

SOFT-TISSUE CASE 27. ANSWER

MAGNETIC RESONANCE IMAGING: HEPATIC REGENERATIVE NODULES

Magnetic resonance (MR) imaging takes advantage of the unique properties of magnetized tissues, resulting in high inherent contrast discrimination. Distinct signal characteristics, related to the histologic make-up of certain lesions, also provide an advantage for MR over other imaging modalities such as ultrasonography and computed tomography.

An axial conventional spin echo T_1 -weighted MR image (Fig. 2) shows 2 contiguous masses (arrows) in the porta hepatis that are predominantly isointense to the adjacent normal liver.

Most benign and malignant liver tumours show increased signal on T_2 -weighted sequences; however, all 3 liver lesions in this patient showed

mildly decreased signal on T_2 -weighted sequences (Fig. 3). This finding limits the differential diagnosis to focal fatty infiltration and regenerative nodules or, less likely, an atypical presentation of focal nodular hyperplasia. A lack of any significant fat deposition in the liver of this patient, proven by a lipid-sensitive gradient echo pulse sequence ("in phase" and "out of phase"), excluded the diagnosis of focal fatty infiltration. Dynamic intravenous contrast enhancement with gadolinium (not illustrated) did not show any altered vascularity in the arterial, portal venous or interstitial phases of contrast enhancement in this patient. Therefore, the distinctive signal characteristics of the masses, supported by the additional information obtained with dynamic contrast enhancement and lipid-sensitive pulse sequences, enabled the

confident diagnosis of regenerative nodules to be made. An ultrasound-guided biopsy of the lesion provided histologic proof of the diagnosis.

Bibliography

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FIG. 2

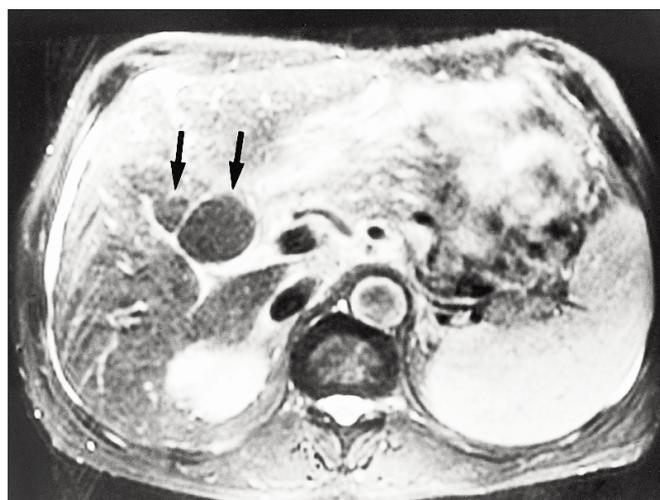


FIG. 3