JGH Journal of Gastroenterology and Hepatology
JGHF
doi:10.1111/j.1440-1746.2011.06793.x

EDUCATION AND IMAGING

Hepatobiliary and Pancreatic: Inflammatory pseudotumors of the liver

Inflammatory pseudotumors are rare disorders that have been described in a variety of organs including the lung, liver, stomach, orbit and central nervous system. The cause of the lesions remains unclear but some may be related to unusual infections while others may be an unusual reaction to an infection. Histologically, the inflammatory mass consists of a fibrous stroma and an infiltrate of chronic inflammatory cells, particularly plasma cells. A characteristic appearance is that of a whorled pattern of fibrosis. In the liver, lesions are usually single but a minority of patients have multiple lesions. The disorder can occur at any age but may be more common in males than females. Typical symptoms include fever, malaise, weight loss and upper abdominal pain. Most patients have an elevated white cell count, erythrocyte sedimentation rate and C-reactive protein (CRP) and some have changes in liver function tests, particularly an elevated level of alkaline phosphatase. With ultrasonography, the typical appearance is that of a non-specific hypoechogenic solid mass. With computed tomography (CT), lesions are hypodense in relation to liver parenchyma on precontrast images and show peripheral enhancement with contrast, particularly on delayed phases. With magnetic resonance imaging (MRI), lesions are hypointense in relation to the liver on T1-weighted images and hyperintense on T2-weighted images. With intravenous contrast, there is peripheral enhancement on delayed phase images and increasing enhancement of central areas. The peripheral enhancement is thought to be related to the slow washout of contrast material in inflamed fibrous tissue. The differential diagnosis includes liver abscesses, metastases and primary tumors such as cholangiocarcinoma and hepatocellular carcinoma. Some lesions regress spontaneously while others have been treated with steroids, antibiotics and surgical resection.

The patient illustrated below was a 13-year-old girl who described a 10-day history of fever and weight loss and was found to have an enlarged liver on physical examination. Blood tests revealed an elevated white cell count (16.5×10^9/L) and an elevated CRP (18.5 mg/dl or 185 mg/L). An ultrasound study revealed three solid liver masses. An MRI examination confirmed the presence of three mass lesions that were hypointense on T1-weighted images, minimally hyperintense on T2-weighted images and with hyperintense peripheral halos. After the injection of intravenous contrast, the T1-weighted image showed central enhancement on the arterial phase (Figure 1) and peripheral ring enhancement on the delayed phase (Figure 2). Histological assessment of a CT-guided liver biopsy was consistent with an inflammatory pseudotumor and she was treated with oral corticosteroids. Treatment was followed by regression of the lesions.

Contributed by
D Herek & N Karabulut
Department of Radiology, Pamukkale University, Denizli, Turkey

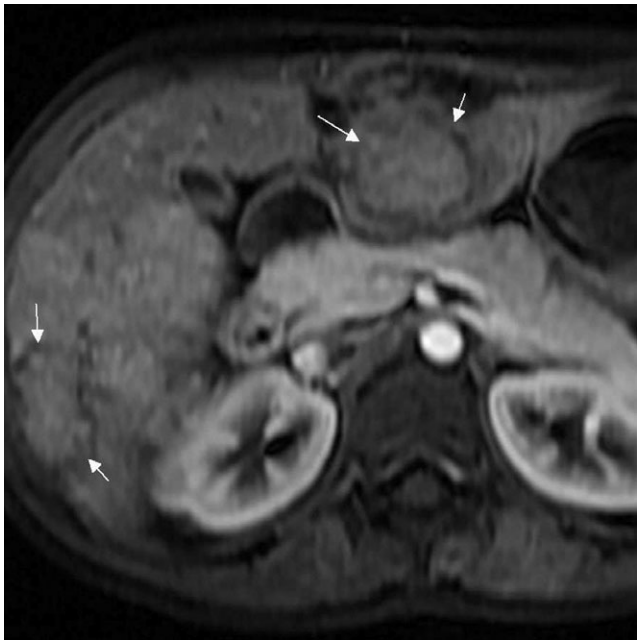

Figure 1

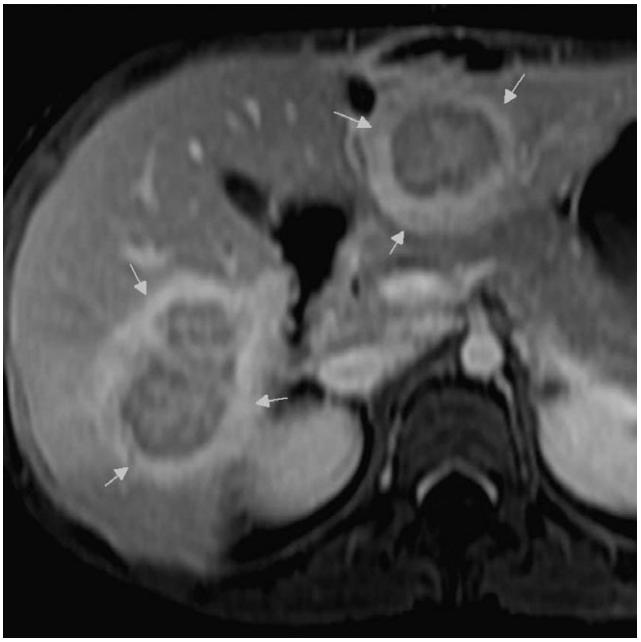

Figure 2