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Case Report
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Misdiagnosing Hepatic Inflammatory Pseudotumor as Hepatocellular Carcinoma: A Case Report

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Abstract

A 61-year-old Chinese male was found to have a lesion in the left liver on routine body check-up. Laboratory tests revealed no abnormalities except for a rise in C-reactive protein (CRP). Computed tomography (CT) showed features suggestive of hepatocellular carcinoma (HCC). The patient underwent liver IVb segmentectomy and cholecystectomy. Histopathology showed features of hepatic inflammatory pseudotumor. The CRP decreased to close to normal on postoperative day 9. The patient was discharged home well on postoperative day 11.

Keywords: Hepatic inflammatory pseudotumor; Hepatocellular carcinoma; Hepatectomy; Cholecystectomy

Introduction

Inflammatory pseudotumor (IPT) is rare and it is characterized by chronic infiltration of inflammatory cells with areas of fibrosis [1]. Brunn first described pulmonary IPT in 1939 [2]. IPT occurs usually in the lung and rarely in the parotid gland, pleura, stomach, ovary and liver. Hepatic inflammatory pseudotumor (HIPT) was first described by Pack and Baker in 1953 [3]. So far, more than 200 cases of HIPT have been reported in the medical literature [4]. It is a challenge to diagnose HIPT because of its rarity, indistinctive clinical manifestations and non-typical radiological features. It is easy to misdiagnose HIPT as other benign or malignant hepatic tumors.

We herein report one patient with HIPT which mimicked as hepatocellular carcinoma (HCC).

Case Presentation

A 61-year-old Chinese male was found to have a lesion in the left liver on routine medical check-up. There was no complaints and physical examination showed no abnormalities.

Laboratory tests showed normal liver function, hemoglobin, white cells and platelet counts. However, the C-reaction protein (CRP) was raised to 60.4 mg/L. The hepatitis B e antibody and hepatitis B core antibody were positive while the hepatitis B surface antigen and anti-hepatitis C virus were both negative. The α-fetoprotein, carcinoembryonic antigen, carbohydrate antigen19-9, carbohydrate antigen125, carbohydrate antigen153 and des-γ-carboxy prothrombin were all normal.

Chest radiography revealed no abnormalities. An ultrasound revealed a hypoechoic mass, 68 x 50 mm, in segment IV of liver. The lesion had irregular borders and heterogeneous internal echo. Contrast-enhanced computed tomography (CT) revealed a quasi-circular, low density mass of 7 x 5 x 5 cm, with indistinct borders and heterogeneous density (Figure A). The lesion was enhanced unevenly in the arterial phase (Figure B) with contrast washout in the venous phase (Figure C).

The patient underwent IVb segmentectomy and cholecystectomy. Grossly the mass was quasi-circular, solid, 7 x 5 x 5 cm in size, and was located in segment IVb of the liver. The lesion was close to the gallbladder. The liver showed no evidence of cirrhosis. There was no enlarged lymph node. There were no invasion into adjacent organs, extrahepatic metastases and peritoneal seedlings.

The operation took 145 minutes. The time of the Pringle's maneuver was 12 minutes and the blood loss was 100 ml.

The surgical specimen showed a fishlike and uniform mass (Figure D) and histopathology revealed a hepatic inflammatory pseudotumor. The lesion contained dense collagen fiber bundles

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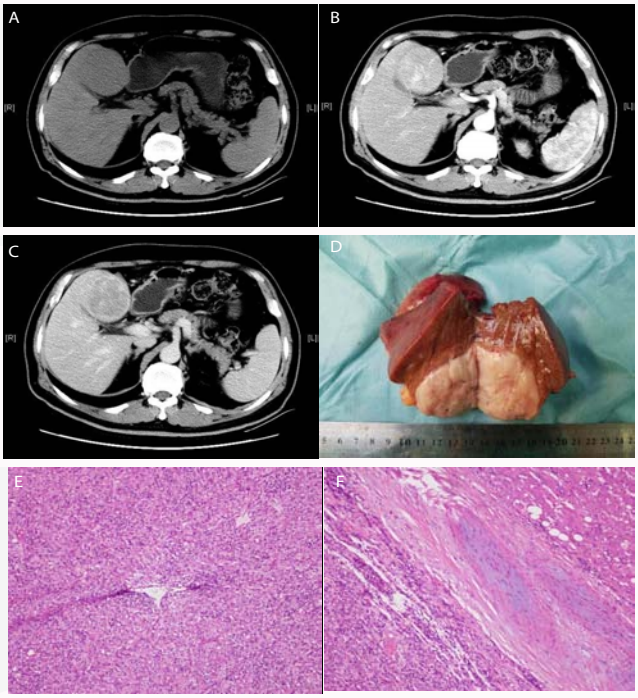

Figure: Abdominal computed tomography revealed a large, solid mass (7 cm in size) in segment IV of liver. Contrast-enhanced computed tomography (CT) imaging revealed a quasi-circular, low density mass of 7 x 5 x 5 cm with unclear borders and heterogeneous density (Figures A). The lesion was enhanced unevenly in the arterial phase (Figures B) and washout in the venous phase (Figures C). The surgical specimen showed a fishlike and uniform mass (Figures D) and histopathological examination revealed a hepatic inflammatory pseudotumor. The lesion contained dense collagen fiber bundles which were disorderly arranged, dispersed with fusiform myofibroblasts / fibroblasts without any atypia. The lesion contained diffuse infiltration of chronic inflammatory cells, mainly plasma cells and lymphocytes (E). The thickened wall and luminal stenosis in hepatic vein led to the formation of non-inflammatory venous occlusion (F).

which were disorderly arranged, and dispersed with fusiform myofibroblasts / fibroblasts without any atypia. It contained diffuse infiltration of chronic inflammatory cells, mainly plasma cells and lymphocytes (Figure E). A thickened wall and luminal stenosis in the hepatic vein led to the formation of non-inflammatory venous occlusion (Figure F).

The CRP decreased to 11.2 mg/L on postoperative day 9. The patient was discharged home well on postoperative day 11.

Discussion

HIPT is rare. The etiology and pathogenesis of this disease is not clear. Some researchers have demonstrated that the etiology and pathogenesis of HIPT may be related to factors such as infection, immune response, radiation, and chemotherapy [5].

HIPT can occur at any age. The ratio of male/female in adult HIPT ranged from 1:1-3.5:1 [6]. Patients with HIPT often present with atypical clinical symptoms such as abdominal pain, fever and weight loss, and they often have no history of hepatitis and cirrhosis. There is no clear correlation with hepatitis B viral infection. The liver function and tumor markers are usually normal or just slightly elevated. Laboratory tests may reveal an inflammatory process, with leukocytosis or increased CRP. Radiological features are atypical. HIPT is often shown to have hypo- or isodensity on CT, hypo- or isointense on T1WI and hyper- or isointense on T2WI on magnetic resonance imaging. Without histopathological studies, it is difficult to arrive at a correct diagnosis and HIPT is easy to be misdiagnosed as other liver tumors.

Our patient was completely asymptomatic. The HBeAb(+) and HBcAb(+) revealed a past history of HBV infection. CT showed a liver mass with low density which enhanced in the arterial phase. We clinically misdiagnosed this lesion as hepatocellular carcinoma before surgery because of the laboratory and medical imaging findings.

Percutaneous needle biopsy was not done on this patient because of the potential risk of tumor seeding along the needle tract. There have been reports on malignant conversion of HIPT [7].

This patient had elevated CRP before surgery. CRP is an acute-phase protein created by the liver. There have been reports which showed that an increase in CRP was associated with severity of inflammation in several liver diseases, such as chronic hepatitis B&C and HCC [8-11]. The average level of CRP in HCC has been reported to be 30.78±15.17 mg/l (normal 0.78±1.07 mg/l) [12]. Several case reports have also revealed that the CRP in HIPT was raised [13, 14]. In our patient, the preoperative CRP of 60.4 mg/L and a postoperative CRP level of 11.2 mg/L demonstrated that the HIPT was associated with the raised CRP.

In summary, a patient with HIPT who presented with features mimicking HCC was reported. A preoperatively raised CRP was the only hint which suggested that our patient might had HIPT instead of HCC.

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