



Hepatocellular carcinoma presenting as a huge intra-abdominal mass: A case report

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ABSTRACT

Hepatocellular carcinoma (HCC) is the most common primary malignant tumor of the liver and is generally associated with hepatitis B or C virus-related cirrhosis. A giant intra-abdominal HCC mass that fills nearly the whole abdomen is not often reported in the literature. In this report, we present a case in which a patient with hepatitis B developed a giant intra-abdominal mass that originated from segment three of the liver and infiltrated the stomach and transverse colon. We were able to resect the tumor without leaving any tumor tissue behind. Although HCC presenting as a huge mass with invasion of the gastrointestinal tract is uncommon, this pathology should be considered in the differential diagnosis of giant intra-abdominal masses. The case presented here also indicates that surgical resection is possible in selected patients.

Keywords: Hepatocellular carcinoma, liver, intra-abdominal neoplasms, surgery

INTRODUCTION

Hepatocellular carcinoma is the most common primary malignant tumor of the liver. Generally, 90% of HCC is associated with cirrhosis. Compared to other causes of cirrhosis, cases with chronic hepatitis B virus (HBV) or hepatitis C virus infections have shown a higher risk of developing HCC. HCCs that are very large in size and mass develop mostly in non-cirrhotic livers (1). HCC characteristically has a soft consistency in nature and has an extensive growth pattern, but it rarely infiltrates the gastrointestinal (GI) tract directly (2).

In this case report, we describe an advanced HCC patient with extensive extrahepatic tumor growth and direct invasion of the stomach and colon. The tumor was surgically extirpated with segment three of the liver en bloc and included the affected areas of the transverse colon and stomach.

CASE PRESENTATION

A 44-year-old HBV carrier male presented with dyspnea, distension of the abdomen, nausea, vomiting,

abdominal pain, weight loss, and fever. Physical examination revealed a huge abdominal mass in this patient. Computerized tomography (CT) scan revealed that this mass was 28x19x23 cm in size, originated from segment three of the liver, and had extrahepatic growth with some central necrosis. There were minimal ascites and dilated venous vessels in the abdomen. The diameters of the intrahepatic and extrahepatic bile ducts were normal (Figure 1).

Biochemical analyses performed at the time of admission indicated that his alpha-fetoprotein value was >350,000 ng/mL (normal values: <13.4), alanine aminotransferase value was 11 U/L (normal values: 0-55), and aspartate aminotransferase value was 123 U/L (normal values: 10-40).

Surgical intervention was performed because of the dyspnea, orthopnea, gastrointestinal passage problems and cachexia observed in the patient. The mass was filling the abdomen and infiltrating the stomach,

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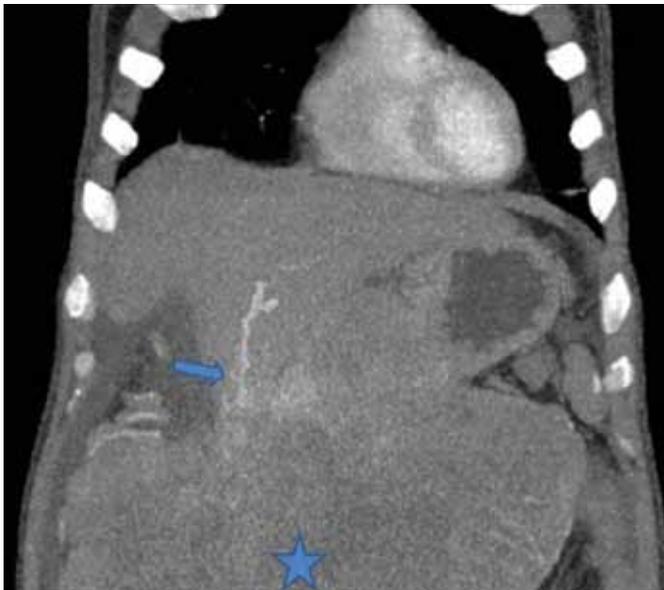


Figure 1. Coronal reformation image of multi-detector computed tomography. The large mass lesion shows continuation with the parenchyma of the left hepatic lobe. The prominent feeding vessel originating from the left hepatic artery is clearly shown (arrow).



Figure 2. Perioperative macroscopic appearance of the HCC mass.

transverse colon and mesocolon (Figure 2). The tumor was successfully extirpated with the transverse colon, a part of the greater curvature of the stomach and segment three of the liver. Surgery was completed with end colostomy.

In the macroscopic examination, the huge tumor mass was found to be 30x30x20 cm in size, 16 kg in weight, and contained the liver, colon, and gastric wall. The tumor extensively infiltrated both the stomach and colon. The microscopic examination revealed that the tumor was making nests and macrotrabecular structures in the delicate stroma, which is rich in vascular structures. The tumor cells had large round nuclei with a prominent nucleolus and round polygonal eosinophilic cytoplasm. The atypia was prominent in some sections. Vascular invasion was not detected. There was active cirrhosis with pseudolobule formations in the surrounding liver. Although

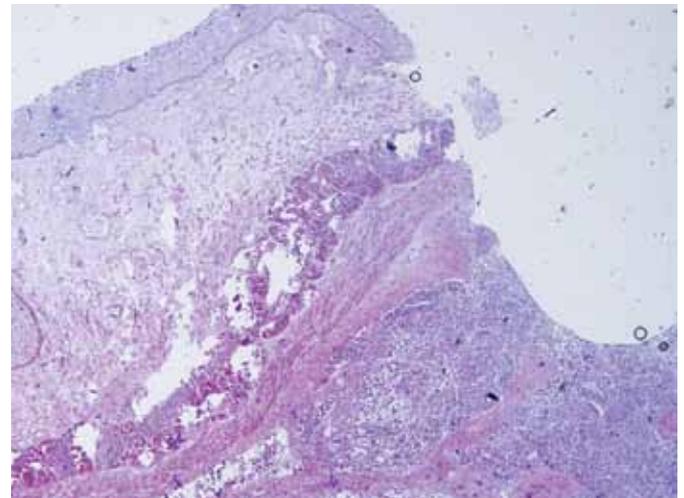


Figure 3. Infiltration of the transverse colon serosa by hepatocellular carcinoma (H&E, 40X).

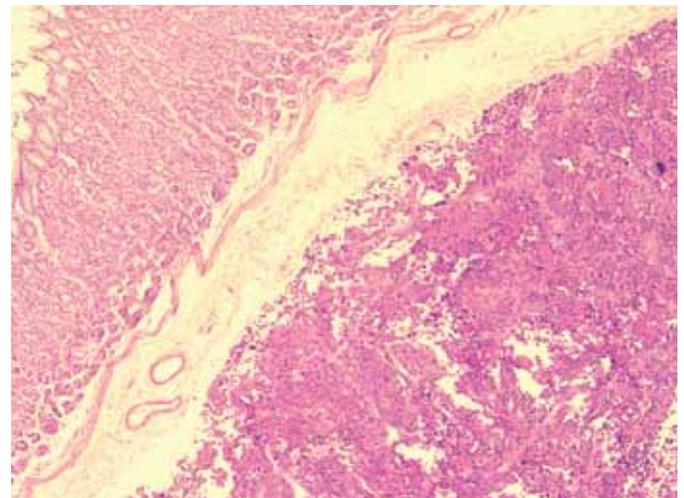


Figure 4. Hepatocellular carcinoma infiltration to the submucosal layer of the gastric wall (H&E, 100X).

the tumor invaded the transverse colon and gastric wall, the resected tissue had tumor-free surgical margins (Figure 3, 4). The immunohistochemical examination confirmed the diagnosis of hepatocellular carcinoma [pancytokeratin (+), Hepatocyte Paraffin 1 immunostaining intracytoplasmic (+), polyclonal CEA intracytoplasmic canalicular (+)].

Following recovery of his respiratory and gastrointestinal symptoms, the patient was discharged on the sixth postoperative day and referred to the Department of Medical Oncology. Unfortunately, the patient died of multi-organ failure following the development of new HCC foci twelve months after the operation.

DISCUSSION

There are few published case reports describing huge HCC masses with extensive extrahepatic growth in the literature (1,3). These masses may be pedunculated HCC, which was seen in the case presented here and has been reported to occur in

0.24%-3.0% of HCC patients (4). Thus, HCC should be considered as a rare cause of giant abdominal masses. Although non-surgical treatment modalities are applicable in HCC, the most effective treatment is surgical resection (5).

Involvement of the GI tract by HCC is an uncommon event. Although this occurrence was observed in approximately 10% of patients with HCC in a study of postmortem examinations, the incidence is reported to be 0.5% and 2% of clinical HCC cases (6,7). The organs involved included the duodenum, stomach, colon, or jejunum (8). In the case presented here, the tumor extensively grew extrahepatically and directly invaded the stomach and colon. A complete en bloc surgical resection of the tumor with negative margins is the ideal treatment to control symptoms and obtain oncologic cure in patients with an appropriate hepatic functional reserve (9). A disrupted tumor capsule, daughter nodules, positive surgical resection margins, and blood transfusions are predictive factors of recurrence (10).

In conclusion, HCC should be considered among the causes of huge abdominal masses. This report supports the view that tumor size and involvement of the GI tract are not absolute preclusive situations for surgical resection. Giant HCCs can be resected safely in selected patients, and surgical resection is an effective treatment to control symptoms and delay progression, as demonstrated in our patient.

Ethics Committee Approval: N/A.

Informed Consent: Written informed consent was obtained from patient and patient's parents who participated in this case.

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