

Obstructive jaundice and cholangitis due to Ascariasis

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Key words: Ascariasis; Biliary obstruction; Cholangitis.

Introduction

Biliary complications following ascarid round worm infestation is a relatively uncommon presentation of this common parasitic disease. We discuss the case of a patient presenting with acute cholangitis due to biliary ascariasis.

Case report

A 52 year old previously healthy male presented with a history of fever with chills, associated with severe colicky upper abdominal pain, vomiting and of the passage of dark coloured urine. On physical examination he was found to be acutely ill, febrile, icteric and dehydrated. Severe tenderness was noted over epigastric region.

Investigations revealed neutrophil leucocytosis (21190/mm³, 90% neutrophils), elevated liver transaminases (AST 304U/L, ALT 337U/L) & serum bilirubin (total- 28mg/dl, direct bilirubin 15 mg/dl).

An ultrasound scan suggested acute cholecystitis with cholelithiasis. There was no evidence of intra or extra-hepatic duct dilatation.

An ERCP was performed and on duodenal intubation, revealed a large ascaris worm hanging out through the major papilla (figure 1) with the head and two thirds of the worm inside the CBD. The 15 cm long worm was removed via the endoscope (figure 2). The patient made a remarkable recovery following removal of the worm. He was treated with oral anthelmintics and underwent cholecystectomy two weeks later for the co-existing gallstone disease. He continues to remain well.

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The Sri Lanka Journal of Surgery 2011; 29(2):106-107.

Discussion

Infestation of the gastrointestinal tract by the adult roundworm *Ascaris lumbricoides* is one of the most common of human parasitic diseases with infestation of up to 25% of the world population [1]. Ascariasis has a long history of endemicity in Sri Lanka, although successful public health initiatives have decreased infestation rates significantly. Recent reports indicate the prevalence of round worm infestation is around 4% among primary school children in the Western Province [2]. Hepato-biliary ascariasis caused by the migration of the worm in to the biliary tract is a relatively uncommon complication of this disease. However in areas of high endemicity such as the Kashmir valley and Syria it is a significant cause of biliary system morbidity [3-4]. Risk factors for migration include previous cholecystectomy, sphincterotomy and pregnancy [5]. Presentations of biliary ascariasis include biliary colic, cholecystitis, cholangitis, pancreatitis, gallstone formation, strictures and hepatic abscess [5]. In this case, our patient presented with symptoms of severe cholangitis.

Diagnosis is based on clinical suspicion and is usually achieved by ultrasonography. On ultrasound, the worms have a typically echogenic non-shadowing tubular structure with a relatively hypoechoic centre. The presence of a 'bull's-eye echo' on transverse sections is another classical sign [5]. In this instance however, ultrasound failed to demonstrate the worm.

According to large case series, conservative

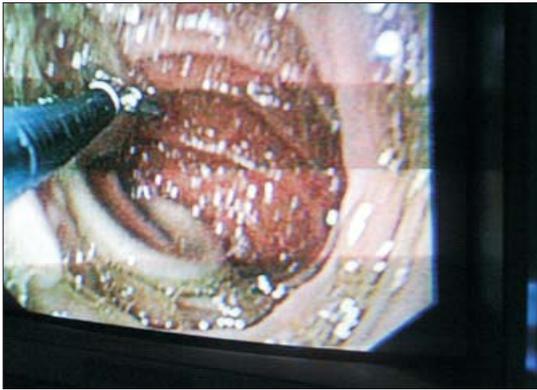


Figure 1: ERCP view: A large ascaris worm hanging out through the major papilla.



Figure 2: Removed worm.

management with oral antihelminthics and analgesics is successful in up to 90% of cases [3, 4]. However in the presence of life-threatening complications such as cholangitis or pancreatitis, intervention becomes necessary. Endoscopy is the mainstay of interventional management and endoscopic worm removal via forceps leads to rapid resolution of symptoms. Worms completely within the biliary tree require extraction with biliary balloons or dormia basket. In this case, successful endoscopic removal facilitated dramatic recovery.

References

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Key Learning Points

- Ascaris worm migration to the biliary tract is a rare cause of obstructive jaundice and cholangitis.
- An ultrasound scan may be diagnostic if a high index of suspicion is maintained.
- Endoscopic worm extraction is the procedure of choice.