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Diagnostic Images

A benign liver tumour – characteristic appearances

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The patient

A female aged 54 presented with considerable loss of weight in the last 6 months. No abnormality was detected on physical examination but liver function tests were mildly abnormal. The patient was referred for sonography and subsequently computed tomography (CT).

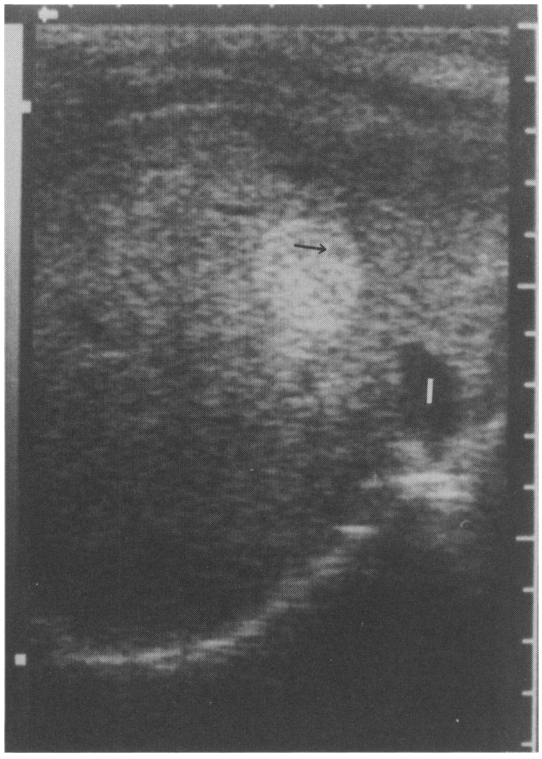

Figure 1 Transverse sonography of the liver showing a well defined 2 cm echogenic lesion antero-lateral to the inferior vena cava (I) in the right lobe. A very small hypoechoic 'nodule' (arrow) is present within the lesion.

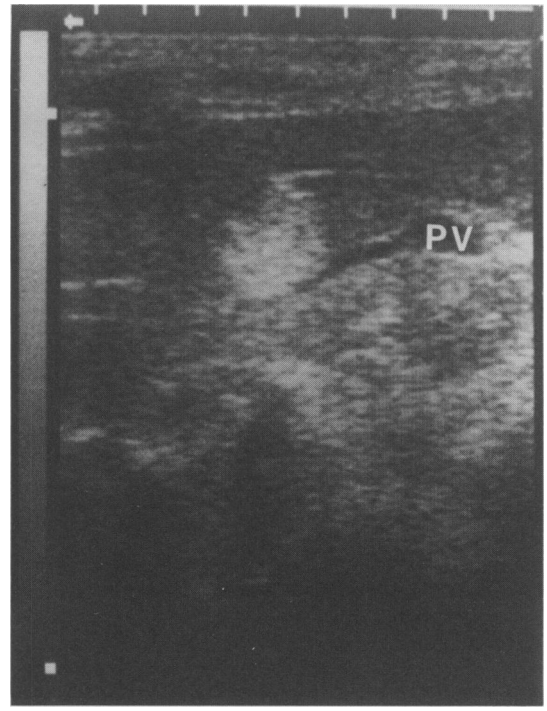

Figure 2 In a longitudinal section the well defined echogenic lesion is just anterior to and displacing a branch of the portal vein (PV).

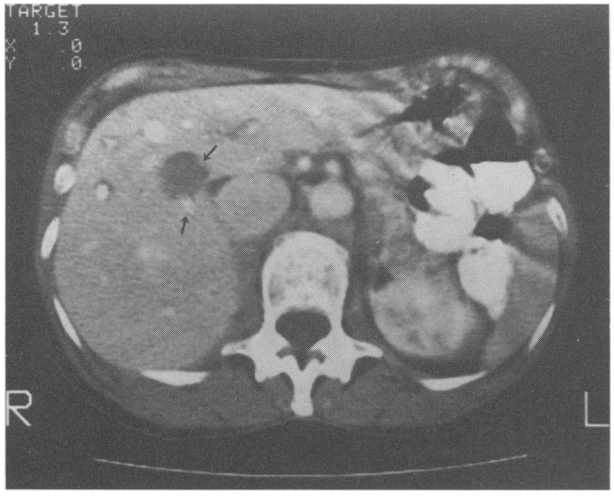

Figure 3 A CT section of the upper abdomen during the immediate vascular phase of contrast enhancement (angiotomography) shows the lesion is of low attenuation with small marginal contrast areas (arrows).

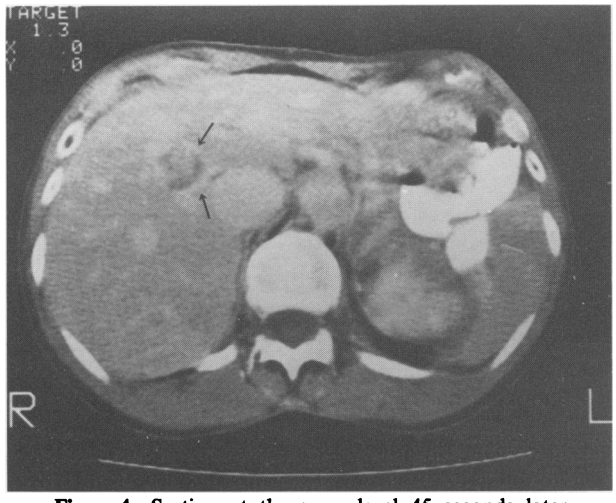

Figure 4 Section at the same level 45 seconds later demonstrates enhancement within the lesion and a dense rim of contrast enhancement around the lesion (arrows).

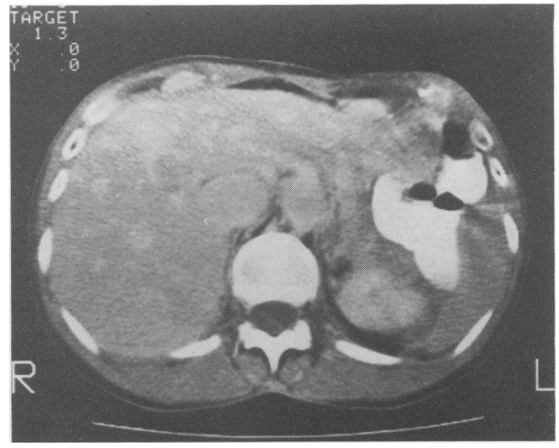

Figure 5 At 2 minutes post-contrast the lesion is becoming isodense with the liver as further enhancement of the lesion occurs.

Figure 6 At 5 minutes post-enhancement there is almost complete 'filling-in' of the lesion, then appearing homogeneous and almost isodense with liver parenchyma.

Comment

These CT appearances are pathognomonic of a cavernous haemangioma and on sonography highly suggestive. A solitary lesion that 'fills in' from the periphery becoming isodense with liver parenchyma can be confidently diagnosed as a cavernous haemangioma and cannot account for the patient's symptoms of weight loss or mildly abnormal liver function tests. Biopsy of these lesions is unequivocally contraindicated.

Cavernous haemangiomas are the commonest benign tumour of the liver found in approximately 5% of routine autopsies, are usually single and occur most commonly in women (±75%). These tumours are

asymptomatic unless they are so large as to produce mass effects. They can enlarge during pregnancy. Rupture is rare but usually fatal due to massive haemorrhage.

Cavernous haemangiomas can now be diagnosed when larger than 1 cm with pathognomonic features on CT in more than 90% and with magnetic resonance imaging in more than 95% of cases.

References

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2. Barnett, P.H., Terhouni, E.A., White, R.I. Jr & Siegelman, S.S. Computed tomography in the diagnosis or cavernous haemangioma of the liver. *AJR* 1980, **134:** 439.
3. Freeny, P.C., Vimont, T.R. & Barnett, D.C. Cavernous haemangioma of the liver: ultrasonography, arteriography and computed tomography. *Radiology* 1979, **132:** 143.