An unusual presentation of acute cholecystitis: biliary ascariasis

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CASE REPORT

A 37-year-old Malay lady from the state of Pahang was admitted to the surgical unit with colicky upper right quadrant abdominal pain radiating to the right shoulder and scapula region. This was accompanied by nausea and vomiting. She needed intramuscular analgesics for the pain. There was no past history of similar episodes. Clinically, she was not icteric, and examination of the abdomen revealed marked tenderness and guarding over the upper right quadrant with a positive Murphy's sign. Clinical diagnosis of acute cholecystitis was made, and she was commenced on intravenous antibiotics.

An ultrasound scan of her abdomen was carried out, which showed a distended gall bladder with a moving tubular structure within it. It was an echogenic single, long curved structure with a central longitudinal anechoic tube, but without acoustic shadowing, which is characteristic of biliary ascariasis (Khuroo et al, 1987) (*Figure 1*). A similar structure was also noted in the common bile duct (*Figure 2*). No calculi were detected.

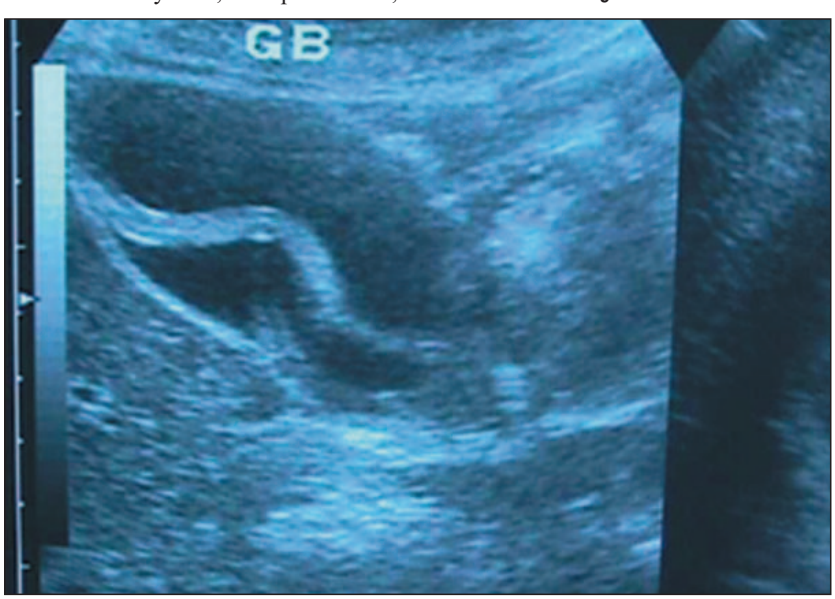
The patient continued to have pain in spite of intravenous antibiotics, and a decision was made to operate on her. The patient elected for an open procedure. A cholecystectomy and an exploration of the common bile duct was carried out as the operative cholangiogram revealed a tubular structure suggestive of a worm in the common bile duct (*Figure 3*). A choledochoscopy confirmed this to be a live worm (*Figure 4*).

In addition to the live worm found in the gall bladder (*Figure 5*), the live worm in the common bile duct was also removed (*Figure 6*). There were multiple worms palpable in the small bowel. A T-tube was inserted, which was removed on the ninth postoperative day. She made an uneventful recovery and was discharged home on antihelmenthic treatment.

INTRODUCTION

Ascariasis is one of the most common helminthic disease in humans. Although they reside in the small intestines without causing any harm, they are encountered in ectopic sites like the biliary tree, fallopian tubes, eustachian ducts, lacrimal ducts and heart chambers (Wani and Chrungoo, 1992). The most common site is the hepatobiliary tree, which is an easily accessible passage.

Figure 1. Ultrasound scan showing a distended gall bladder with a moving tubular structure within it.



Migration of roundworms into the biliary tree is an uncommon surgical problem. Cases have been reported in the literature, especially from the Kashmir valley in India (Misra and Dwivedi, 2000). Most of them were involving the common bile duct or the pancreatic duct. The authors encountered a patient who presented with typical symptoms and signs suggestive of acute cholecystitis as a result of two *Ascaris lumbricoides* worms, one in the gall bladder and the other in the common bile duct. This report documents the diagnosis and management of this patient.

***Figure 2. Common bile duct with a similar tubular structure to* Figure 1.**

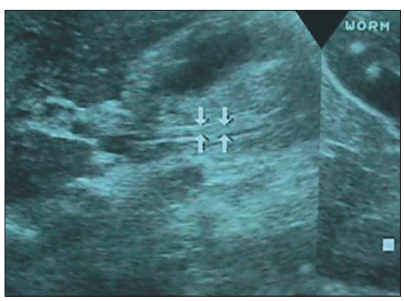
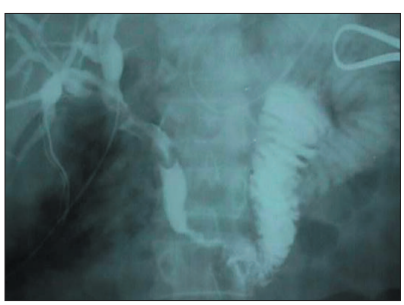


Figure 3. Operative cholangiogram showing a tubular structure suggestive of a worm in the common bile duct.



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DISCUSSION

A. lumbricoides infests more than a quarter of the world's population. They frequently reside in the small intestines without causing any harm. Serious complications can arise as a result of their transit throughout the intestines, either by obstructing the lumen or entering orifices, ducts or cavities (Saul et al, 1984; Khuroo et al, 1992).

Although their normal habitat is the jejunum, *A. lumbricoides* have been known to enter the biliary tree via the ampulla of vater. Acute pancreatitis and cholangitis caused by acute obstruction (Khuroo et al, 1992) is a recognized complication. Perforation of common bile duct has also been reported (Saul et al, 1984). This is the first case which the authors have come across where the worm, having migrated into the common bile duct, has entered the gall bladder via the cystic duct. This is probably the reason for the patient presenting with acute cholecystitis.

The mainstay in diagnosis of biliary ascariasis is hepatobiliary ultrasonography (Wani and Chrungoo, 1992). Worms living in the distal ducts may respond to non-operative management, but most cases require endoscopic retrograde cholangiopancreatography and sphincterotomy for extraction of worms (Leung et al, 1986; Misra and Dwivedi, 2000). Some may need operative removal, as in this patient, in view of the presence of the worm in the gall bladder. Reinfestation of the biliary tree has been noted in some patients, especially in those who have undergone sphincterotomy in the past (Khuroo et al, 1987).

In places like Kashmir, it has been found that ascariasis (36.7%) is as frequent a cause of adult biliary ascariasis as gallstones (34.8%). Ascariasis is also highly endemic in the Far East, including countries like Malaysia. Although at present it is not a common problem in developed countries, with increased air travel and influx of refugees, it is likely that doctors in these countries would encounter more and more patients with biliary ascariasis. Recent studies in India (Misra and Dwivedi, 2000) have shown that this problem was not only confined to Kashmir but was prevalent in several other parts of the country. This may be the situation in most of the endemic areas and as such should be considered in the differential diagnosis of all patients presenting with acute abdominal pain and cholangitis. HM

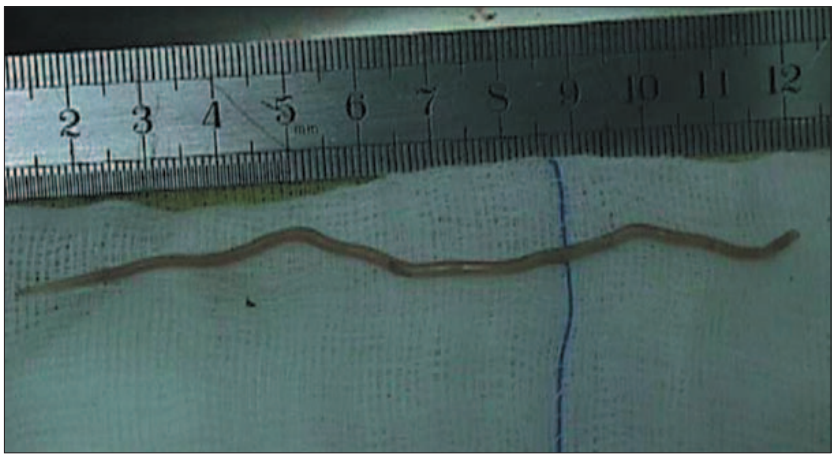

Figure 5. Live worm from the gall bladder.

The authors would like to thank Mr Halim Abdullah from the endoscopy unit for assistance with the photography.

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Figure 4. Choledochoscopy showing a live worm.

Figure 6. Live worm from the common bile duct.