Unusual Cause of Cholestatic Jaundice in a Young Immunocompetent Male

Puneet Chhabra[†], Surinder S. Rana[†], Deepak Gunjan[†], Vishal Sharma[†], Pranab Dey^{*}, Deepak K. Bhasin[†]

^{*}Department of Gastroenterology, Post Graduate Institute of Medical Education and Research (PGIMER), Sector 12, Chandigarh 160 012, India and [†]Department of Cytology, Post Graduate Institute of Medical Education and Research (PGIMER), Sector 12, Chandigarh 160 012, India

A 18-year-old boy with no previous comorbidities presented with jaundice, fever, and loss of weight and appetite of one-month duration. He had no previous history of long-standing fatigue, jaundice, ascites, upper gastrointestinal bleeding, or encephalopathy. Based on chest skiagram findings of nonhomogenous opacities in right upper lobe (Figure 1; arrow), he was started on

antitubercular therapy (ATT) in an outside medical facility. Following this, he had worsening of jaundice and four weeks later developed progressively increasing abdominal distension. On examination, he was icteric, and had pallor and firm palpable lymph nodes in cervical and axillary region along with firm hepatomegaly and ascites. Investigations revealed normochromic, normocytic anemia with hemoglobin of 9.9 g/dl and elevated erythrocytic sedimentation rate of 55 in the first hour. The total leukocyte count ($17,600 \text{ cells/mm}^3$) was raised with an absolute eosinophil count of 5456 cells/mm^3 . The platelet count was normal. Stool routine microscopy did not show any parasite on consecutive three stool samples. Acid-fast bacilli (AFB) were not detected in the sputum examination. Liver

Figure 1 Chest X-ray: nonhomogenous opacities in right upper lobe (arrows).

Figure 2 CECT abdomen: enlarged liver that shows heterogenous attenuation, multiple hypodense lesions (white arrows), and dilated intrahepatic biliary radicles (black arrows).

Keywords: computed tomography, cryptococcosis, jaundice, ascites

Available online: 7 March 2016

Address for correspondence: Surinder Singh Rana, Department of Gastroenterology, PGIMER, Chandigarh 160 012, India.

E-mail: drsurinderrana@gmail.com

Abbreviations: AFB: acid-fast bacilli; ALP: alkaline phosphatase; ATT: antitubercular therapy; CECT: contrast-enhanced computed tomogram; FNA: fine-needle aspiration; HIV: human immunodeficiency virus; SAAG: serum ascitic fluid albumin gradient

<http://dx.doi.org/10.1016/j.jceh.2016.03.002>

Figure 3(a) Cytological examination of the fine-needle aspirate (periodic acid Schiff's stain).

function tests showed conjugated hyperbilirubinemia with total bilirubin of 14.5 mg/dl and conjugated fraction of 8 mg/dl. Alkaline phosphatase (ALP) was disproportionately elevated in liver enzymes suggestive of cholestasis (ALP—1272 IU/L, aspartate aminotransferase—225 IU/L, and alanine aminotransferase—91 IU/L). The serum

albumin was 3.2 g/dl. Hepatitis B surface antigen and serologies for hepatitis C, A, and E were negative. Sonogram of the abdomen revealed 22 cm sized liver with coarsened echotexture, and unequal dilatation of the right and left intrahepatic biliary radicles (left > right) with normal common bile duct and moderate ascites. Ascitic fluid had normal adenosine deaminase (ADA) value and was having high serum ascitic fluid albumin gradient (SAAG). There were no esophagogastric varices on endoscopy. Serology for HIV (human immunodeficiency virus 1 and 2) was negative twice and as were CD4 cell count. Contrast-enhanced computed tomogram of chest and abdomen revealed mass-like consolidation with areas of breakdown in the apical and posterior segment of right upper lobe and surrounding ground glass opacities and centrilobular nodules. Liver was enlarged and showed heterogenous attenuation, multiple hypodense lesions (Figure 2; white arrows) and dilated intrahepatic biliary radicles (Figure 2; black arrows). Endoscopic ultrasound (EUS) revealed normal common bile duct. A diagnostic fine-needle aspiration was done from the cervical lymph node, as well as liver and lung lesions (Figure 3(a)).

What is the diagnosis?

Images in Hepatology—Answer

Cytological examination of the ultrasound-guided fine-needle aspiration (FNA) from both liver and lung lesion showed presence of cryptococcus, which was better highlighted on Periodic Acid Schiff's stain, and AFB was not seen in either of the lesions (Figure 3(b); arrows). FNA from the right cervical lymph node also showed presence of cryptococcus on background of multinucleated giant cells. A diagnosis of disseminated cryptococcosis with involvement of the liver, lymph nodes, and lungs was made. The patient was started on intravenous amphotericin B and diuretics. The patient gradually improved, and after 6 weeks of therapy, his bilirubin had come down to 1.1 mg/dl and alkaline phosphatase was within normal range. The patient is off diuretics and ultrasound shows minimal biliary radical dilatation and no free fluid in abdomen; and the patient is being continued with oral fluconazole 400 mg/day. Absolute eosinophil count also

came down to normal range after six weeks of amphotericin B. Repeat ultrasound abdomen done after six weeks of therapy showed a liver of 16 cm with slightly heterogenous echotexture and normal outline. Doppler showed hepatopetal flow with normal portal vein diameter.

Cryptococcus is a ubiquitous fungus and is responsible for infections that can involve various organ systems in isolation or can involve multiple organs as a part of disseminated cryptococcosis. Hepatobiliary dysfunction in cryptococcosis has been seen as a part of isolated hepatobiliary involvement as well as in disseminated disease.^{1–4} Although seen commonly in immunocompromised patients, now it is being frequently reported in immunocompetent patients also.^{1–4} Hepatobiliary dysfunction with cholestatic jaundice and high SAAG ascites, as seen in our case, is unusual in hepatic cryptococcosis.

Figure 3(b) Cytological examination of the fine-needle aspirate shows cryptococcus (arrows) (periodic acid Schiff's stain).

CONFLICTS OF INTEREST

The authors have none to declare.

REFERENCES

1. Nara S, Sano T, Ojima H, et al. Liver cryptococcosis manifesting as obstructive jaundice in a young immunocompetent man: report of a case. *Surg Today*. 2008;38:271–274.
2. Cai X, Liu K, Liang Y, Yu H, Lv F, Liang X. Isolated biliary cryptococcosis manifesting as obstructive jaundice in an immunocompetent adult. *Int J Med Sci*. 2012;9:200–206.
3. Zhang C, Du L, Cai W, Wu Y, Lv F. Isolated hepatobiliary cryptococcosis manifesting as obstructive jaundice in an immunocompetent child: case report and review of the literature. *Eur J Pediatr*. 2014;173:1569–1572.
4. Kothari AA, Kothari KA. Hepatobiliary dysfunction as initial manifestation of disseminated cryptococcosis. *Indian J Gastroenterol*. 2004;23:145–146.