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Case Report

Primary hepatic diffuse large B-cell lymphoma with favorable response to immunochemotherapy

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ABSTRACT

Primary hepatic lymphoma (PHL) is a tumor confined to the liver without involvement of the spleen, lymph nodes, or bone marrow. It is an extremely rare malignancy, accounting for only 0.0016% of non-Hodgkin lymphoma worldwide. Generally, a liver biopsy is required to make a diagnosis of PHL due to the lack of specific clinical manifestations, biochemical indicators, and image features. However, there is currently a lack of consensus on the standard treatment of PHL. Chemotherapy can be an effective treatment due to the tumor's chemosensitivity. Herein, we report a 78-year-old male with a confirmed diagnosis of primary hepatic diffuse large B-cell lymphoma via liver biopsy. We treated the patient with immunochemotherapy using Rituximab-COP combination. The tumor had a favorable response, without recurrence for over a three-year period of follow-up. Even though the reported median survival of PHL is 15 months, appropriate treatment can provide a chance for sustained remission.

1. Introduction

Primary hepatic lymphoma (PHL) is an extremely rare tumor confined to the liver without any involvement of the spleen, lymph nodes, bone marrow, peripheral blood, or other tissues.[1,2] Due to this disease's rarity and the lack of specific clinical manifestations, it is poorly understood and easily misdiagnosed. Herein we present a case of primary hepatic diffuse large B-cell lymphoma with favorable response to immunochemotherapy.

2. Case report

A 78-year-old man presented with dull abdominal pain over the right upper quadrant for one month. Accompanying symptoms included abdominal fullness, hiccups, and mild shortness of breath, and his body weight decreased 15 kg in the prior 3 months. He denied other specific complaints such as nausea, vomiting, diarrhea, jaundice, fever, chills, and night sweating. In addition, he had no past history of chronic hepatitis B or C. Physical examination revealed hepatomegaly without splenomegaly or lymphadenopathy. The patient had an Eastern Cooperative Oncology Group (ECOG) performance-status score of 1.

A peripheral blood test of the patient revealed a normal white blood cell count (8200/μL) and platelet count (342 × 10^3/μL), but mild anemia (hemoglobin 9.6 g/dL). Additionally, liver function tests were abnormal, with elevated aspartate aminotransferase (AST)/alanine aminotransferase (ALT) (85/73 IU/L) and alkaline phosphatase/r-glutamyl transpeptidase (143/435.8 IU/L). Bilirubin level was within the normal limit. Tumor markers were normal and described as follows: alpha-fetoprotein (AFP) 3.4 ng/mL (normal range <20 ng/mL), carcinoembryonic antigen (CEA) 1.0 ng/mL (normal range <5 ng/mL), and cancer antigen 19-9 (CA19-9) 7.0 U/mL (normal range <37 U/mL). However, lactic dehydrogenase (LDH) was increased (403 IU/L) (normal range 85–227 IU/L). Multiple hypoechoic lesions in liver (Fig. 1) were found through abdominal echocardiographic imaging. Computed tomography (CT) of the abdomen revealed numerous poor enhancement lesions (Fig. 2A) in the liver, with mild rim enhancements in the arterial phase (Fig. 2B). Furthermore, the hepatic lesions on the liver magnetic resonance imaging (MRI) were low signal in the T1-

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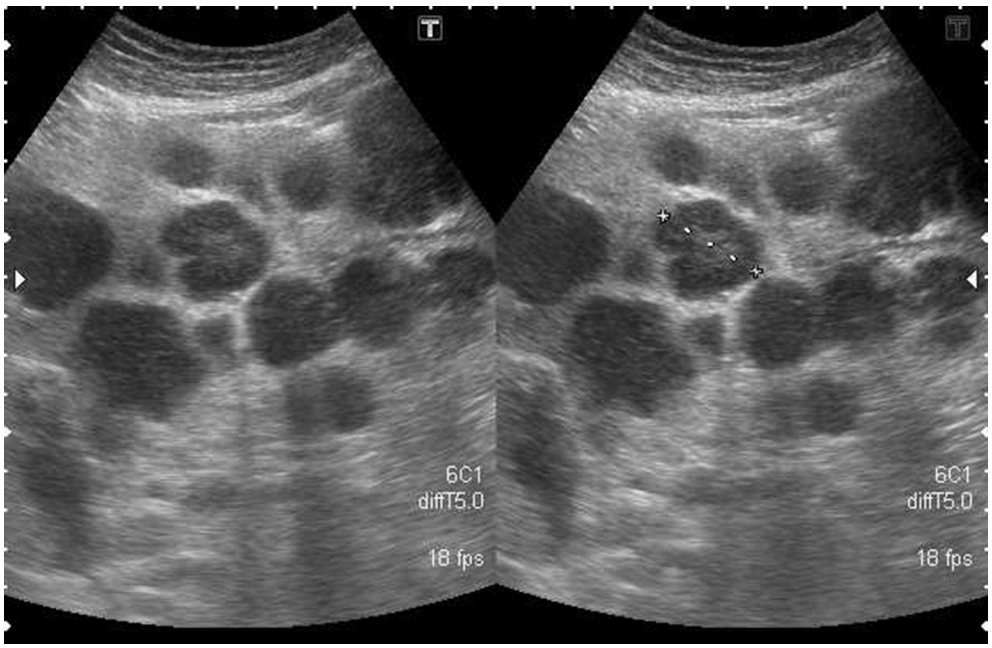

Fig. 1. Abdominal echo revealed multiple hypoechoic lesions in liver.

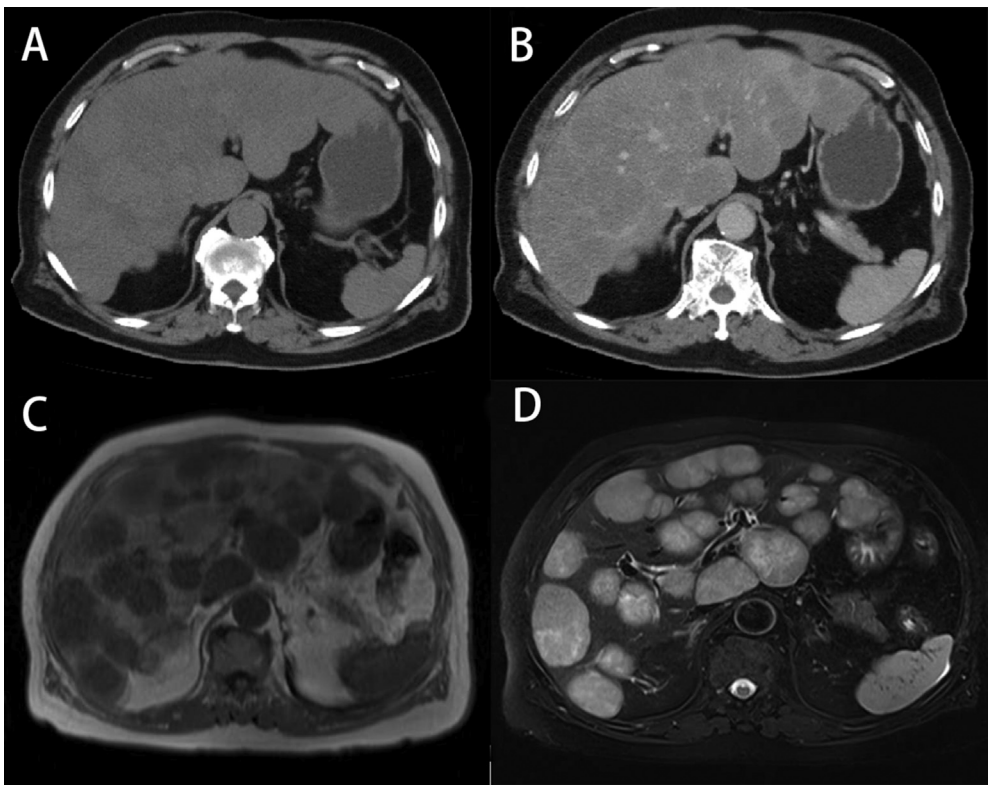

Fig. 2. (A) Pre-contrast CT of abdomen revealed numerous nodular hepatic lesions. (B) Post-contrast CT of abdomen revealed the hepatic nodular lesions with poor enhancement in the arterial phase. (C) Low signal hepatic lesions were noted on the liver MRI T1-weighted image. (D) High signal hepatic lesions were noted on the liver MRI T2-weighted image.

weighted image (Fig. 2C), and high signal in the T2-weighted image (Fig. 2D).

The patient received echo-guided liver biopsy because of the space-occupying lesions, though he had normal values of AFP, CEA, and CA19-9 and no typical radiologic features of hepatocellular carcinoma. In addition, the findings on gastroscopy and colonoscopy were negative. However, the pathology report of liver biopsy showed liver tissue infiltrated by atypical lymphocytes in diffuse sheets (Fig. 3A). These atypical lymphocytes were medium to large-sized with scanty cytoplasm (Fig. 3B). The patient's immunohistochemical stain was positive for CD20, CD10, CD21, bcl-2, bcl-6, and MUM-1 (Fig. 3C), and negative for CD3, cyclin D1, and

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