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RUPTURED RENAL ANGIOMYOLIPOMA

F. Van Hoorn, M. de Win, M. Meier[1]

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Background: A 59-year-old woman presented with left-sided flank pain of 5 days duration, fever, leucocytosis and microscopic hematuria. Medical history revealed only a medically treated hypertension. Because of a suspected pyelonephritis, her general practitioner prescribed antibiotics. The severe flank pain persisted, so she was referred to the emergency department for further analysis.

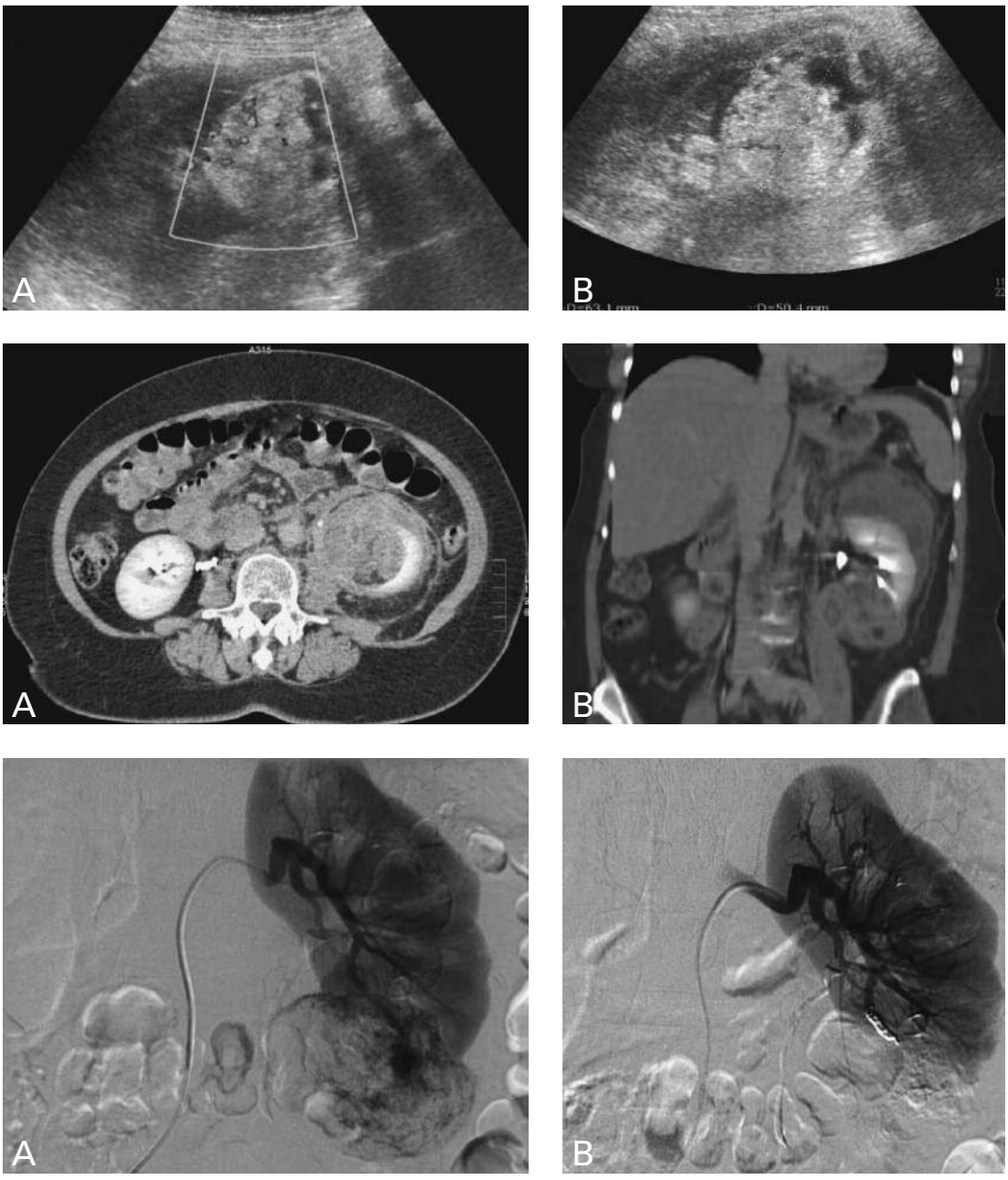

Fig. 1A 1B | 2A 2B | 3A 3B

1. Department of Radiology, Academic Medical Center, Amsterdam, The Netherlands

Work-up

On ultrasonography of the left kidney (Fig. 1), a hypo-echoic zone surrounding the left kidney suggestive for hematoma is noticed. A hyper-echoic, vascular tumor of 63 mm is seen in the lower pole of the kidney.

Contrast-enhanced CT scan of the abdomen (Fig. 2) shows on the axial section at the level of the kidneys (A) a tumor in the lower pole of the left kidney containing hypodense areas consistent with fat. The reformatted image (MPR) in coronal plane (B) shows the tumor as well as a hypodense area surrounding the left kidney and corresponding to hematoma. The hematoma is contained within Gerota's fascia.

On angiography of the left kidney before treatment (Fig. 3A), a large enhancing lesion with a nidus in the lower pole is seen. After embolisation with PVA particles and subsequent coiling of a segmental renal artery (B) there is no longer enhancement of the mass, with normal aspect of the remaining parenchyma.

Radiological diagnosis

The spontaneous, non-traumatic renal hemorrhage to the subcapsular and perirenal space that occurred in our patient is also known as *Wünderlich's syndrome*. As in almost all cases, the underlying pathology was an angiomyolipoma. In the presented case, this tumor was treated successfully by transcatheter arterial embolisation and coiling of the feeding arteries.

Discussion

Angiomyolipoma (AML) is a benign renal tumor that contains elements of vascular tissue, smooth muscle and fat.

AML can occur as part of a tuberous sclerosis complex, but more often it is found sporadically, predominantly in women between the fourth and seventh decade of life. Diagnosis can be suggested when a fat containing renal mass is found by ultrasonography. Contrast-enhanced CT scan is the modality of choice to differentiate between benign or malignant tumors.

Although smaller lesions are mostly asymptomatic, AML of more than 4 cm in diameter account for 90% of all symptomatic cases. Patients can present with a diversity of complaints like flank pain, a palpable abdominal mass, hematuria or even shock.

Nowadays, renal sparing therapeutic options like nephron-sparing surgery and transcatheter arterial embolisation have replaced the total nephrectomy.

In patients with large AML with tuberous sclerosis, surgery is a good alternative because of the high recurrence rate.

In tumors that show active bleeding or in the emergency setting, embolotherapy is a safe procedure with good long-term results.

After embolisation, the aspect of the AML on imaging studies will change, reflecting the degradation of the angiomatous component of the mass, leaving a mass with characteristics of fat and muscle tissue, i.e. a myolipoma.

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