

Biliary Ascariasis From a Rural Setting: A Case Study

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ABSTRAK

Ascariasis adalah salah satu jangkitan cacing di Malaysia, lebih-lebih lagi di kawasan pedalaman. Kebiasaannya ascariasis lumbricoides yang masuk dan tinggal di dalam salur pencernaan manusia tidak akan menimbulkan apa-apa simptom. Sekiranya cacing itu masuk ke dalam saluran hempedu, ia akan menyebabkan komplikasi yang dinamakan askariasis biliari. Satu kes askariasis biliari yang menunjukkan simptom-simptom seperti kolik biliari akan dibincangkan. Pesakit ini telah datang ke Hospital Daerah mengadu sakit pada bahagian atas dan kanan perut selama dua hari. Siasatan awal pemeriksaan dan ujian makmal menunjukkan pesakit ini mempunyai simptom-simptom seperti acute cholecystitis dan pesakit telah ditahan wad dan dirawat dengan antibiotik. Disebabkan simptom yang bertambah buruk, pesakit ini dirujuk ke hospital besar yang berdekatan. Pesakit ini telah menderita akibat infeksi cacing dibahagian hempedu setelah dikonfirmasi oleh ultrasound HBS, CT-Scan abdomen dan ERCP, dimana cacing tersebut dikeluarkan melalui prosedur endoskopi. Setelah menjalani pemeriksaan dan prosedur, pesakit telah sembuh dan dibenarkan keluar dari wad.

Kata kunci: Cacing ascariasis, saluran hempedu, ultrasound, endoskopi retrograde kolangio-pankreatografi

ABSTRACT

Ascariasis is a common helminthic infestation in Malaysia, particularly in rural settings. Ascariasis lumbricoides normally lives in the upper small bowel without causing symptoms. Complications arise when these worms migrate into the bile duct (biliary ascariasis). A case of biliary ascariasis presenting as biliary colic is described. Patient presented with 2 days duration of right upper quadrant pain at the district hospital. Initial investigations were suggestive of acute cholecystitis

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and patient was treated with empirical antibiotics. However, due to worsening symptoms, she was transferred to the nearest tertiary setting. The diagnosis of helminthic biliary infestation was established using both ultrasound of the hepatobiliary system (HBS), CT-Scan abdomen and endoscopic retrograde cholangiopancreatography (ERCP). Endoscopic removal of the worm led to rapid resolution of symptoms and patient was discharged home well.

Keywords: Biliary tract, ascariasis, ultrasound, endoscopic retrograde cholangiopancreatography, common bile duct

INTRODUCTION

Ascariasis is a common helminthic infestation in Malaysia, particularly in rural settings. *Ascariasis lumbricoides* normally lives in the upper small bowel without causing symptoms. Complications arise when these worms migrate into the bile duct (biliary ascariasis) causing biliary colic, cholangitis, acalculous cholecystitis and hepatic abscess. A case of biliary ascariasis presenting as biliary colic is described. Diagnosis was established using both ultrasound of the hepatobiliary system (HBS) and endoscopic retrograde cholangiopancreatography (ERCP). Endoscopic removal of the worm led to rapid resolution of symptoms.

CASE REPORT

A 49-year-old female of indigenous origin (Orang Asli) first arrived to our district hospital for severe right upper quadrant pain of about two days duration. The pain was paroxysmal, radiating to the back and was accompanied by nausea and vomiting. There was no history of previous attacks of pain, jaundice or fever. On clinical examination, she was febrile

(38.5°C) but not jaundiced. The right hypochondrium was tender with mild rigidity. Murphy's sign was positive. Her blood investigation showed her hemoglobin was 10.5 g/dl and white cell count was 13.5 with predominantly 90% polymorphs, 4% eosinophils and 6% lymphocytes. Serum bilirubin was 36 umol/L. Her liver enzymes were within normal limits. With the provisional diagnosis of acute cholecystitis the patient was managed conservatively with intravenous fluids, iv cefuroxime 1500 mg x 8 hourly and given intravenous analgesia (tramadol 50 mg 6 hourly). The pain subsided for a few hours but recurred with attacks of increasing severity the next day and the patient became mildly jaundiced. Liver function test were remarkable, with raised alkaline phosphatase 300 U/L. In view of these new developments, patient was referred to the nearest tertiary hospital for further investigation and management. Ultrasound of the hepatobiliary system (USG HBS) and CT-scan of the abdomen were proceeded. Her USG revealed a dilated proximal common bile duct and right intra-hepatic ducts with tubular hyper-echoic structure and mild splenomegaly (Figure 1). Her CT-abdomen revealed



Figure 1: USG revealed a dilated proximal CBD and right intra-hepatic ducts with tubular hyper-echoic structure and mild splenomegaly.



Figure 2: CT-abdomen revealed distal CBD obstruction with linear density, compatible with image of a worm.

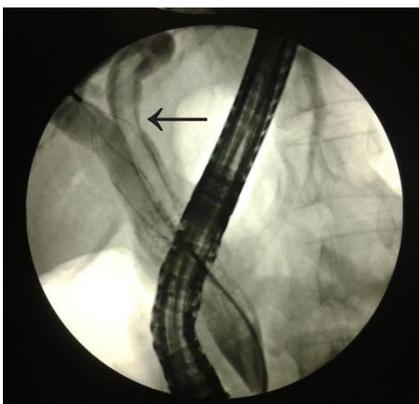


Figure 3: ERCP revealed a worm in CBD.



Figure 4: Helminthic infestation that was removed from the patient's biliary tract via ERCP procedure.

distal CBD obstruction with linear density, an image compatible with worm (Figure 2). In view of the above findings, ERCP was performed and resulted in the identification and removal of the worm (Figures 3 and 4). Following the procedure, patient's symptoms subsided and she was subsequently discharged home well with a course of oral antibiotics (Metronidazole 400mg bd) and a stat dose of albendazole (400mg). She

remained well on follow-up two weeks later at the district hospital.

DISCUSSION

Biliary ascariasis can produce a variety of manifestations. It can present with mild or severe recurrent right upper quadrant pain when complicated by secondary infection such as ascending cholangitis (Ibrarullah et al. 2011). Recurrent attacks of cholangitis can

mimic cholelithiasis. Ascariasis is implicated in cholangio-hepatitis, characterized by cholelithiasis (often without chole-cystolithiasis), biliary duct strictures and hepatic abscess (Misra & Dwivedi 2000). The common duct stones are usually multiple, soft and black. The worm in the CBD may be alive or dead. The degenerated worm or live worm may form a nidus for biliary sand and stones. Super-added bacterial infection also leads to precipitation of bilirubin by enzymatic degradation (Misra & Dwivedi 2000). The worm may migrate into the liver where it excites granuloma formation. Degeneration of the worm in the liver with secondary infection leads to hepatic abscess. In some tropical countries, ascaris liver abscess is commoner than amoebic abscess in children. Ascariasis of biliary tree can cause hemobilia and rarely acute pancreatitis due to obstruction of the ampulla of Vater (Adaletl et al. 2005).

Usually one or two worms are present in the biliary channels but sometimes massive invasion can occur. Complications like septicaemia and hepatic abscess are high in massive invasions and require early diagnosis and treatment. The commonest presentation of biliary ascariasis is recurrent biliary colic (95%) which is clinically difficult to distinguish from cholelithiasis (Ortega et al. 2010). Ultrasound is a useful sensitive and specific tool for diagnosing biliary ascariasis with an accuracy of about 86% provided the radiologist is aware and alert to the sonographic appearances. The characteristic sonographic features include: (a) a single or multiple long,

linear or curved echogenic structure without acoustic shadowing; (b) a thick, long, linear or curved, non-shadowing echogenic strip containing a central, longitudinal anechoic tube, probably representing the digestive tract of the worm (Ibrarullah et al. 2011). ERCP is an excellent diagnostic and therapeutic tool for biliary ascariasis. At ERCP the roundworms in the biliary tree appear as smooth, long, linear or curved filling defects with tapering ends. Surgery had been the traditional method of removal of worm from the bile duct until the advent of ERCP. Endoscopic removal of worm from the bile duct is safe, minimally invasive and effective (Oswal & Agarwal 2007).

Most cases will respond to conservative measures, with the worms returning spontaneously to the intestine. This is enhanced if mebendazole is given orally to deworm the intestine. Mebendazole is preferred as it is poorly absorbed from the intestine. The intestinal worms are killed but the biliary worms are spared and return to the intestine (Ortega et al. 2010). Surgery is reserved for patients who fail to respond to an adequate trial of conservative therapy or show complications like hepatic granuloma and abscess. Other indications for surgery are persistent right upper quadrant pain, severe or increasing jaundice and signs of right upper quadrant peritonitis. Cases treated conservatively should be followed with intravenous cholangiogram. If persistent filling defects are demonstrable, surgery or endoscopic removal is indicated (Sharma et al. 2005).

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