Pedunculated hepatocellular carcinoma and splenic metastasis

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INTRODUCTION

The pedunculated hepatocellular carcinoma (P-HCC) which protrudes from its pedicel or presents as epibiotic mass almost making no invasion into the liver, is a rare exception to the gross type[1,2]. To date, only a few cases have been reported[2-4]. The common sites of extrahepatic metastases in patients with hepatocellular carcinoma (HCC) are the lungs, regional lymph nodes, kidney, bone marrow and adrenals, which is via hematogenous metastasis. The P-HCC directly invading the spleen not via hematogenous metastasis is extremely rare. In this report, we describe a case of P-HCC which directly involved the spleen.

CASE REPORT

A 68-year-old man with HBV-related cirrhosis was admitted to our hospital because of left flank pain and loss of weight for a forty-day duration. A mass lesion could be touched in left upper abdomen. AFP level was 166.02 ng/mL, CA125, CA199 and CEA were negative. HBVDNA level was $1.51 \times 10^4$ copies/mL. Sonographic and CT scan showed a 17 cm × 14 cm × 10 cm tumor between left hepatic lobe and spleen, which also involved the upper pole of spleen and almost made no invasion into the liver (Figure 1). Celiac and hepatic arteriography displayed mass lesions taking blood from left hepatic artery, splenic artery and left inferior phrenic artery, and transarterial chemoembolization was performed (Figure 2). Image-guided biopsy of tumor was consistent with HCC. At operation, mild cirrhosis was found in the liver, a large tumor lied in the left upper abdomen between left hepatic lobe and spleen. The upper pole of spleen was involved, almost making no invasion into the liver, gastrointestinal and pancreas (Figure 3). He underwent spleen, tumor and partial left hepatic lobe resection in January 2008. The loss of blood was 1000 mL in total. HCC and splenic metastasis were confirmed by pathological examination (Figure 4). The postoperative clinical course was uneventful, with a negative follow-up for clinical and radiological investigation at 17 mo after surgery.

DISCUSSION

The P-HCC has been reported to occur in 0.24%-3.0% of all HCC patients[10]. Hematogenous metastasis to spleen...
is very rare with a reported prevalence of 0.7%-0.8% in HCC patients\cite{6,7}, but it is probably more common than direct metastasis.

Preoperative differential diagnosis between metastatic or primary splenic tumors is difficult. High levels of AFP (> 1210 ng/mL) may contribute to the diagnosis of P-HCC. With improvement in diagnostics such as angiography and CT scan, the preoperative diagnosis is feasible in patients with negative or mild increase of AFP level. In this patient, selective celiac arteriography showed a tumor fed by hepatic artery, splenic artery and left inferior phrenic artery, from which we can judge the blood supply and diagnose the tumor. Image-guided biopsy of tumor was utilized to confirm the presence of HCC when the imaging study could not draw a conclusion.
The intrahepatic metastasis from HCC occurs mostly commonly via the portal vein, which is followed by hematogenous metastasis to the lungs and bone, lymph node metastasis, direct metastasis and peritoneal metastasis. Previous cases in the literature with HCC and splenic metastasis are summarized in Table 1 [6-17]. Metastasis to spleen occurred hematogenously in previous cases. In the present case, the splenic metastasis occurred directly. The cumulative survival rates of extrahepatic metastasis of HCC were very poor. Such lesions in the case may not represent remote metastases, but they are actually HCC with extended invasion to the spleen. Whether splenic metastasis happens directly or hematogenously should be distinctive and the resection of P-HCC and splenic metastasis can be curative in the former. The distinction between the two is important, as it affects the stage, prognosis and management of the patient. Although the long-term outcome of resection for such splenic metastasis is unknown, direct splenic metastasis of P-HCC can be easily controlled to obtain gross disease clearance and may achieve better long-term survival.

In conclusion, splenic metastases of P-HCC are difficult to distinguish from primary splenic tumors, even with modern imaging studies. The treatment involves resection and surgical exploration, whenever possible.

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S- Editor Tian L  L- Editor Ma JY  E- Editor Lin YP

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