

Biliary Clonorchiasis

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Section: Abdominal imaging

Imaging Technique: Ultrasound

Imaging Technique: Ultrasound

Imaging Technique: Ultrasound-Colour Doppler

Imaging Technique: Ultrasound-Colour Doppler

Case Type: Clinical Cases

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Patient: 58 years, male

Clinical History:

Right upper abdominal pain, diarrhea and vomiting during the last 12 hours. Laboratory findings revealed abnormal liver function tests and eosinophilia.

Imaging Findings:

The patient presented with right upper abdominal pain, diarrhea and vomiting during the last 12 hours. Laboratory findings revealed abnormal liver function tests and eosinophilia.

Abdominal ultrasound examination showed the gallbladder filled with numerous echogenic nonshadowing foci (Fig. 1), also occupying the dilated common bile duct (Fig. 2a) and almost the entire biliary tree (Fig. 2b). Magnified views, where the above material was sparsely concentrated, gave the impression of a fusiform outline without shadowing (Fig. 3). Furthermore, that material showed a spontaneous floating movement that was recorded as high amplitude irregular signals in Doppler waveform analysis (Fig. 4). Ultrasound examination suggested biliary clonorchiasis (1), which was confirmed with microbiological stool analysis detecting the eggs of *Clonorchis sinensis*.

Discussion:

Clonorchis sinensis is known as the oriental or Chinese liver fluke, because it is distributed throughout Japan, Korea, China, Taiwan and Vietnam. The definite host (human, cats, pigs, and dogs) is infected when eating raw or undercooked fish (2). Due to travel, the migration, and the import of fish from these countries, it is possible to see clonorchiasis in other countries, like in our case.

Clonorchiasis is a trematodiasis caused by chronic infestation of liver flukes, *Clonorchis sinensis* (3). The adult flukes reside inside the medium sized and small intrahepatic bile ducts and occasionally, in the extrahepatic bile ducts, the gallbladder, and the pancreatic duct. The result is mechanical obstruction, inflammatory reaction, adenomatous hyperplasia and periductal fibrosis (4). Signs and symptoms are usually mild and non-specific, but heavy infestation may result in obstructive jaundice.

Characteristic sonographic findings include diffuse dilatation of small intrahepatic ducts with minimal or absent dilatation of the extrahepatic ductal system. Increase in echogenicity and thickening of the involved bile duct walls are also present. Because the parasites are 8 to 15 mm long and 1.5 to 5 mm thick, they are not usually visible as they obstruct the intrahepatic bile ducts. Aggregates of adult worms or individual worms may occasionally be seen in the extrahepatic bile ducts and gallbladder, respectively. Their appearance can be distinguished from gallstones based on their fusiform outline and the fact that they may show spontaneous floating movement. In addition, they are less echogenic than typical gallstones and do not cause acoustic shadowing. The disease increases the

incidence of hepatocholangitis, liver abscess, recurrent pyogenic cholangitis, and cholangiocarcinoma (5).
Differential diagnosis includes sclerosing cholangitis, Caroli's disease, and lithiasis of the biliary tree .

Differential Diagnosis List: Biliary Clonorchiasis

Final Diagnosis: Biliary Clonorchiasis

References:

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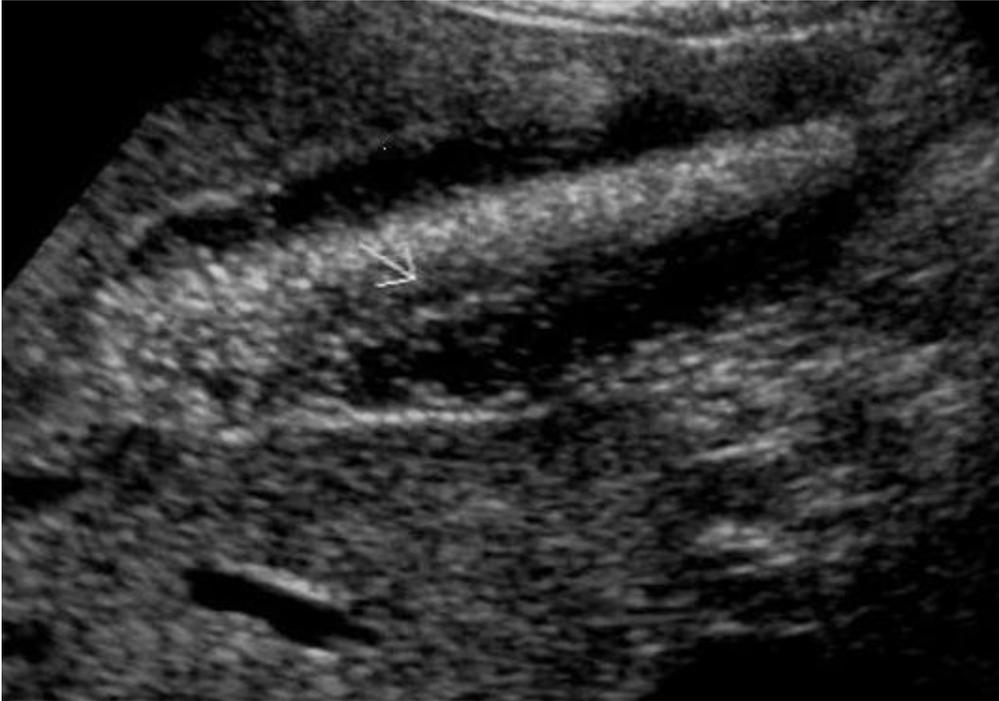
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Figure 1

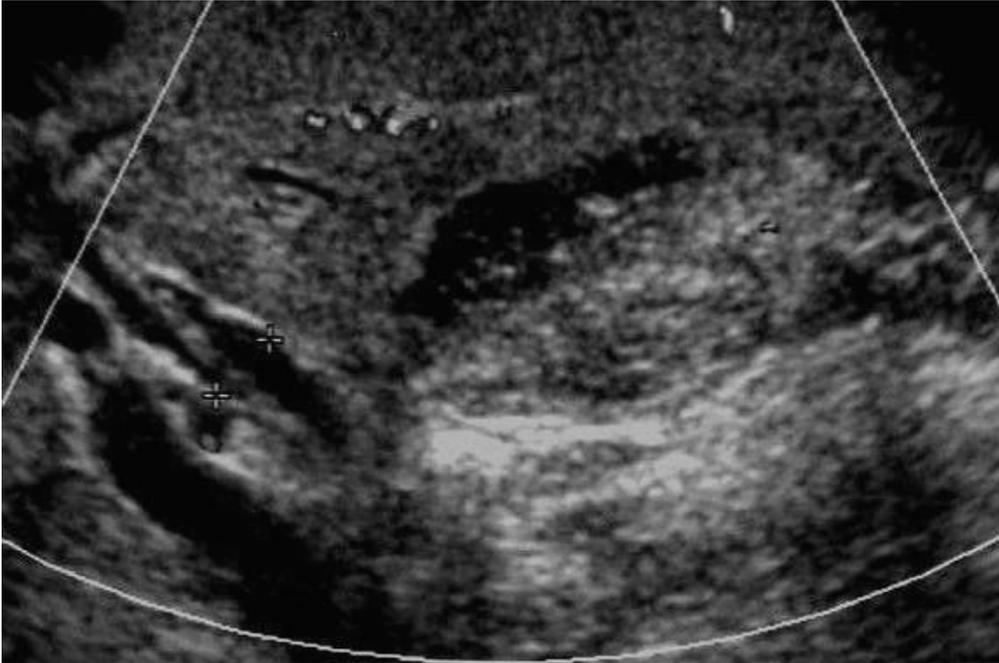
a



Description: Gallbladder with an echogenic non-shadowing material showing spontaneous floating movement. (Arrow pointing to the lower interface between the parasites and the bile). **Origin:**

Figure 2

a



Description: Parasites inside the dilated Common Bile Duct (CBD) arranged in a linear fashion. **Origin:**

b

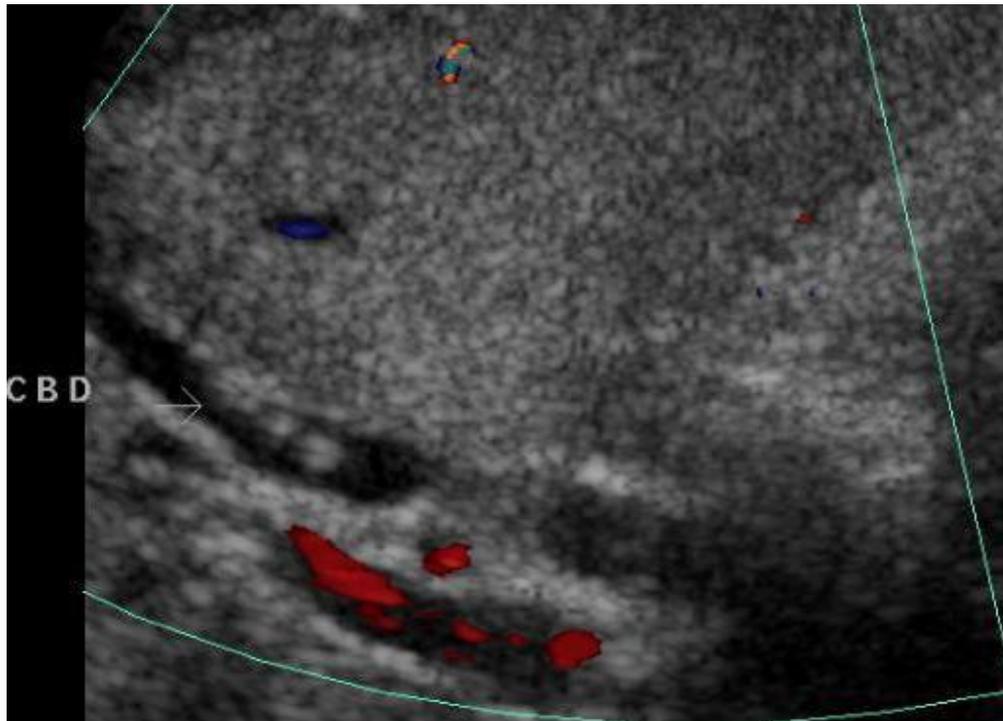


Description: Dilated central branches of the bile ducts completely occupied by the parasite flukes. **Origin:**

Origin:

Figure 3

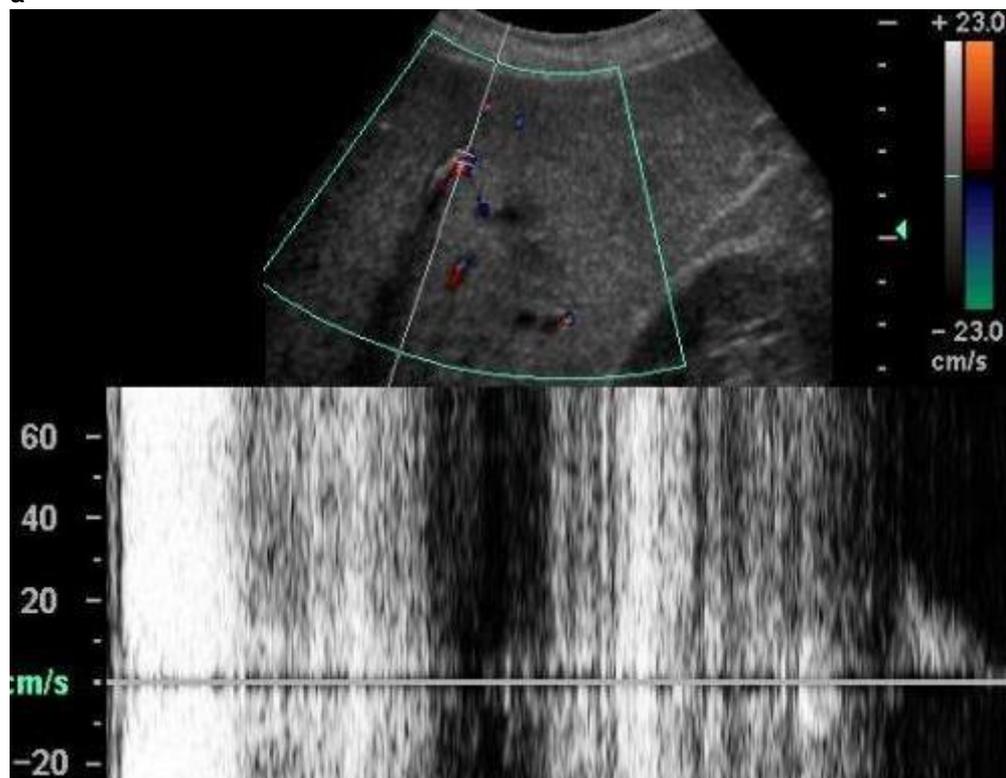
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Description: Parasites inside the CBD, creating a “string of beads” appearance (arrow). **Origin:**

Figure 4

a



Description: Spontaneous movement of the parasites creating a high amplitude irregular waveform.

Origin: