

CASE REPORT

Biliary ascariasis: radiological clue to diagnosis

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Abstract

Ascariasis is caused by *Ascaris lumbricoides*. It is the most common helminthic infection seen worldwide. Ascariasis is an endemic disease in our country. This is due to the prevailing poor sanitary conditions and low level of education. Biliary ascariasis is an uncommon cause of obstructive jaundice. We report a case of biliary ascariasis in a young labourer who presented with acute abdominal pain.

INTRODUCTION

Ascaris infestation is usually an asymptomatic condition. The natural habitat of the worm is in the jejunum. Increasing parasitic load forces the worm to invade biliary tract where it can cause biliary colic and sometimes obstructive jaundice. Clinicians must be aware of ascariasis as a differential diagnosis in patients presenting with abdominal colic with jaundice. Ultrasonography (USG) and magnetic resonance (MR) imaging serve as excellent modality of non-invasive diagnosis.

CASE REPORT

A 25-year-old male labourer presented to emergency department with colicky pain in the abdomen and nausea of 2 weeks duration. He denied any history of fever. His bowel habits were normal. On examination, mild icterus was noted. Mild tenderness was elicited in the right hypochondrium on abdominal examination. Liver was not enlarged. Liver function tests showed a total bilirubin of 2.9 mg/dl (normal range 0.3–1.9 mg/dl); direct fraction elevated (2.1 mg/dl). Aspartate aminotransferase and alanine aminotransferase were mildly elevated, 132 and 140 U/l, respectively (normal range 0–30 U/l). Alkaline phosphatase

was found to be markedly elevated, 1272 U/l (normal range 20–140 U/l).

He was taken up for USG of the abdomen which showed bilobar dilated intra hepatic biliary radicals. A linear echogenic shadow was seen in the common bile duct (CBD). Subsequently, magnetic resonance cholangiography was ordered which revealed a non-shadowing hypointense tube-like structure in the CBD (Fig. 1) [1, 2]. A side-viewing endoscopy was performed which showed a long roundworm moving in the duodenum with one end inside the CBD. Worm was taken out with snare (Fig. 2). His icterus resolved and liver enzymes normalized in next 4 days. Anthelmintic therapy was given.

DISCUSSION

Unusual locations for *Ascaris* worm include gall bladder, bile ducts, hepatic ducts and pancreatic ducts. A high parasitic load in the small bowel forces the worm to move to these unusual locations. Biliary ascariasis usually presents with colicky pain, jaundice and sometimes with cholangitis. A high index of suspicion should be kept if the patient presents with the above-mentioned signs and symptoms. The middle and distal parts of the

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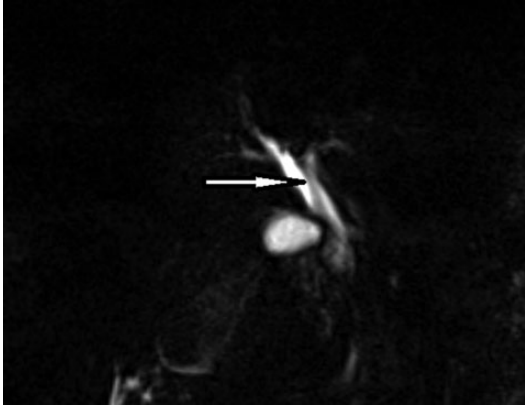


Figure 1: Magnetic resonance cholangiography image showing non-shadowing tubular defect in the common bile duct.

CBD may not be adequately imaged by USG due to the presence of bowel gases. Moreover, USG is an operator-dependent investigation. MR imaging serves as an excellent modality to diagnose the biliary infestation by parasite. The characteristic hypointense filling defect within the CBD is virtually diagnostic of the parasitic infestation. The worm can be taken out easily; however, in some cases, sphincterotomy may be required.

Ascaris infestation is a major health problem in endemic areas like India. Clinical presentation is highly variable and any patient presenting with obstructive jaundice should be evaluated for the same.



Figure 2: *Ascaris* retrieved from the CBD.

CONFLICT OF INTEREST STATEMENT

The investigators have not received any financial support for this case report. The authors do not have any conflicting financial interests to this report.

REFERENCES

1. Hwang CM, Kim TK, Ha HK, Kim PN, Lee M. Biliary ascariasis: MR cholangiography findings in two cases. *Korean J Radiol* 2001;2:175–178.
2. Adaletli A, Selcuk D, Gulsen M, Savas C, Korman U. MRCP findings of biliary ascariasis before and after medical treatment. *Turk J Gastroenterol* 2005;16:98–101.