

right kidney, dilatation of pelvis and isodense clot in the renal pelvis. color Doppler sonography finding suspected the abnormal blood flow in the kidney and computed tomography-angiography noted ectatic vessels in lower pole of right kidney.

Patient underwent Angiography and showed tangled vessels in the arterial phase along with several regular sacular small aneurysms which were receiving blood from several segmental branches of lower pole of right kidney. Early venous filling without obvious AVF was also noted (Fig. 2 A).

Embolization of feeding arteries of right renal AVMs were done with selective catheterization of segmental branches of right renal artery at lower pole using detachable micro coil EV3, control angiography showed disappearance of main tangled vessels (Fig. 2 B).

On follow up after 6 months the patient had no episode of hematuria and had normal blood pressure.

Discussion

Congenital renal AVMs comprises less than 25% of all renal AVMs. Acquired type is 75% of all renal AVMs.[3] As compared to acquired renal AVMs, congenital renal AVMs are rare but mostly results in gross hematuria which usually requires embolization or open surgery.[4] Doppler ultrasound is the first order modality for diagnosis because of its cost effectiveness and non invasive nature.[5] Management of renal AVMs has evolved from nephrectomy to catheter embolization. The development of microcatheter systems enabled the selective embolization of renal AVMs with preservation of the renal parenchyma.[2]

In our case no final diagnosis was made until the patient underwent renal vascular angiography, we concluded that CECT, MRI and CT Angiography can miss renal AVMs and Angiography of renal vessels is very helpful in diagnosis of renal AVMs.

Conflicts of interest

None.

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