GUESS THE DIAGNOSIS

Zaheer Nabi, Sundeep Lakhtakia, Upender Shava, Rangarao Devarasetty, D. Nageshwar Reddy
Asian Institute of Gastroenterology, Hyderabad, India

A 5-year-old child presented to the hospital because of a history of recurrent episodes of abdominal pain. Evaluation revealed elevated transaminases (alanine aminotransferase, 340 IU/L; aspartate aminotransferase, 400 IU/L).

An Ultrasound was performed. (Fig 1a) Thereafter based on the findings an endoscopic cholangiography (ERC) was performed. (Fig 1b).

What is the diagnosis?

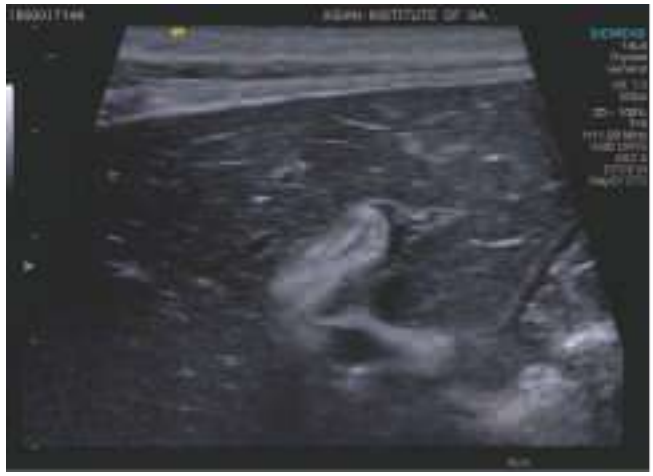


Fig 1a

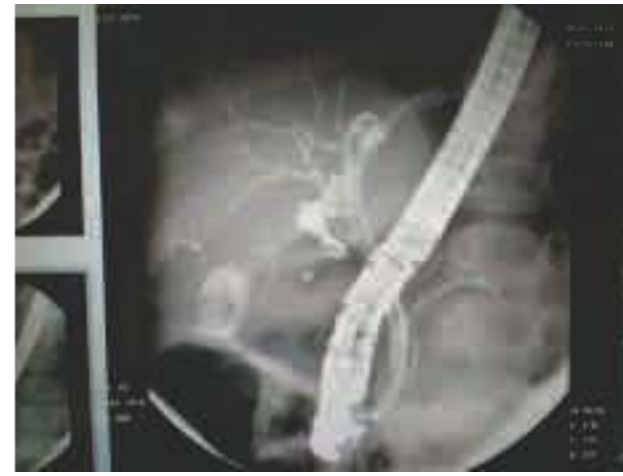


Fig 1 b

Answer

Biliary Ascariasis

Ultrasound revealed dilatation of the common bile duct (6.6 mm) with a curvilinear echogenic structure. The central portion of this structure was anechoic, and there was no shadow effect. These findings were suggestive of *biliary ascariasis*. The Ascaris worm could be traced up to the intrahepatic duct. Cholangiography showed a linear filling defect in the common bile duct. Endoscopic sphincterotomy was performed, and a live worm was extracted from the bile duct with a biliary balloon, followed by its removal from the duodenum with rat-tooth forceps (Fig. 2)

Hepatobiliary and pancreatic ascariasis (HPA) is caused by entry of the nematode, Ascaris lumbricoides from the duodenum in to the biliary and pancreatic ductal lumen. It is prevalent worldwide with an overall prevalence of 25%. An estimated 1.4 billion people are infected. Ascariasis is ubiquitous in the Indian subcontinent.

The natural habitat of an ascaris is the jejunum. HPA is initiated by proximal movement of the organisms in to duodenum. Heavy worm-load is the main factor for forward march of the ascarides.

HPA is a disease of adults (mean age 35 years, range 4 to 70 years) with female predominance (female: male ratio 3:1). Ascariasis is more often prevalent in children, however, HPA is seen less often in children. This may be due to smaller size of the ampullary orifice

HPA can cause six distinct clinical presentations including - biliary colic, acute cholangitis, acalculous cholecystitis, hepatic abscess, acute pancreatitis and recurrent pyogenic cholangitis.

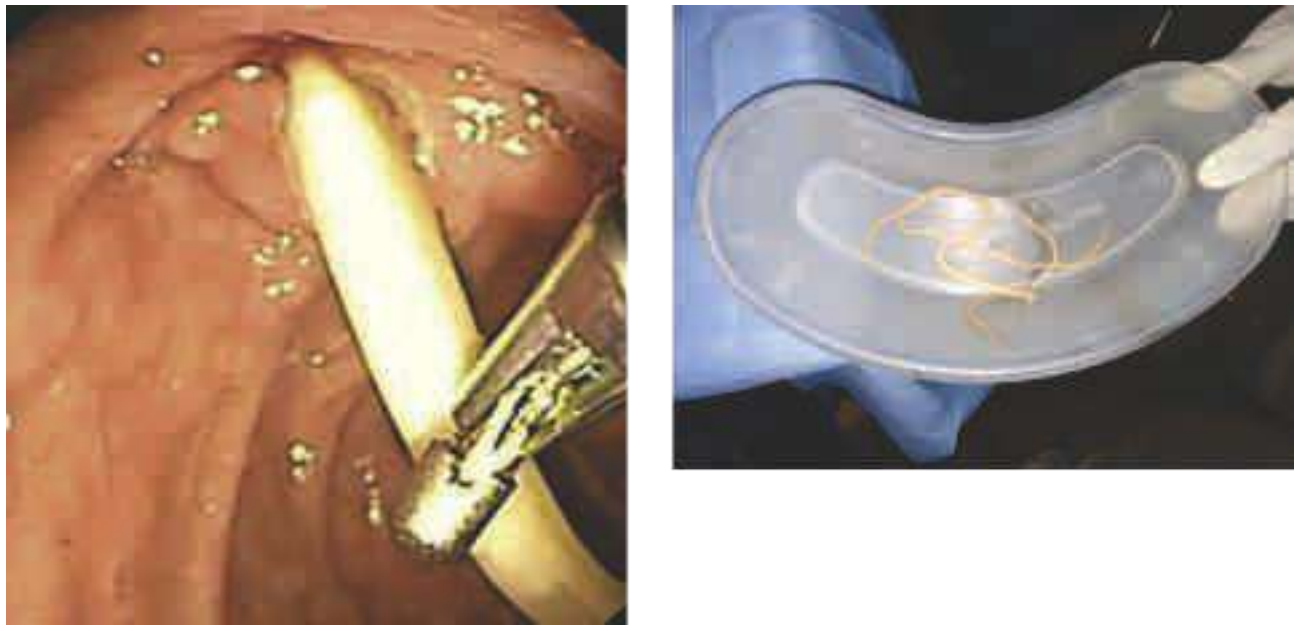
Diagnosis of HPA can be made by ultrasonography, duodenoscopy and ERCP. Of late, MRI and MRCP can help in diagnosis of HPA and may replace ERCP if therapeutic procedure is not envisaged. On ultrasound it appears as a thick long linear or curve non-shadowing echogenic strip containing a central longitudinal anechoic tube (four-line sign), representing the digestive tract of the worm.

The treatment for HPA is to give appropriate treatment for clinical syndromes along with effective anthelmintic therapy. Anthelmintic drugs which are very effective include pyrantel pamoate, mebendazole, albendazole and ivermectin

Endotherapy should be performed in case patient's symptoms do not subside on intensive medical treatment and/or ascrides fail to move out of the ductal lumen up to 3 wk of follow up.

Further Reading

1. Khuroo MS, Zargar SA, Mahajan R. Hepatobiliary and pancreatic ascariasis in India. Lancet 1990; 335: 1503-1506
2. Khuroo MS. Ascariasis. Gastroenterol Clin North Am 1996; 25: 553-577
3. Khuroo MS, Rather AA, Khuroo NS, Khuroo MS. Hepatobiliary and pancreatic ascariasis. World J Gastroenterol. 2016 Sep 7;22(33):7507-17.



(Fig. 2)