

CONTINUING MEDICAL EDUCATION ΣΥΝΕΧΙΖΟΜΕΝΗ ΙΑΤΡΙΚΗ ΕΚΠΑΙΔΕΥΣΗ

Medical Imaging Quiz – Case 27

A 55-year-old male patient was admitted to our hospital because of anorexia and abdominal pain (localized in the upper right quadrant) of 3 months duration. Physical examination revealed absence of abdomen tenderness. No fever, loss of body weight or other signs or symptoms were noted. Laboratory tests had the follow values: Ht: 43.4%, Hb: 14.4 g/dL, WBC: 6,100/μL, ALP: 44 IU/L, γGT: 52 IU/L, CEA: 1.1 ng/mL, AFP: 5.25 ng/mL. Urinary sediment examination showed non-specific findings.

The chest CT findings were normal. Abdominal precontrast helical CT scan revealed a hypodense peripheral nodular lesion in segment VII of the liver with central amorphous calcification, in a diffusely enlarged liver (fig. 1). After intravenous administration of contrast medium, there was no enhancement in the hepatic arterial phase or in the portal venous phase (figures 2a, b). Percutaneous biopsy was performed under CT-guidance (fig. 3).

Comment

Tuberculosis is one of the most common and well-described infectious diseases. The clinical presentation and the imaging findings are often non-specific and may mimic other diseases.

Although manifestations of tuberculosis are usually limited to the chest, the disease can affect any organ system, such as genitourinary tract, central nervous system, gastrointestinal system and skeleton. Local hepatic tuberculosis without active pulmonary or

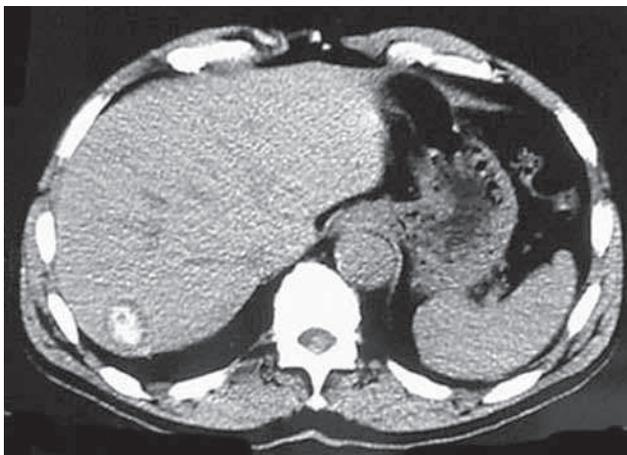


Figure 1. Unenhanced CT scan shows calcified hypodense nodule in segment VII of the liver.

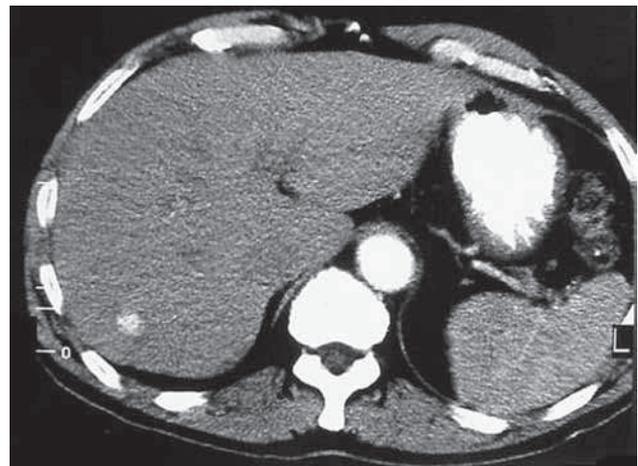


Figure 2a. Contrast-enhanced CT scan shows no enhancement in the hepatic arterial phase.



Figure 2b. Contrast-enhanced CT scan shows no enhancement in the portal venous phase.

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ΑΡΧΕΙΑ ΕΛΛΗΝΙΚΗΣ ΙΑΤΡΙΚΗΣ 2012, 29(5):642–643

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miliary tuberculosis is an uncommon diagnosis. Hepatic involvement is seen in less than 1% of all cases of tuberculosis. Even less common is the finding of tuberculoma or tuberculous liver abscess

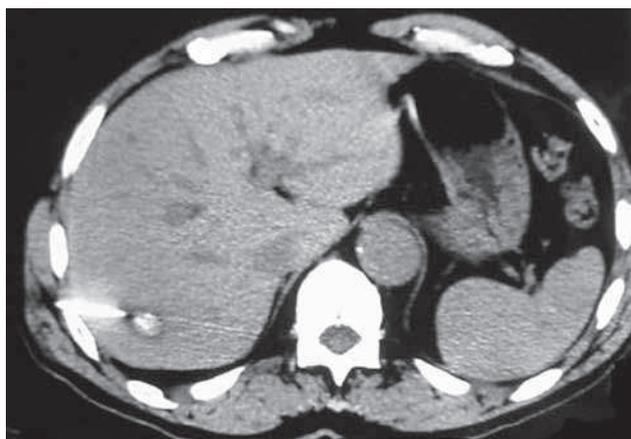


Figure 3. Percutaneous biopsy under CT-guidance.

without clinical evidence of tuberculosis elsewhere. It usually presents as a protracted illness, frequently associated with jaundice and hepatomegaly. It can therefore mimic primary or metastatic liver malignancies.

At radiography liver tuberculosis may appear micronodular (miliary) or macronodular form. Miliary liver disease manifests as multiple tiny, low-attenuation foci at CT, ranging in size from 0.5 to 2 mm which may not be detected on CT. Imaging findings usually demonstrate an enlarged liver and spleen that may contain multiple non-specific, low attenuation lesions. These hypodense foci mimic neoplastic, inflammatory and other infectious diseases. The macronodular form, the so-called tuberculoma is rare. Macronodular hepatic tuberculoma more than a few centimeters in diameter is much more rare, and only a few reports have described its CT appearance. Giant nodular lesions greater than 3 cm in diameter are distinctly rare.

Liver US scan demonstrates a homogeneously hypoechoic well-defined lesion. On CT scans a single tumorlike mass (hypoattenuate lesion 1–3 cm in diameter), is seen, in a diffusely enlarged liver. On contrast-enhanced images, early-stage lesions may demonstrate central enhancement, or an enhancing peripheral rim, whereas more

advanced lesions may demonstrate calcification. A large abscess may show thin rim enhancement and a solid tuberculoma may demonstrate homogeneous contrast enhancement. Calcifications in the tuberculoma may increase in number, enlarge, or remain unchanged at different stages of healing.

Reports on MR appearances of hepatic tuberculoma are few. On T1WI, lesions appear hypointense because of combined effects of caseation necrosis, liquefied necrosis, proliferation of fibrosis and calcification. On T2-weighted images, the lesion is hyperintense with a less intense rim relative to the surrounding liver.

However, in reported cases, the CT findings of macronodular tuberculomas are considered variable and nonspecific. Hepatic macronodular tuberculomas are not uncommonly misdiagnosed as primary malignant tumor, metastases or pyogenic abscess by imaging studies, and the definite diagnosis is usually established by liver biopsy.

The prognosis of hepatic macronodular tuberculoma is usually very good with effective treatment. A greater awareness of this rare clinical entity may prevent needless surgical intervention.

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