



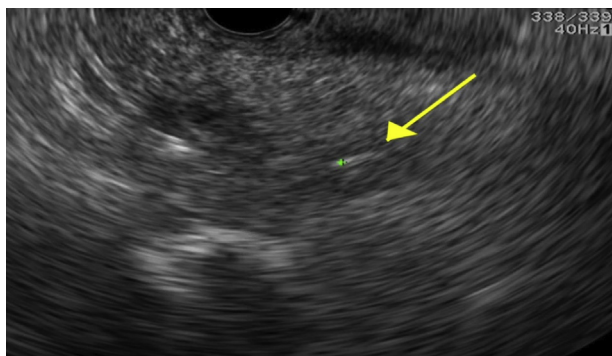
## A fluke catch: biliary obstruction and pancreatitis from dicrocoeliasis

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An 82-year-old woman presented with 3 days of epigastric and right upper quadrant abdominal pain, nausea, and vomiting. She was afebrile and had a bilirubin level of 2.9 mg/dL without leukocytosis or eosinophilia. Peak aspartate aminotransferase, alanine aminotransferase, alkaline phosphatase, and lipase levels were 675, 708, 236, and 7366 U/L, respectively. CT with contrast showed mild gallbladder wall thickening and no stones or pericholecystic fluid. Bile ducts and pancreas appeared normal.

EUS of the distal common bile duct revealed a 5-mm thin hyperechoic lesion without shadowing and no pancreatic abnormalities (Fig. 1). ERCP revealed poor contrast drainage but showed no filling defects. Sphincterotomy and sweeping with a balloon retrieved a live 3- × 3- × 1-mm fluke (Video 1, available online at [www.VideoGIE.org](http://www.VideoGIE.org)), which pathology results from the Centers for Disease Control identified as *Dicrocoelium dendriticum*. By this time, the patient had already been discharged after symptomatic improvement and downtrending liver enzymes while on empiric nitazoxanide and 2 doses of triclabendazole for suspected *Fasciola hepatica*. Notably, the patient emigrated from China 20 years earlier after working in the fields and construction; she had last visited 4 years earlier and might have been infected during one of those trips.

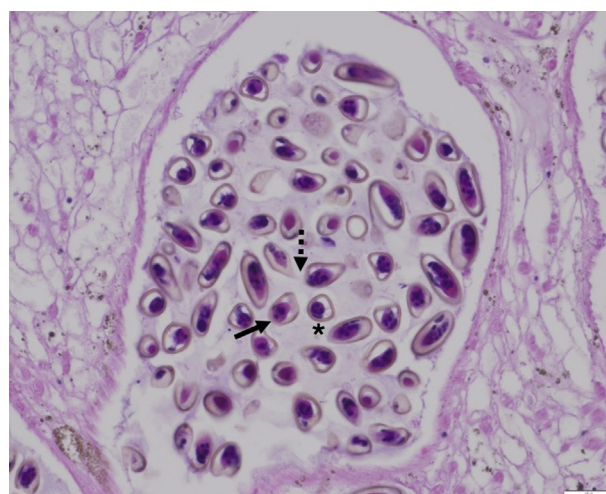
The case illustrates an unusual presentation of biliary obstruction with pancreatitis and a challenging interpretation of EUS findings.



**Figure 1.** EUS image of the common bile duct demonstrating a 5-mm thin hyperechoic lesion without shadowing (arrow and asterisk).

*D dendriticum* is a flat, lancet-shaped liver fluke reaching up to 15 × 2.5 mm in size. It dwells in the gallbladder and biliary tree of ruminant end hosts, often cattle and sheep.<sup>1</sup> However, when the eggs are excreted in ruminant feces and consumed by ants, humans can contract infection when ants carrying larvae are accidentally ingested on raw produce.<sup>2</sup> Cases are most commonly reported in Middle Eastern or Far East countries but have occurred in Canada, Spain, and Italy.<sup>1,3</sup> Compared with other liver flukes, such as *Clonorchis* and *Fasciola*, *Dicrocoelium* is more commonly associated with asymptomatic infections or spurious infection, being found in the stool of patients who consume infected liver from cattle. Nevertheless, *Dicrocoelium* has been found to cause biliary obstruction, diarrhea, abdominal pain, eosinophilia, and even pharyngitis and a subcutaneous mass.<sup>4,5</sup> The flukes are thought to emerge in the duodenum and move into the biliary tree without invading the intestine or liver, in contrast to *Fasciola hepatica*, which tends to dwell in intrahepatic bile ducts.

We suspect, based on its size relative to the minuscule amounts of sludge and its location in the distal common bile duct, that the fluke induced some degree of ampullary edema resulting in pancreatitis. Practitioners need to



**Figure 2.** Several defining characteristics of *Dicrocoelium dendriticum* seen on the histologic specimen from this case, including a shallow operculum (dashed arrow), thick shell (asterisk), and eggs containing miracidia (solid arrow) (Periodic acid–Schiff, orig. mag. ×40).

maintain a high degree of clinical suspicion for atypical causes of biliary obstruction, particularly when encountering features not characteristic of stones, such as a lack of shadowing on EUS and the absence of filling defects on ERCP, and when caring for patients in areas with elevated levels of immigration.<sup>6</sup> The subtlety of the findings, such as that on EUS, might forestall diagnosis; ERCP might not be considered to be indicated and therefore not pursued. Several histologic features distinguish *Dicrocoelium*, making capture of the fluke key. The shallow operculum, thick shell, and small shoulders of the eggs and their containing miracidia represented defining characteristics in this case's specimen (Fig. 2).

Treatment consists of a course of praziquantel, triclabendazole, or a myrrh derivative, usually after diagnosis is confirmed after assessment for parasitic eggs in stool from patients who have maintained a liver-free diet for a minimum of 3 days.<sup>2,7</sup>

## DISCLOSURE

*Dr Hamerski is a consultant for Boston Scientific. All other authors disclose no financial relationships.*

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