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Case Report

Acute haemoperitoneum due to small bowel metastases from hepatocellular carcinoma in a long term survivor following previous rupture

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We report a 75-year old patient, presenting with acute abdomen and hemorrhagic shock. He provided history of right hemihepatectomy performed 5 years ago, for ruptured hepatocellular carcinoma on a background of Hepatitis B virus associated liver cirrhosis. A computerized tomography scan showed 5 cm-sized mass exophytic lesion, in the small bowel with haemoperitoneum. An emergency laparotomy and small bowel resection, with primary anastomosis was performed. Histology showed Hep Par 1 stain reactive cells, on the serosal surface of the small bowel. A final diagnosis of metastatic hepatocellular carcinoma was made. **(Ann Hepatobiliary Pancreat Surg 2018;22:416-418)**

Key Words: Haemoperitoneum; Hepatocellular carcinoma; Metastasis; Rupture

INTRODUCTION

Metastasis of hepatocellular carcinoma (HCC) to the gastrointestinal tract, is rare with an incidence of 4-12% in autopsy series.[1] Gastrointestinal metastasis can present electively as abdominal pain, vomiting, and stool occult blood positive or emergently, as bleeding from the gastrointestinal tract.[2] Extraluminal bleeding presenting with haemoperitoneum is rare and unreported, on a background of prior history of rupture with long-term survivorship. We report the first case of HCC metastasis to the ileum, presenting with acute haemoperitoneum and haemorrhagic shock.

CASE

A 75-year-old gentleman presented to the emergency unit, with sudden onset lower abdominal pain for 24 hours. Pain was continuous, and associated with vomiting and diarrhea. He had history of hepatitis B liver cirrhosis and right hemihepatectomy, for a ruptured HCC five years ago. Six monthly ultrasound and alpha-fetoprotein surveillance was performed, which did not show recurrence. On examination, blood pressure was 90/55 mmHg, heart rate was 59 beats per minute (he was on beta-blocker), and he was saturating at 100% on room air. Abdominal examination revealed right iliac fossa tenderness, with guarding. Full blood count showed haemoglobin 9.7 g/dL, total white cell count at 20×10^9/L, urea 11.1 mmol/L and creatinine 174 umol/L. Liver function test and coagulation profile were unremarkable. After intravenous hydration, a computerized tomography (CT) scan of the abdomen and pelvis was performed, which revealed a 5 cm enhancing mass adherent to the small bowel in the right flank, with associated hemoperitoneum (Fig. 1). Patient underwent emergency exploratory laparotomy and 5×4 cm-sized solid tumor was found, arising from the serosal surface of the ileum, 20 cm from ileocecal valve with associated 1200 ml of hemoperitoneum and clots. Segmental small bowel resection with stapled primary anastomosis, was performed. Histology showed invasion of small intestine serosa by HCC and Hepatocyte Paraffin 1 stains, con-

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firmed presence of hepatocytes (Fig. 2, 3). Patient had an uneventful recovery, and a staging CT scan of the thorax, did not reveal pulmonary metastases. After a multidisciplinary meeting, a follow-up plan for surveillance was decided. At 6 months of follow-up, patient has developed right 10th rib metastasis with chest wall pain, and this is treated symptomatically with local radiation. Liver function test, coagulation profile, alpha-fetoprotein, and CT scan of abdomen are unremarkable. He remains well and symptom free at 8 months follow-up, without adjuvant treatment.

DISCUSSION

HCC is 5th most common cancer globally, and the 3rd most common cancer-related death.[3] Liver dysfunction, rupture, and metastases are the three terminal outcomes which determine survivorship. Earlier, patients with rupture of HCC, were only offered best supportive palliative care; however surgical palliation is accepted as an option, in appropriately selected patients as observed with our patient, who survived 5 years after hepatic resection following a rupture. Extra-hepatic metastasis from HCC is commonly encountered in lung, lymph nodes, bones, heart, and adrenal glands. Gastrointestinal tract metastases are uncommon. Within the gastrointestinal tract, the most common site of metastasis is the stomach, followed by duodenum and colon.[4] Gastrointestinal tract bleeding from HCC metastasis, has been described in the upper and lower gastrointestinal tract, and can present as occult or frank intraluminal bleeding.[5,6] However intra-peritoneal rupture of HCC metastasis to the ileum, causing acute hemoperitoneum with shock, is the first to be reported in literature.

Various mechanisms of HCC metastasis, to the gastrointestinal tract have been proposed: direct invasion from a contiguous HCC, hematogenous metastasis and peritoneal seeding.[4] In our case, the most likely route of metastasis, was via peritoneal seeding following previous rupture. This is supported by the fact that tumor recurrence, was on the serosal surface of the ileum, as seen intraoperatively and from histopathological examination. Our patient developed rib metastasis at follow up after laparotomy, and it is possible that repeat rupture, has made patient vulnerable for hematogenous dissemination and rib metastasis.

In the largest case series published on metastatic HCC to the gastrointestinal tract, interval of metastasis from initial diagnosis of HCC was up to 24.3 months.[7] Our patient had an unusual late presentation of recurrence, given his index presentation as rupture was 5 years ago. It is interesting that despite 6 monthly transabdominal ultrasound scans, and alpha-fetoprotein surveillance, the tumor was

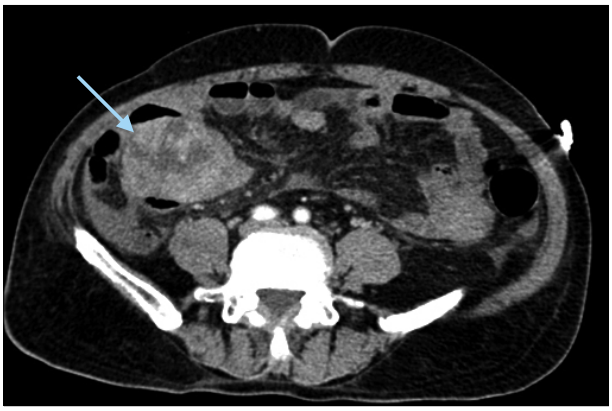

Fig. 1. Computed tomography showing a 5 cm-sized enhancing mass (arrow) in the right flank adherent to small bowel.

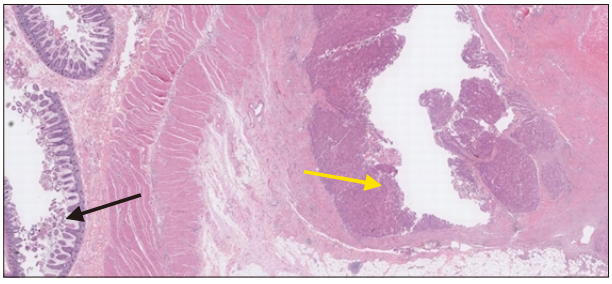

Fig. 2. Microphotography showing low power magnification showing normal intestinal mucosa (black arrow) and deposits of hepatocellular carcinoma on serosal surface (yellow arrow).

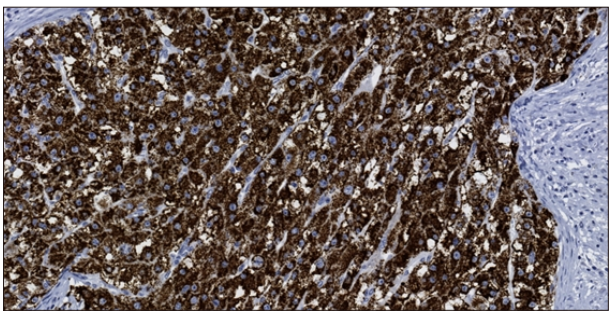

Fig. 3. Immunohistochemical stain finding: Hep Par 1 stain confirming presence of hepatocytes.

undetected. This highlights the fact that clinical examination of abdomen is equally important, to detect abdominal mass, and focused liver ultrasound can miss distant lesions. A high index of suspicion is required, in a patient with previously diagnosed HCC who presents to the emergency room with acute abdomen. Metastatic HCC patients can benefit from palliative surgery, in appropriate context as highlighted in our report.

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