Diagnostic Images

Renal mass

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The patient

A male aged 46 with a past history of polypectomy complained of tenesmus for 6 months. Abdominal sonography showed an incidental left renal mass.

Investigations

Intravenous urography and computed tomography

Figure 1 Film from an intravenous urogram showing curvilinear displacement of major calices at the lower pole of the left kidney with a rounded bulge on the margin. (The asterisks indicate the margin of the mass at the lower pole of the kidney)

Figure 2 (a,b) Unenhanced CT sections through the lower pole of the left kidney clearly demonstrate a mixed attenuation but solid tumour with a rounded margin.

Figure 3 (a,b) Following intravenous contrast medium there is slight irregular enhancement of the mass with a central area of lower attenuation and a poorly defined margin abutting normal renal tissue. RK – right kidney; D – duodenum; I – inferior vena cava; A – aorta.

Comment

Renal cysts are commonly found on abdominal sonography and computed tomography but asymptomatic solid masses are uncommon. Solid mass lesions of the kidney include angiomyolipoma, oncocytoma, fibroma, adenoma, xanthogranulomatous pyelonephritis, transitional cell carcinoma, nephroblastoma, renal cell carcinoma (hypernephroma), lymphoma and sarcoma. The pseudotumour, (cloison) or expanded column of Bertin has the features of renal cortex with the same pattern of contrast enhancement. The angiomyolipoma is recognized by its fat content, xanthogranulomatous pyelonephritis by the associated calculus, and the lower density contents, adenomas are usually cortical, fibromas quite small and transition cell carcinomas occur within the renal pelvis and collecting system. The oncocytoma is usually round, well demarcated and may have a radiating pattern on contrast enhancement. The nephroblastoma or Wilms' tumour occurs in childhood while lymphoma is a non-enhancing mass often with marked lymphadenopathy. The patchy contrast enhancement, mixed densities within the tumour and poor demarcation from normal tissue indicate the strong probability of a renal cell carcinoma as in this case.

Acknowledgements

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Reference

Davidson, A.I. Large, unifocal, unilateral. In: *Radiology of the Kidney*, Chapter 13. W.B. Saunders, Philadelphia, London, 1985, p. 329–370.