



Case Report

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Biliary Ascariasis with Gallbladder Invasion: A Unique Entity

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Citation Hussain M, Banoo N. Biliary Ascariasis with Gallbladder Invasion: A Unique Entity. Case Reports in Clinical Practice. 2023; 8(1):14-15.

Running Title Biliary Ascariasis with Gallbladder Invasion

**Article info:****Received:** 28 Dec 2022**Revised:** 31 Jan 2023**Accepted:** 24 Feb 2023**Keywords:**

Ascariasis; Biliary tract; Gall bladder; Extraintestinal; Ultrasonography

ABSTRACT

Intestinal Ascariasis is a common helminthic infection in developing countries and in some rare cases, worms migrate to the biliary tract and gall bladder. Extraintestinal biliary ascariasis presents with jaundice, right upper quadrant abdominal pain, and vomiting. Ultrasonography is a useful diagnostic modality. Albendazole and Mebendazole are commonly used anti-helminthic agents for conservative management, whereas endoscopic removal is needed in rare cases.

Introduction

Ascariasis is the most common helminthic infection in humans caused by *Ascariasis lumbricoides* [1]. This parasite normally resides in the intestinal lumen but when there is increased parasitic load then it can migrate to other regions of the body like the lung, peritoneum, and biliary system [2]. The biliary tract is one of the most common sites for ascaris migration because of its easy accessibility. The worm migrates through the papillae in the duodenum. The site of ascariasis in the biliary system includes hepatic ducts, pancreatic ducts, and gall bladder. Invasion of the gall bladder is rare because of the narrow and tortuous nature of the cystic duct [3,4]. Biliary ascariasis usually presents with colicky abdominal pain, jaundice, and also as cholangitis and pancreatitis [5]. It is also usually associated with serum hyper-eosinophilia [6]. A high index of suspicion should be kept when a patient from an endemic zone comes with these symptoms. Ultrasonography is an extremely useful tool in the diagnosis of biliary ascariasis [7,8,9].

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Case Presentation

We present a case of an 8-year-old female, who came to the emergency department with abdominal pain and vomiting for 2 days, with a history of the passage of worms in the vomitus. On physical examination, there was mild icterus with abdominal distension. Laboratory investigations revealed TLC-10,000 with eosinophilia and Hb of 9.5 g/dl. LFT showed bilirubin-2.0, raised ALP- 1272 U/l and ALT, AST of 132 and 140 U/l. Serum amylase was within normal range. On Ultrasonography there were multiple double linear echogenic structures involving the mid-ileal loops suggestive of worm bolus with dilated proximal gut loops. There were also double linear structures in both the intra and extrahepatic biliary duct and gall bladder (Fig 1&2) with some being mobile in the gall bladder suggestive of live worms. A similar double linear structure was also seen in the main pancreatic duct (Fig 3). The patient was operated on for gut obstruction and a bolus of the worm was noted in the mid-ileal loop (Fig. 4) which was milked down to the colon. For biliary ascariasis, the patient was managed conservatively with oral Albendazole. Later on, during follow-up, the symptoms disappeared and there was no evidence of biliary ascariasis on ultrasonography, therefore, ERCP was not performed.

Discussion

Ascariasis is prevalent in developing and tropical countries where personal hygiene is poor and where human feces are used as fertilizer [9]. Patients usually remain asymptomatic but can present with intestinal obstruction or symptoms of biliary obstruction when these parasites migrate to the biliary system. After invading the biliary system it can cause obstructive jaundice, cholangitis, and pancreatitis. The diagnosis of this can be made easily by ultrasonography where double linear echogenic structures are seen in the gut and biliary system [10]. Our case was a typical case of biliary

ascariasis which had invaded rare locations like the gall bladder and pancreatic duct beside the intra and extrahepatic biliary ducts. The worms present in the gall bladder were mobile which adds to the diagnosis. Primary treatment of biliary ascariasis is conservative with oral anti-helminthics like albendazole and mebendazole. The biliary tract should be monitored by serial ultrasonography for its migration again into the intestine in a few days. If not so, then biliary decompression should be carried out by ERCP and removal of the worm from the biliary ducts.

Conclusion

Biliary ascariasis should be kept in mind whenever a patient from an endemic zone presents with jaundice or abdominal pain. The role of ultrasonography in its diagnosis shouldn't be overlooked

Ethical Considerations

Compliance with ethical guidelines

Informed consent was obtained from the parents of the children before enrollment, and the Ethics Commit

Funding

The authors declared that this study has received no financial support.

Conflict of interest

The authors have no conflict of interest to declare.

Acknowledgements

None

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