

## Unusual filling defect in bile duct

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A 48-year-old male presented with biliary colic and jaundice of 2 weeks' duration. There was no history of alcohol or drug consumption and smoking. Physical examination revealed icterus. Investigations revealed conjugated hyperbilirubinemia with total bilirubin being 6.2 mg/dL (conjugated 4.4 mg/dL) and elevated alkaline phosphatase. Ultrasound abdomen revealed dilated intrahepatic biliary radicles, gall bladder stones, and a long linear uniformly echogenic structure with no central hypoechoic structure in the common bile duct. Endoscopic ultrasound (EUS) revealed similar findings of a linear uniformly echogenic structure with shadowing in the common bile duct [Figure 1a: arrows]. Endoscopic retrograde cholangiography revealed dilated common bile duct with a large cylindrical filling defect [Figure 1b]. After endoscopic sphincterotomy and large balloon papillary dilatation, a dark foreign body resembling a long worm was extracted from the duodenum [Figure 1c].

The foreign body was removed from the duodenum using Dormia basket and sent to parasitology department for analysis. It was brown-black, immobile, of soft tubular structure, and measured 21 cm in length and 6 mm in width [Figure 2]. On examination, it did not have any external features resembling any worm such as mouth, genital structures, or transverse

striations on the surface. On dissecting, it was hollow and made up of yellow amorphous friable walls which came away easily on scratching by a blunt scalpel, and no internal parasitic organs were found. Stool examination of the patient also did not reveal any ova or cysts.

Such artifacts from gastrointestinal tract resembling worms are known, but there is no previous evidence of formation of such organized structures in the common bile duct. Based on the external size and shape, it looked like *Ascaris lumbricoides*, and *A. lumbricoides* is known to aberrantly enter the bile or pancreatic duct.<sup>[1,2]</sup>



**Figure 1.** (a) EUS: Linear uniformly echogenic structure with shadowing (arrows) in the common bile duct. (b) Endoscopic retrograde cholangiopancreatography: Dilated common bile duct with large cylindrical filling defect. (c) Dark foreign body resembling a long worm extracted from the duodenum

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**Figure 2.** Foreign body extracted from the common bile duct: Brown-black, immobile, of soft tubular structure that measured 21 cm in length and 6 mm in width

However, this yellow amorphous structure had friable walls that came away easily on scratching by a blunt scalpel, and no internal parasitic organs were found, thereby excluding a possibility of worm. A possibility of dead worm in which all the organs have undergone necrosis with only frame of the worm remaining also can be considered, but absence of worms in the intestine as well as ova/cyst in stool along with the morphological appearance of a yellow amorphous substance excludes this possibility.

Motesanib-induced biliary sludge plugging the ampulla and causing obstructive jaundice has been reported as an amorphous filling defect in distal half of the common duct,<sup>[3]</sup> but our patient did

not have any significant history of drug intake, and the structure was linear. Such structures may be organized debris taking the shape of the containing duct and may consist of mucin, bile, epithelial cells, red blood cells, and inflammatory cells, along with other debris. Our patient subsequently underwent uneventful cholecystectomy for cholesterol stones and is asymptomatic on follow-up.

#### *Declaration of patient consent*

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient has given his consent for his images and other clinical information to be reported in the journal. The patient understands that his name and initial will not be published and due efforts will be made to conceal his identity, but anonymity cannot be guaranteed.

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There are no conflicts of interest.

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