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Case report

Hepatic artery pseudo-aneurysm rupturing into hepato-gastric fistula, a rare cause of massive upper gastrointestinal hemorrhage: Case report ☆,☆☆

Arkadeep Dhali, MBBS[a,*], *Avik Sarkar, MBBS, MD*[b], *Sukanta Ray, MBBS, MS, MCh*[a], *Dijendra Nath Biswas, MBBS*[b], *Gopal Krishna Dhali, MBBS, MD, DM*[c], *Ankit Mahajan, MBBS, MD*[c]

[a] *Department of GI Surgery, IPGME&R, School of Digestive & Liver Diseases, Kolkata, India*
[b] *Department of GI Radiology, IPGME&R, School of Digestive & Liver Diseases, Kolkata, India*
[c] *Department of Gastroenterology, IPGME&R, School of Digestive & Liver Diseases, Kolkata, India*

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ABSTRACT

Hepatic artery pseudo-aneurysm and hepato-fastric fistula are extremely rare clinical entities, which can be caused as complications of amoebic liver abscess. Herein, we report a 45- year old man, who presented with history of hematemesis since last 1 day, melena since last 3 days and fever since last 5 days. On physical examination, he was hemodynamically stable, pallor was noted. Abdominal examination revealed tenderness over the right-upper quadrant. Per-rectal examination showed evidences of melena. Esophagogastroduodenoscopy revealed stomach communicating anteriorly with the abscess cavity from the surrounding, possibly from liver. There was no evidence of fresh bleed during the procedure. The abscess was drained and sent for microbiological evaluation. Computed tomographic angiography revealed a well defined saccular outpouching arising from common hepatic artery with surrounding ill-defined hypodensity around segment V and IVb of liver. Patient underwent transfemoral endovascular coil embolization. Post embolisation, DSA showed complete occlusion of pseudo-aneurysm. He was discharged on oral metronidazole and was doing well on 8-month follow-up with no episodes of rebleed.

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* *Corresponding author*.
E-mail address: arkadipdhali@gmail.com (A. Dhali).
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Introduction

Hepatic artery pseudo-aneurysm (HAP) is a rare clinical entity, usually traumatic or iatrogenic in origin. Rarely it is caused by perihepatic inflammation and infections like cholecystitis, pancreatitis etc. [1]. Clinically it becomes apparent only when complications like intrahepatic or intraperitoneal rupture occurs. Amoebic liver abscess as a cause of HAP has been rarely reported in existing medical literature. Moreover, rupture of abscess into gastric cavity (hepato-gastric fistula) has been a unique presentation in our case. The diagnostic and successful therapeutic details are presented below. The case report was realized according to international SCARE guidelines [2].

Case report

Herein, we report a 45 year old man, with no known comorbidities, who presented to the emergency department with history of hematemesis since last 1 day. He had multiple bouts of vomitus which comprised of fresh blood. He also complained of melena since last 3 days and fever since last 5 days. There was no history of similar episodes in the past. He is a chronic alcoholic and smoker since last 20 years.

On physical examination, he was hemodynamically stable, pallor was noted. Abdominal examination revealed tenderness over the right-upper quadrant. Per-rectal examination showed evidences of melena.

Laboratory investigations showed hemoglobin level of 7 gm/dL, leukocytosis of 15000 /cu. mm.

Rest of the biochemical parameters (urea, creatinine, electrolytes, tranaminases, bilirubin, prothrombin time, INR) were with in normal limits.

He was initially treated with two units of blood transfusion. Post-transfusion hemoglobin was 11 gm/dL.

Transabdominal ultrasound showed heterogeneously hyper echoic lesion measuring in segments V and IVb of the liver suggestive of an abscess. Color doppler study showed "yin yang" pattern (Fig. 1) at the center of the lesion. Esophagogastroduodenoscopy (Fig. 2) was done which revealed a communication in the anterior wall of body of stomach, connecting to a cavity containing purulent material. The mouth of the cavity is wide and could accommodate the scope easily. This was suggestive of stomach communicating anteriorly with the abscess cavity from the surrounding, possibly from liver. There was no evidence of fresh bleed during the procedure. The abscess was drained and sent for microbiological evaluation.

Computed tomographic angiography (Figs. 3,4) was performed which revealed a well-defined, avidly enhancing saccular outpouching measuring 1.82 × 1.51 cm arising from common hepatic artery with surrounding ill-defined hypodensity measuring 10.39 × 7.61 cm around segment V and IVb of liver. Multiple air foci are also seen.

Patient was advised angioembolization of the pseudoaneurysm. After taking informed consent, patient underwent digital substraction angiography (DSA) via transfemoral route.

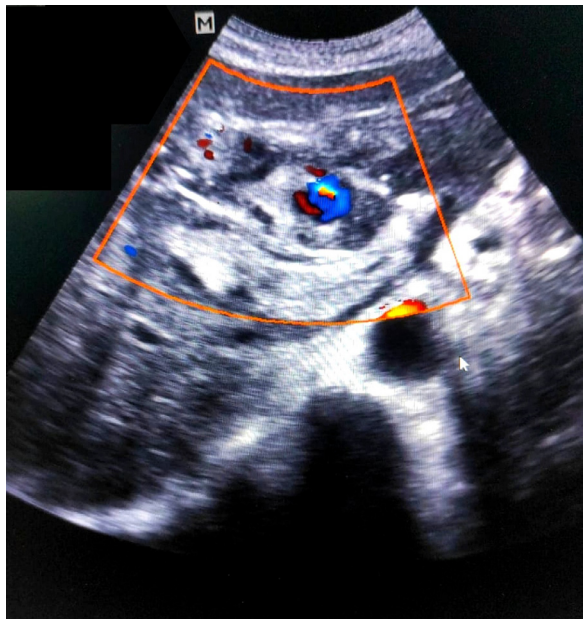

Fig. 1 – Transabdominal ultrasound showing heterogeneously hyper echoic lesion measuring in segments V and IVb of the liver suggestive of an abscess. Color doppler study showed "yin yang" pattern.

It confirmed (Fig. 5A) presence of pseudo-aneurysm arising from common hepatic artery.

He underwent transfemoral endovascular coil embolization. Post embolization, DSA showed complete occlusion of pseudo-aneurysm (Fig. 5B). Vascular supply to liver was well preserved. Microbiological examination of the aspirate was positive for amoebic antigen, although trophozoites were not found. There was no evidence of super added bacterial infection.

Patient tolerated the procedure well and the recovery was uneventful. He was discharged on oral metronidazole and was doing well on 8-month follow-up with no episodes of rebleed.

Discussion

Hepatic artery pseudo-aneurysm is a rare clinical entity, mostly extrahepatic (75%) in nature where the right hepatic artery is more commonly involved than the left.[3] Trauma (42%) is the leading cause behind the development of HPA followed by iatrogenic insult (34%) [4]. Amoebic liver abscess (ALA) is rarely known to cause HPA as well was hepatogastric fistula and such anecdotal cases should be reported to get knowledge about their clinicopathological behavior and standardize optimal treatment options since prospective studies are not feasible due to rarity of the disease and paucity of data. In tropical countries like India, amoebiasis is not uncommon. Yet, only 10% of these patients develop ALA [5]. Usually, these patients present with fever and abdominal pain of the right upper quadrant. Initial transabdominal ultrasound can detect these lesions and a computed tomography (CT) can

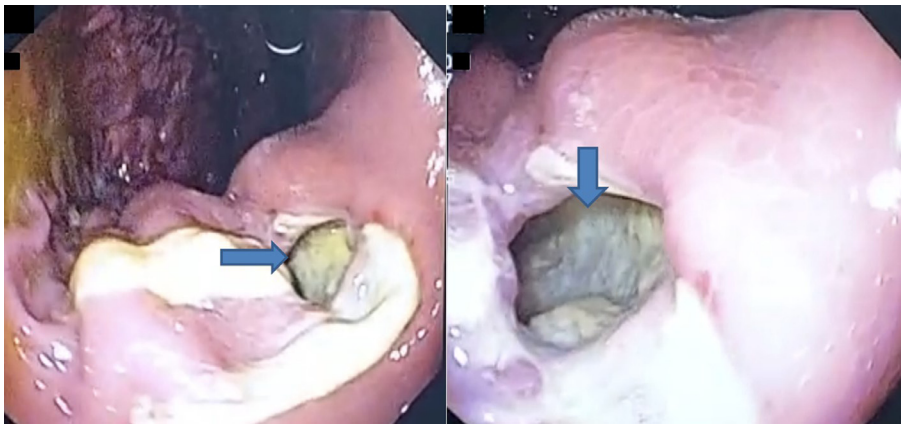

Fig. 2 – Esophagogastroduodenoscopy suggestive of stomach communicating anteriorly with the abscess cavity (blue arrow) from the surrounding, possibly from liver.

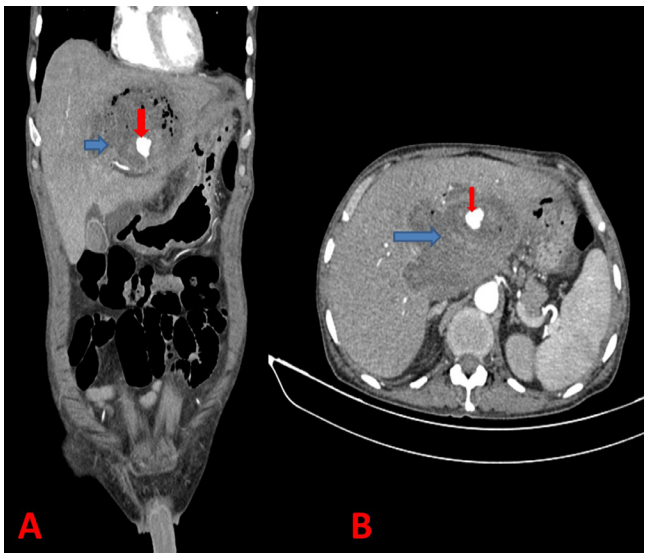

Fig. 3 – Computed tomographic angiography showing a well-defined, avidly enhancing saccular outpouching (red arrow) arising from common hepatic artery with surrounding ill-defined hypodensity (blue arrow) measuring 10.39 × 7.61 cm around segment V and IVb of liver. Multiple air foci are also seen.

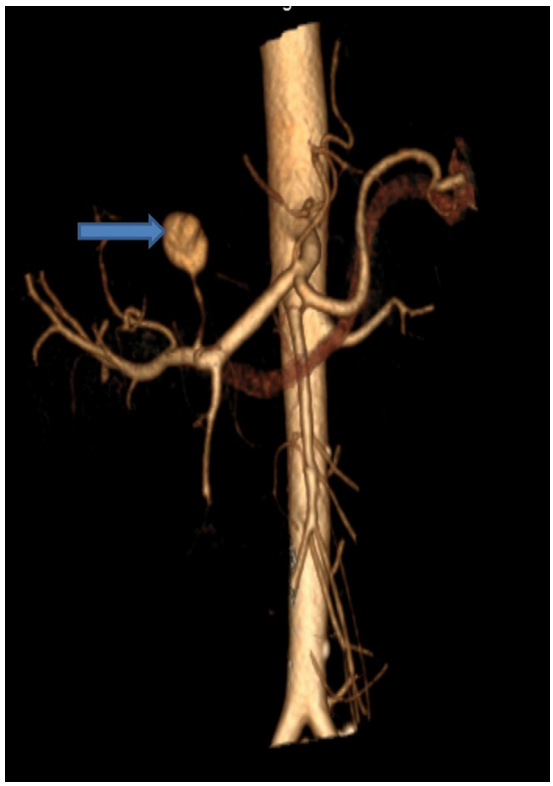

Fig. 4 – Computed tomographic angiography showing a well-defined, avidly enhancing saccular outpouching (blue arrow) measuring 1.82 × 1.51 cm arising from common hepatic artery.

better characterize it. Moreover, CT scan can detect complications like rupture and involvement of vascular structures. HPA is thought to be caused by the enzymatic action of the amoeba [6]. This can rupture into either peritoneal cavity or biliary tree. Although extremely rare, it can also rupture in to luminal visceral structures giving rise to enteric fistula [7]. In our case, the ALA along with the HAP ruptured into the body of stomach, an even rarer site. This atypical complication at an unusual site created a diagnostic dilemma. Although surgical interventions (ligation of hepatic artery, liver resection) were used to treat HAP, endovascular embolization is the current first line treatment. Surgery still plays an important role particularly if embolization fails or is not feasible.

Drainage of bile follows the path of least resistance. Hence preferential drainage through the high output internal biliary fistula often prevents its spontaneous closure. These patients might be cases of failure of expectant medical management and may require endoscopic papillotomy and stenting of the common bile duct. This technique is usually used in cases of external biliary fistulas and was utilized by Gandham et al. for hepatogastric fistula [8].

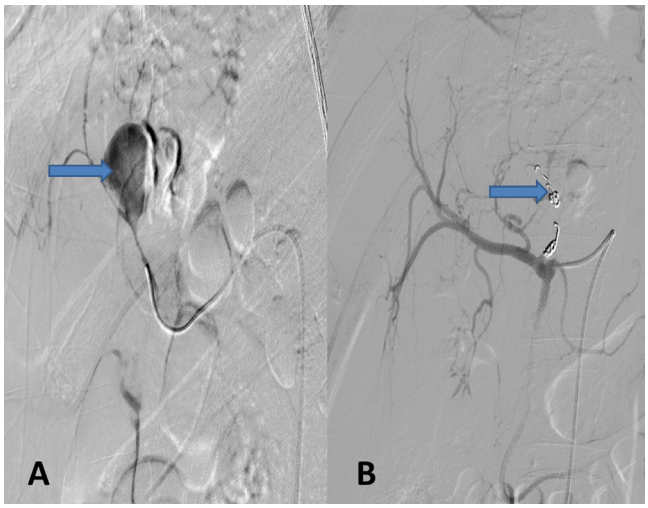

Fig. 5 – Digital substraction angiography (A) pre-embolisation (B) postembolisation.

Although these cases are associated with high morbidity and mortality, [9,10] timely diagnosis and intervention can provide acceptable outcome.

Patient consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Ethical committee approval

Not required in our institution to publish anonymous case reports

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