Case 897

Eurorad

Hepatocellular Carcinoma <!--- MODIFIY IMAGES --->

Published on 25.02.2001

DOI: 10.1594/EURORAD/CASE.897
ISSN: 1563-4086
Section: Abdominal imaging
Imaging Technique: Ultrasound
Imaging Technique: CT
Imaging Technique: CT
Imaging Technique: MR
Case Type: Clinical Cases
Authors: O. Ozarlak, A.M. De Schepper, O. d'Archambeau, P. Michielsen, P.A. Pelckmans
Patient: 61 years, female

Clinical History:

Chronic hepatitis C, increased alphafoetoprotein and transaminases for 2 years.
Imaging Findings:

The patient, under follow-up for chronic hepatitis C, presented with increased alphafoetoprotein and transaminases for 2 years. Recently a small lesion appeared on routine ultrasonography of the liver. Subsequently a CT scan was performed. Fourteen days after intra-arterial injection of Lipiodol, the CT scan was repeated.
Discussion:

HCC is the most common primary malignant liver tumor, with high frequency rates in Asia and Africa. Predisposing factors include chronic liver disease and cirrhosis as a consequence of alcohol abuse, hepatitis or hemochromatosis. Since 85% of all HCC arise in a cirrhotic or precirrhotic liver, patients at risk should be followed by noninvasive techniques such as CT and ultrasonography. The ultrasound and CT appearances of HCC are variable and are fully described in the literature. Takayasu et al. reported that early HCC is a well-differentiated HCC, whereas small HCC is a poorly-differentiated HCC. Early HCC is usually isodense with respect to surrounding liver on plain and enhanced CT, whereas small HCC has usually low density on plain CT and high density on contrast enhanced CT scan. The detection rate of an early HCC on plain and contrast enhanced CT scan is 56%, whereas it is 94% for small HCC. MRI can be preferred to CT in the detection of small liver lesions, since MR gives similar or slightly better results than CT without using ionizing radiation and large amounts of iodized contrast medium. Detection and definitive diagnosis of early HCC is not always possible without the help of more invasive techniques such as angiography and Lipiodol-CT. Iodized oil-CT, performed after intra-arterial injection of Lipiodol, is one of the best methods to detect HCC and also shows small satellite nodules with higher accuracy rate after intra-arterial injection of Lipiodol. Malignant hepatic tumors such as HCC sequester the oil, whereas no retention is observed in the rest of liver parenchyma.
Differential Diagnosis List: Hepatocellular carcinoma

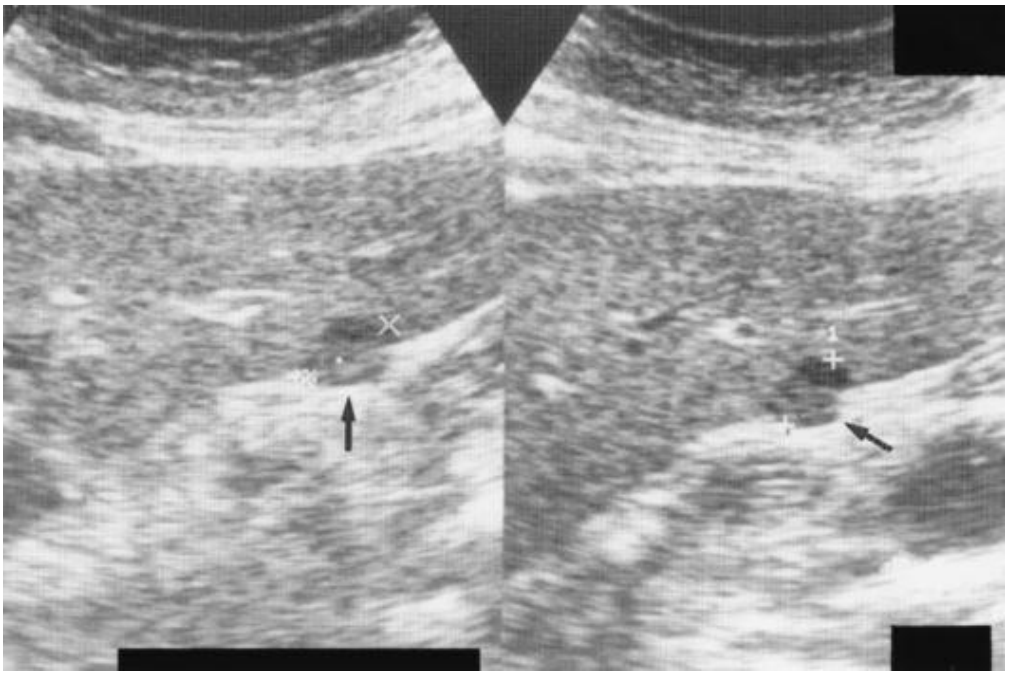
Final Diagnosis: Hepatocellular carcinoma

References:

De Santis M, Romagnoli R, Cristiani A et al. MRI of small hepatocelluar carcinoma: comparison with US, CT, DSA and Lipiodol CT. J Comput Assist Tomogr 1992; 16: 189-197. (PMID: 1312096)
Shamsi K, De Schepper A. Medical imaging of focal liver lesions: a clinico-radiologic approach. Amsterdam, Elsevier Science B.V. 1994; 77-86.
Takayasu K, Furukawa H, Wakao F et al. CT diagnosis of early hepatocellular carcinoma: sensitivity, findings and CT-pathologic correlation, AJR 1995; 164: 885-890. (PMID: 7726041)

Figure 1

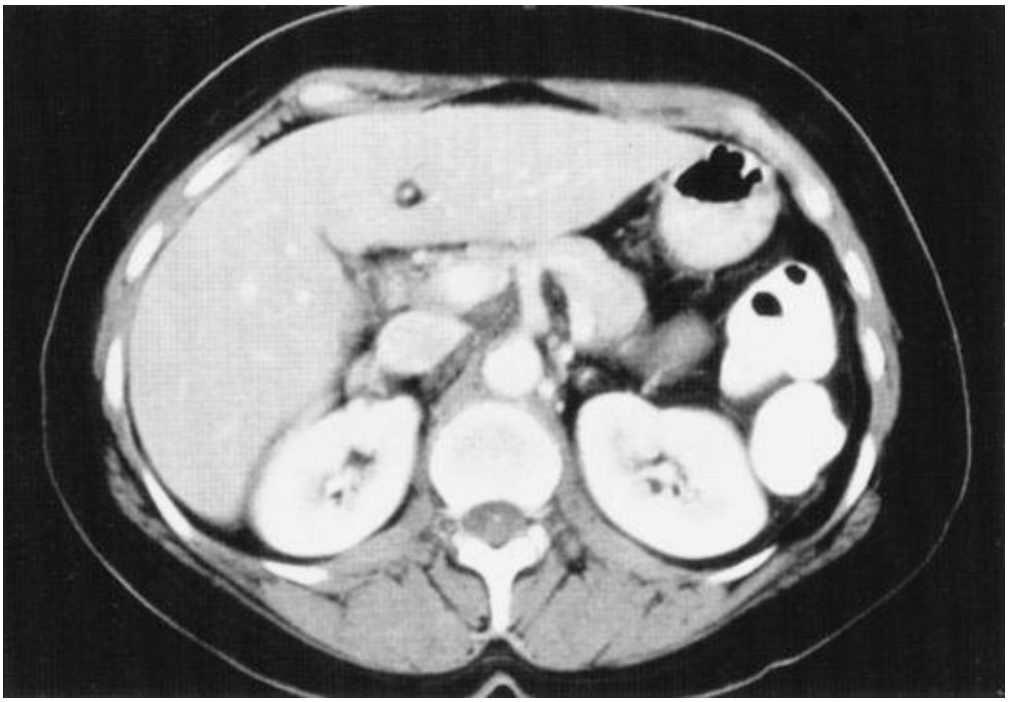
a



Description: Ultrasonography of the liver shows a small (diameter 13-16 mm), sharply delineated, hypo echoic nodule at the posterior aspect of the left liver lobe (arrow). **Origin:**

Figure 2

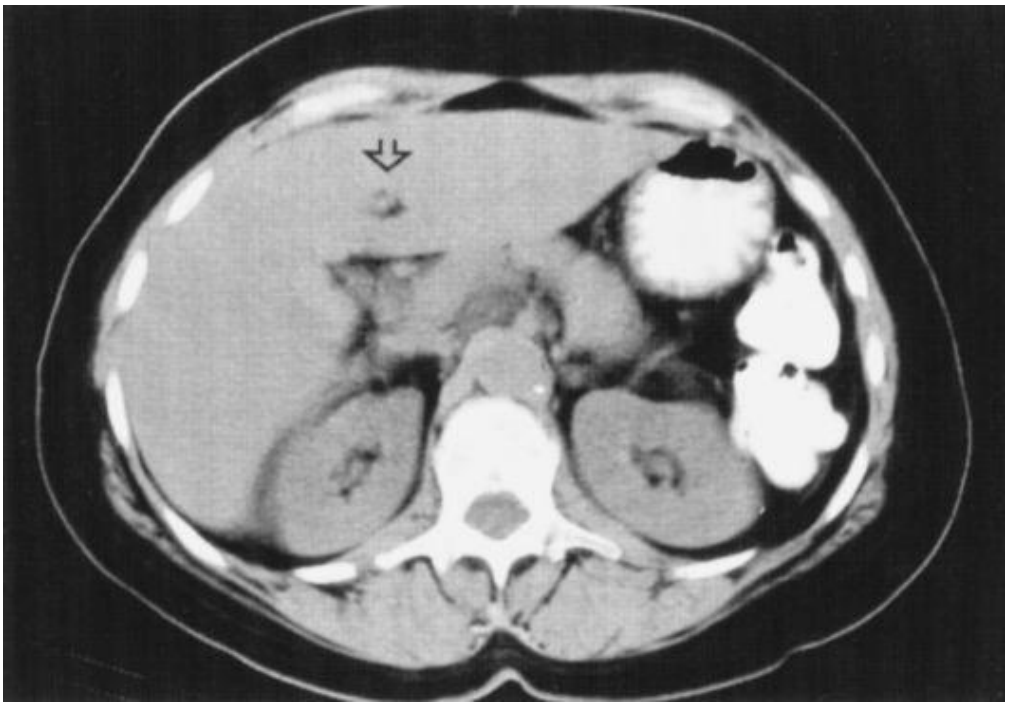
a



Description: No focal lesion is noticed. Retrospectively only a discrete humped contour is seen at the posterior aspect of the left liver lobe. **Origin:**

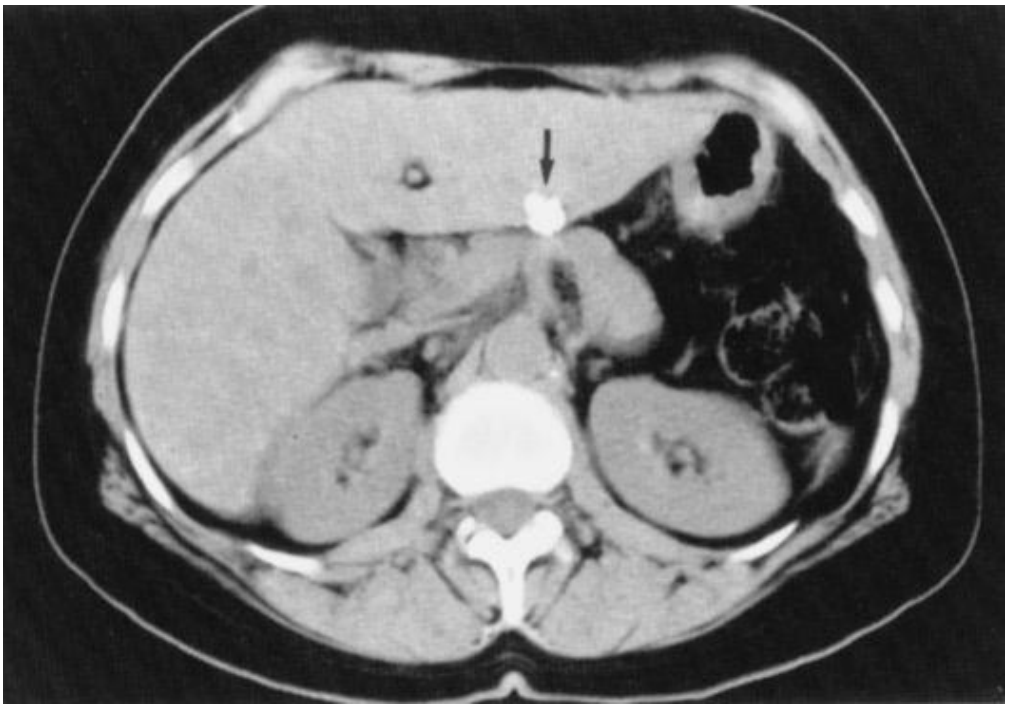
Figure 3

a



Description: Initial non contrast examination: the falciform ligament is taken as a reference slice for lesion detection (open arrow) **Origin:**

b



Description: Fourteen days after Lipiodol injection into the common hepatic artery: a 1.2 x 1.6 cm area of increased accumulation of Lipiodol is demonstrated at the posterior aspect of the left liver lobe (arrow). **Origin:**