

Title:

Fasciola hepatica in the common bile duct: spyglass visualization and endoscopic extraction

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***Fasciola hepatica* in the common bile duct: spyglass visualization and endoscopic extraction**

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ABSTRACT

We report the case of a 60-year-old Peruvian female who was admitted with abdominal pain and jaundice. Cholangioscopy revealed a leaf-like trematode, *Fasciola hepatica*. This trematode was extracted with a Dormia's basket via endoscopic retrograde cholangiopancreatography (ERCP).

Key words: Fasciola. Biliary tract. Cholangioscopy.

INTRODUCTION

Fasciola hepatica (FH) is a leaf-shaped trematode that usually attacks cattle and sheep. Humans can become accidental hosts through drinking contaminated water or ingesting raw green vegetables contaminated with encysted metacercariae. The parasite larva penetrates the intestinal wall and enters the peritoneal cavity (1). Adult

flukes can cause obstructive jaundice or make a patient vulnerable to cholelithiasis, which is a risk factor for cholangiocarcinoma (2).

CASE REPORT

A 60-year-old Peruvian female was admitted with abdominal pain and jaundice. She had undergone a laparoscopic cholecystectomy six-months previously. On physical examination, she appeared to be jaundiced with mild epigastric pain. Laboratory findings showed a white blood cell count of 9,370/mm³, eosinophil count of 1,160/ μ l, total bilirubin of 6.2 mg/dl, direct bilirubin of 4.5 mg/dl, AST of 37 IU/l, ALT of 42 IU/l, alkaline phosphatase of 198 IU/l and gamma glutamyl transpeptidase level of 103 IU/l. Abdominal ultrasound revealed mild bile duct dilation with no definite cause. Magnetic resonance cholangiopancreatography (MRCP) showed a probable distal stricture of the common bile duct. Endoscopic ultrasound showed an actively motile tubular structure in the biliary tree (Fig. 1). ERCP was performed to evaluate and treat the obstruction. Spy-glass cholangioscopy revealed a leaf-like trematode, *Fasciola hepatica* (Fig. 2). The trematode was extracted with a Dormia's basket and anti-parasitic drugs were administered (Fig. 3).

DISCUSSION

Fasciola hepatica is a leaf-shaped trematode that usually attacks cattle and sheep. Humans can become accidentally infected and the parasite's larva penetrates the intestinal wall and enters the peritoneal cavity (1). *F. hepatica* can cause obstructive jaundice, cholelithiasis, and is a risk factor for cholangiocarcinoma (2). Parasite removal during ERCP is a therapeutic option in patients with acute obstructive cholangitis due to *Fasciola*.

A diagnosis of human fascioliasis is usually achieved when eggs are found in the stool or a serological test for antibodies against the trematode. However, these diagnostic approaches may not be practical without a suspicion of fascioliasis. Especially in non-endemic areas (3). Symptoms may be absent in the case of mild infections. The biliary phase may be asymptomatic or there may be symptoms related to cholangitis and obstruction of the biliary tree due to the enlarging flukes. The biliary phase may last for

months or years (4). In some countries, diagnostic evaluation in patients with acute cholangitis and biliary pancreatitis is typically performed from the perspective of choledocholithiasis or biliary malignancy, which are more common diseases. Indeed, vague findings of biliary tree obstruction by *Fasciola hepatica* may lead to a clinical misdiagnosis of cholangiocarcinoma during imaging studies, including computed tomography and/or MRCP.

Peru is a country with a high prevalence of choledocholithiasis. Thus, EUS, CT and MRCP were the first evaluations performed in our patient. EUS was performed to investigate the cause of common bile duct obstruction and detected a mobile tubular structure. EUS can also be a sensitive modality for imaging the extrahepatic biliary tree in real-time and may be useful for the diagnosis of biliary fascioliasis (5). ERCP may be normal in early biliary fascioliasis or may closely mimic primary sclerosing cholangitis in the chronic phase. A small sphincterotomy is often adequate in order to remove these soft parasites (6).

Triclabendazole at a single dose of 10 mg/kg is the chemotherapeutic regimen of choice against fascioliasis. The drug is active against both immature and adult parasites, with high cure rates. This was the case in our patient (7).

CONCLUSION

Fasciola hepatica is a leaf-shaped trematode that may infect humans, who can become accidental hosts through drinking contaminated water. This can cause obstructive jaundice or make a patient vulnerable to cholelithiasis, which is a risk factor for cholangiocarcinoma. This trematode is an important differential diagnosis of obstructive jaundice in countries with a high prevalence of fascioliasis.

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Fig. 1. Endoscopic ultrasound showing a tubular structure in the biliary tree.

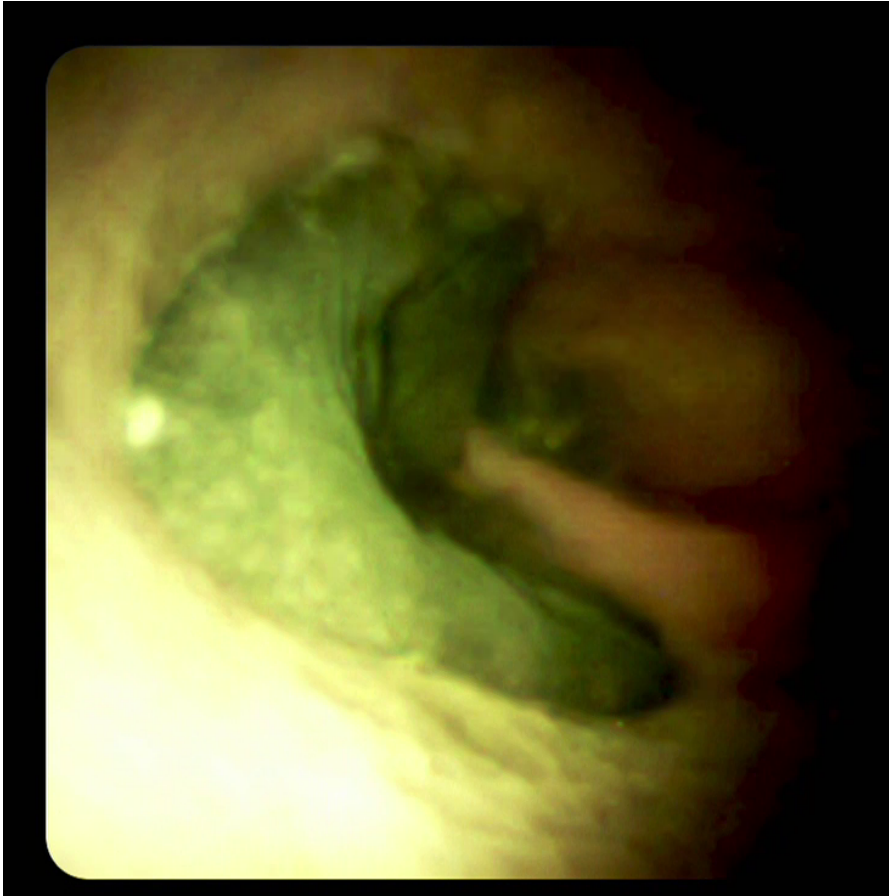


Fig. 2. Spyglass cholangioscopy revealing a leaf-like trematode, *Fasciola hepatica*, in the common bile duct.

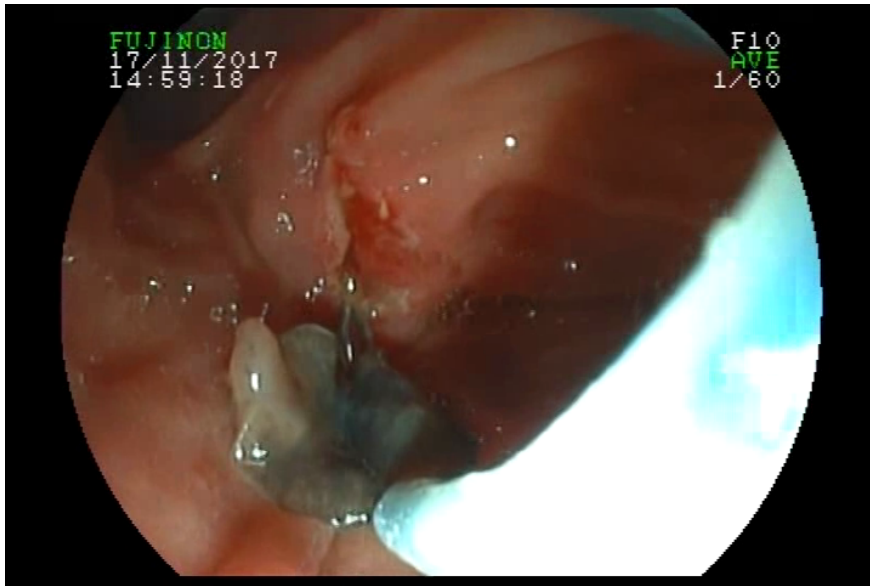


Fig. 3. Endoscopic extraction of *Fasciola hepatica* from the common bile duct.