Upper Gastrointestinal Bleed Following Percutaneous Liver Abscess Drainage

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A 55-year-old male was admitted to a community hospital with right upper quadrant pain and fever for two weeks. Ultrasonography showed a large right lobe liver abscess (volume 350 mm³), for which he received intravenous injection metronidazole 800 mg thrice daily with injection ceftriaxone 1 g twice daily for seven days without any improvement. A percutaneous drain was placed successfully in the liver abscess and drained creamy pus. One week later, the percutaneous catheter was removed after improvement of symptoms. Four days after that, he developed three episodes of haematemesis that required transfusion of five units of packed red blood cells. He was shifted to this centre with ongoing melaena, pain in abdomen, jaundice and fever.

On admission, physical examination revealed pallor and tender hepatomegaly. Laboratory investigation

reports revealed haemoglobin 9.5 g/dL (normal 11–15), bilirubin 5.5 mg/dL (normal 0.6–1.2), alkaline phosphatase 324 IU/L (normal 50–150) with normal platelet count and normal bleeding, clotting and prothrombin times. Oesophagogastroduodenoscopy and duodenoscopy revealed no obvious source of bleeding. Ultrasonography showed bilobar intrahepatic biliary dilation with residual liver abscess. Computed tomography (CT) of abdomen with arterial phase was performed, which is shown in (Figure 1A). He underwent selective celiac arteriogram and appropriate therapy was given as shown in Figures 2 and 3, respectively. Subsequently melaena stopped, jaundice improved, fever subsided and repeat CT angiogram showed minimal residual abscess and healing of the above-mentioned lesions.

What is the diagnosis?

Figure 1 CT abdomen arterial phase, showing right lobe liver abscess, and right hepatic artery pseudoaneurysm with early enhancement of portal vein, suggestive of an arteriovenous fistula (AVF).

Keywords: percutaneous liver abscess drainage, hepatic artery portal vein AV fistula, coil embolization

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Abbreviations: AVFa: rteriovenous fistulae; PCD: percutaneous drainage

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Figure 2 Selective celiac angiography showing arteriovenous fistula between right hepatic artery and right branch of portal vein.

Figure 3 Successful embolization of right hepatic artery and fistula by coils.

Images in Hepatology – Answer

Right lobe Liver abscess, Post-PCD (percutaneous drainage), Right Hepatic artery-portal vein AVF (arteriovenous fistula) and successful coil embolization.

Percutaneous liver abscess drainage is a common interventional radiology procedure with a relatively low complication rate; most are self-limiting. In this patient, we report a major haemorrhagic complication following percutaneous liver abscess drainage that resulted in a right hepatic artery pseudoaneurysm with early enhancement of portal vein suggestive of arteriovenous fistula (Figure 1B).

Selective celiac arteriogram revealed right hepatic artery to portal vein arteriovenous fistula (Figure 2). This was treated successfully by transcatheter coil embolization (Figure 3).

Causes of hepatic AVF include trauma, surgery, liver abscess drainage, radio-frequency ablation, percutaneous transhepatic biliary drainage (PTBD) and liver biopsy.¹ Bleeding as a result of an AVF following percutaneous liver abscess drainage is extremely rare and can be managed

successfully with coil embolization, balloon tamponade or stent placement.²

AUTHORS' CONTRIBUTION

HKN, VAS, SM and AK were involved in the patient's management, manuscript writing and intellectual input. Dr. RP was involved in interventional radiological procedure.

CONFLICTS OF INTEREST

The authors have none to declare.

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