

Case Report

Large Amoebic Liver Abscess with Persistent Biliary Fistula

Apurva S. Shah, Shravan Bohra

Department of
Gastroenterology and
hepatology, Apollo Hospitals
International Limited,
Ahmedabad, Gujarat, India

ABSTRACT Liver abscess with biliary communication poses management problem if percutaneous drainage is performed. We report a case of large amoebic liver abscess (ALA) with jaundice. Prolonged high-output bile drainage after percutaneous drainage of ALA showed suspicion of communication of abscess with intrahepatic bile ducts (biliary fistula). The same was managed successfully with endoscopic biliary stent placement with medical management.

KEYWORDS: Amoebic liver abscess, biliary fistula, biliary stent

INTRODUCTION

Liver abscess is the most common extra-intestinal manifestation of amebiasis.^[1] The formation of a communication between liver abscesses and intrahepatic bile ducts is an uncommon cause of bile leak. Biliary communication of amoebic liver abscess (ALA) has been reported in up to 27% of cases.^[2] ALA usually improves within 5–7 days following treatment with metronidazole. Some patients require percutaneous abscess drainage or surgery. Few series have reported the management of liver abscess with biliary communication. Literatures on endoscopic intervention in the management of biliary communication in ALA are limited. We report our experience with the use of therapeutic endoscopic retrograde cholangiopancreatography (ERCP) in the management of patients with ALA with biliary communication.

CASE REPORT

A 65-year-old male with no major comorbidities presented with progressive jaundice with intermittent high-grade fever and mild dull-aching right upper abdominal pain of 3-week duration with weight loss. Prior to hospitalization, he was diagnosed as large liver abscess, had undergone percutaneous abscess aspiration (about 150 cc), but no significant improvement was noted [Figure 1].

On examination, he had pallor, deep jaundice, and smooth mild tender hepatomegaly. His hemoglobin was 9.7 g/dl, total white blood cell count was 19,730/cumm with 86% neutrophils, platelet count was 619,400/cumm, and mean corpuscle volume was 58.8 fL. Liver function

tests showed total bilirubin 17.3 mg/dl (normal up to 1.2), direct bilirubin 12.8 mg/dl, serum glutamic-pyruvic transaminase -65 U/L (normal: 16–63 U/L), serum glutamic oxaloacetic transaminase -117 U/L (normal: 0–38 U/L), alkaline phosphatase 446 U/L (normal: 40–129), and gamma glutamyl transpeptidase 272 U/L (normal: 10–71 U/L) with severe hypoalbuminemia (1.6 g/dl). He had high C-reactive protein (CRP) 92.7 mg/L (normal: <3 mg/L), international normalized ratio was 1.47, and renal function tests were normal. Abdominal ultrasound revealed large liver abscess (11.8 cm × 11.5 cm × 9.6 cm) at the junction of right and left lobes with volume of about 686 cc with no significant dilatation of intrahepatic biliary radicles. Chest X-ray was normal. Amoebic serology was positive and he was found to have thalassemia trait during workup of microcytic anemia. Due to the large volume of abscess and deterioration in clinical condition even after medical management with metronidazole and third-generation cephalosporin in adequate doses, decision for percutaneous drainage of abscess was made after due consent from patient. Examination of pus from abscess revealed no organism on Gram staining or culture.

Gradually, the patient improved clinically and biochemically, he was afebrile with decreased jaundice and CRP levels, but drain was persistently bilious from pigtail catheter on an average of 800 ml/day. The patient had lost weight, developed pedal edema, and had low

Address for correspondence: Dr. Apurva S. Shah,
Apollo Hospitals International Limited,
Ahmedabad, Gujarat, India.
E-mail: apurvashah411@gmail.com

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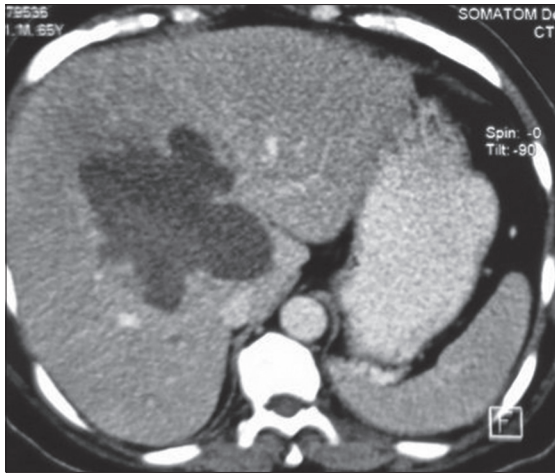


Figure 1: Computed tomography abdomen showing large liver abscess at the junction of right and left lobes with no significant dilatation of intrahepatic biliary radicles

albumin level at 1.6 g/dl. Due to persistent bilious drain of 800 ml/day up to 8 days after pigtail insertion, ERCP was done for suspected biliary fistula and its management.

Cholangiogram revealed free leak of contrast just beyond bifurcation of hilum, so biliary papillotomy was done and 10-Fr 12-cm long hockey stick-shaped plastic stent was inserted well above the leak [Figure 2]. Gradually, bilious drain from the catheter reduced over the next 48 h and stopped 5 days after biliary stenting. Pigtail catheter was removed when drain output was <10 ml/day for 2 consecutive days, a week after endoscopic intervention. On follow-up, bilirubin came down to 3.5 mg/dl and CRP decreased to 9. Ultrasound abdomen showed small residual collapsed cavity of 3.5 cm × 3.2 cm in the liver with air within it. Biliary stent was removed 6 weeks after its placement. The patient was asymptomatic with normalization of all biochemical parameters at the time of removal of biliary stent and at the 1-month follow-up.

DISCUSSION

Communication of ALA with intrahepatic bile duct is an uncommon complication of ALA. The rarity of this complication is probably due to resistance offered by vasculobiliary sheath, a tough fibrous tissue level that surrounds the main and segmental portal structures: bile duct, hepatic artery, and portal vein.^[3]

ALA in the present case was diagnosed by positive serology, appearance of the pus, ultrasound, and CT scan of abdomen. The majority of ALA responds to conservative management. Complications or poor response to medical management requires intervention such as percutaneous abscess drainage and rarely surgery. Ultrasonography-guided percutaneous drainage of abscess in our case was done due to deep jaundice, large volume



Figure 2: X-ray abdomen showing pigtail catheter in abscess cavity with plastic biliary stent in bile duct

of abscess, and poor response to medical treatment. Prolonged high-output bilious drainage (800 ml/day) from the drain for a week prompted us for other form of therapy to deal with the bile leak.

Literatures on endoscopic intervention in the management of biliary communication with ALA cavity are limited. There are no definitive guidelines for the management of patients with liver abscess communicating with the biliary tree. The patient was taken for ERCP and biliary stenting for communication of abscess with bile ducts documented on cholangiogram and excellent result was seen within 48 h of stenting. Pigtail catheter was removed 7 days after the endoscopic procedure.

Endoscopic techniques reduce the pressure gradient between the bile duct and the duodenum that is maintained by an intact sphincter of Oddi, and divert the bile away from the site of the leak, resulting in healing of the fistula.^[4] ERCP with stent placement seemed to hasten resolution of the abscess and clinical improvement and prevented complications of prolonged percutaneous drainage such as secondary infection, fistula formation, and loss of bile. Further, it has also shortened the hospital stay and reduced the need for antibiotics and hence treatment costs. Sandeep *et al.* have shown similar results in their series of 13 patients with liver abscess with biliary communication. In 11 of their 13 patients, the pigtail catheter could be removed within 1 week of the endoscopic procedure.^[5]

In conclusion, endoscopic therapy is a safe and effective mode of treatment for biliary fistulas complicating liver abscesses, resulting in less long-term complications and reduced need for major surgery. Our patient also had an excellent outcome after ERCP and stenting of the bile duct.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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