Role of spiral ct in assessment of focal hepatic lesions

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Because of the high frequency of focal liver lesions characterization of these lesions is essential. Consequently, the preferred CT technique for liver examination should combine a high sensitivity for lesion detection with a good ability for lesion characterization, to differentiate lesions that do need further diagnostic tests or treatment from lesions that do not.Helical CT of the liver consistently results in high quality scans as a result of the ability to image the liver in a single breath hold. Lesion detection is aided by scanning during the peak hepatic enhancement, by lack of respiratory m: sregistrations, and by obtaining overlapping axial reconstructions. Because of these advantages, helical CT of the liver is the preferred scanning mode for evaluation of hepatic disease.In addition, the fast data acquisition with spiral CT allows successive scanning of the entire liver at different moments after injection of contrast material, thus creating the possibility of multiphasic liver CT.Triphasic spiral CT is a standardized CT procedure that allows imaging of the entire liver in arterial, portal, and equilibrium phases. It is designed to enable detection and characterization of a large variety of liver lesions, also in the presence of different pathologic conditions and multilevel disease.The portal phase images acquired at the peak hepatic enhancement are the centerpiece of the protocol and are essential for lesion detection9-100-Qd•Ss? and ’fanchaianbeing the most sensitive phase. Arterial phase images are helpful in the detection of hypervascular lesions and are essential for the characterization of a large proportion of lesions. Equilibrium phase images further aid in lesion characterization. Both the arterial and equilibrium phases can supply information on the vascularity of lesions that may help to clarify its nature.In clinical practice, one has to decide in which patients to use triphasic liver CT. the liver is scanned three times, with resultant increased radiation exposure. In addition, the procedure takes more time and is more costly than single-phase spiral CT because of the large number of images acquired with additional tube loading and more film costs. Therefore, one has to limit its use to patients who are likely to gain from this additional burden.Patients with unclassified lesions at US or monophasic CT, patients with chronic liver disease with the possibility of HCC, patients with a known primary hypervascular tumours, and patients with possible respectable liver metastases constitute the vast majority of those who will gain benefit from the triphasic liver CT.