



CLINICAL IMAGES

Worms wanted, dead or alive

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A 24-year-old woman presented with clinical and biochemical features of obstructive jaundice without cholangitis. Ultrasound scanning of the abdomen showed dilated intra- and extrahepatic ducts with no other pathology. An endoscopic retrograde cholangiopancreatogram (ERCP) revealed a linear filling defect in the bile duct in keeping with an ascaris worm



Fig. 1a. ERCP showing linear filling defect (arrows).



Fig. 1b. *Ascaris lumbricoides* worm. It was half dead, as evidenced by the desiccated appearance.

(Fig. 1a). The ascarid was extracted intact using a dormia basket after an endoscopic sphincterotomy (Fig. 1b).

Another young woman who had previously had an ERCP and sphincterotomy for choledocholithiasis and subsequently a cholecystectomy, presented a few years later with obstructive jaundice. A biliary ascarid was demonstrated on the ERCP. Figs 2a and b show the motile live worm extracted endoscopically by a dormia basket.

Discussion

Ascariasis is endemic in South Africa. Infestation and surgical complications most frequently present in children.¹ Complications in adults are well documented but are infrequent and

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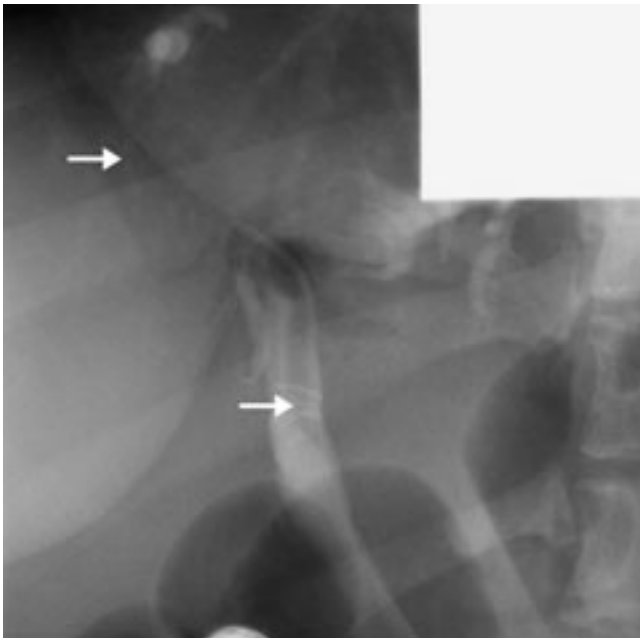


Fig. 2a. ERCP showing linear filling defect (arrows).

usually occur in young women who have a pica for sand.^{1,3} Biliary ascariasis most commonly presents with nonspecific abdominal pain, nausea or vomiting. Patients may also present with cholangitis, pancreatitis, cholecystitis, obstructive jaundice, liver abscesses, empyema of the gallbladder or with the incidental finding of biliary ascariasis at surgery.^{2,3}

Worms are most commonly found in the extrahepatic biliary ducts followed by the intrahepatic ducts and rarely in the pancreatic duct or gallbladder.^{2,3} Ultrasound scanning is the diagnostic test of choice, showing typically a 'target sign' or 'tramline' appearance. However this was not present in our patients, attesting to the value of ERCP in evaluating the obstructive jaundice in these patients.^{1,2,4} Retrieval methods include polypectomy loops, soft dormia baskets, biopsy forceps and balloon catheters. The worm must not be captured tightly as it can fragment, which if retained in the biliary system may lead to stricture, stone formation or intrahepatic abscesses.^{1,3} Sphincterotomy is often performed to facilitate worm extraction⁴ but incidental cases of biliary ascariasis following ERCP have been reported and some authors believe it is a risk factor for such infestation and reinfestation.^{2,3} Therefore sphincterotomy should only be performed after careful



Fig. 2b. Coiled live *Ascaris lumbricoides* worm that was retrieved.

consideration and may not be necessary if the ampulla has worm-related damage already.³

Worms can be removed using the endoscope under direct vision, as in our patients.^{1,4} This technique is generally suitable for the retrieval of a few worms, and multiple worms may require several sessions.

1. Beckingham IJ, Cullis SNR, Krige JEJ, *et al.* Management of hepatobiliary and pancreatic *Ascaris* infestation in adults after failed medical therapy. *Br J Surg* 1998; 85: 907-910.
2. Khuroo MS, Zargar SA, Mahajan R. Hepatobiliary and pancreatic ascariasis in India. *Lancet* 1990; 335: 1503-1506.
3. Sandouk F, Haffar S, Zada MM, *et al.* Pancreatic-biliary ascariasis: Experience of 300 cases. *Am J Gastroenterol* 1997; 92: 2264-2267.
4. Misra SP, Dwivedi M. Clinical features and management of biliary ascariasis in a non-endemic area. *Postgrad Med J* 2000; 76: 29-32.