Answers to Medical Quiz

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A1. a. Ultrasound scan (Fig. 1) of the left kidney shows a well defined, rounded, highly reflective mass in the upper pole region (↑). The echogenicity of the mass is similar to the renal sinus (↑↑) suggesting the presence of fat within the tumor.

b. Postcontrast CT (Fig 2) shows the heterogenous mass, sharply demarcated from renal parenchyma. A tissue density of -54 HU indicates the fat component.

A2. Renal angiomyolipoma.

Renal angiomyolipomas (AMLs) are uncommon benign neoplasms that are composed of mature or immature fat, thick walled blood vessels and smooth muscle elements in varying proportions[1]. AMLs are classically associated with tuberous sclerosis but can also appear as an isolated lesion[2]. Solitary tumors occur most often in females over the age of 40. When small, they usually are asymptomatic and are discovered incidentally as in this patient. Large lesions may cause significant displacement of organs by mass effect or haemorrhage and the patient presents with flank pain, palpable mass and hematuria.

Fat within the tumor gives rise to the characteristic ultrasound appearance of a highly reflective mass[3]. Less commonly the mass is nonspecific in appearance, either echopoor or of mixed reflectivity. Computed tomography (CT) is a useful imaging tool performed to confirm the diagnosis by documenting the presence of fat within the tumor. Although MRI may be more sensitive to the presence of fat, its role is limited because noncontrast CT will suffice in most instances.

Several longitudinal studies have investigated the long term outcome of AMLs[4]. It is now clear that surgical intervention is required in only a minority of cases. The main complication of AML is spontaneous haemorrhage which is considered to be related to the size of the neoplasm[5]. Lesions more than 4 cm in diameter have been reported to be more likely to grow with increased risk of haemorrhage. If a patient has had a significant haemorrhage,surgical removal or angioembolization is indicated.Asymptomatic patients with AML over 4 cm in size require relatively close follow-up (yearly CT or sonography). The clinical significance and the need for follow-up of smaller lesions in patients without tuberous sclerosis awaits further investigations.

REFERENCES

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