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CASE REPORT

Fascioliasis: An Exceptional Cause of Acute Pancreatitis

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ABSTRACT

Context *Fasciola hepatica* is known to cause bile duct inflammation and biliary obstruction but is rarely reported as responsible for producing acute pancreatitis.

Case report We report on a patient complaining of acute pancreatitis. Endoscopic retrograde cholangio-pancreatography showed distinct features and sphincterotomy allowed extraction of multiple parasites.

Conclusions Pancreatitis may occur in some patients with fascioliasis, but the condition may be overlooked in chronic cases. Endoscopic retrograde cholangio-pancreatography rule out other possible causes of irregularity and thickening of the common bile duct wall. Parasite removal during endoscopic retrograde cholangio-pancreatography is one therapeutic option. Hepatic involvement must be ruled out and complete pharmacological treatment is advised in this patient.

INTRODUCTION

Major causes of acute pancreatitis include alcohol ingestion and gallstones [1, 2, 3]. Other causes as pancreatic neoplasm [4], hypercalcemia, hyperlipidemia, drugs intake and infectious diseases are less frequent etiologic factors. Acute pancreatitis is an extremely rare finding on the course of *Fasciola hepatica* infection.

Fasciola hepatica is known to cause bile duct inflammation and biliary obstruction. Endoscopic retrograde cholangio-pancreatography (ERCP) shows distinct features in some patients with fascioliasis, but the condition may be overlooked in chronic cases. ERCP images must be carefully evaluated to rule out other causes producing irregularity and thickening of the common bile duct wall. Parasite removal during ERCP is one therapeutic option in patients with acute obstructive biliary tree disease due to *Fasciola hepatica*. We present a case of *Fasciola hepatica* induced biliary disease diagnosed and treated in such a manner.

CASE REPORT

A 31-year-old female was admitted to our hospital due to a sudden onset of nausea and upper abdominal pain. She do not refers history of drug abuse and alcohol ingestion, gallstone disease, abdominal trauma or surgery. On physical examination, severe tenderness in epigastrium with hypoactive bowel sound was noted. Laboratory data on admission showed elevated serum levels of pancreatic enzymes, i.e., amylase (502 IU/L; reference range: 35-133 IU/L), lipase (540 IU/L; reference range: 7-38 IU/L) pancreatic phospholipase A_2 (580 ng/dL; reference range: 130-400 ng/dL), and elastase-I (590 ng/dL; reference range: 0-400 ng/dL). White blood cell count was 16,400 mm^{-3} (reference range: 3,200-8,500 mm^{-3}), alkaline phosphatase was 428 UI/L (reference range: 98-279 UI/L), and bilirubin was 4.8 mg/dL

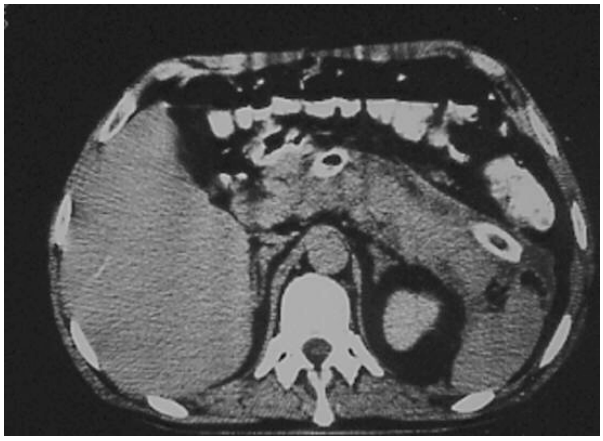

Figure 1. Abdominal CT-scan showing the enlargement of the pancreas.

(reference range: 0-1 mg/dL). Serum values for blood urea nitrogen, creatinine, LDH and calcium were within their reference ranges.
Abdominal ultrasonography and CT scan (Figure 1) showed diffuse enlargement of the pancreas. A cholangiogram depicted dilatation and numerous filling defects images in the main bile duct (Figure 2). An endoscopic sphincterotomy was done with extraction of multiple elements (Figure 3). Treatment with triclabendazole as a single oral dose of 10 mg/kg was ordered. Follow-up has demonstrated normal laboratory values and no evidence of the disease 2 years thereafter.

DISCUSSION

Fascioliasis (liver fluke disease) is a disease of sheep, cattle, and other herbivorous animals observed virtually throughout the world. Humans are only accidental hosts for *Fasciola hepatica* [1]. Infection results from ingestion of meta-cercariae on uncooked and unwashed vegetables (e.g., watercress and sorrel). After oral ingestion the larvae ex-cyst and pass through the intestinal wall into the peritoneum. They find their way through the liver to the bile ducts, where they reside as adult worms. *Fasciola hepatica* is a relatively large, flat, brownish worm, measuring 30x13 mm [2, 3]. In humans, maturation and excretion of the eggs take about 3-4 months. Typical symptoms of fascioliasis that develop within 2-3 months following ingestion are

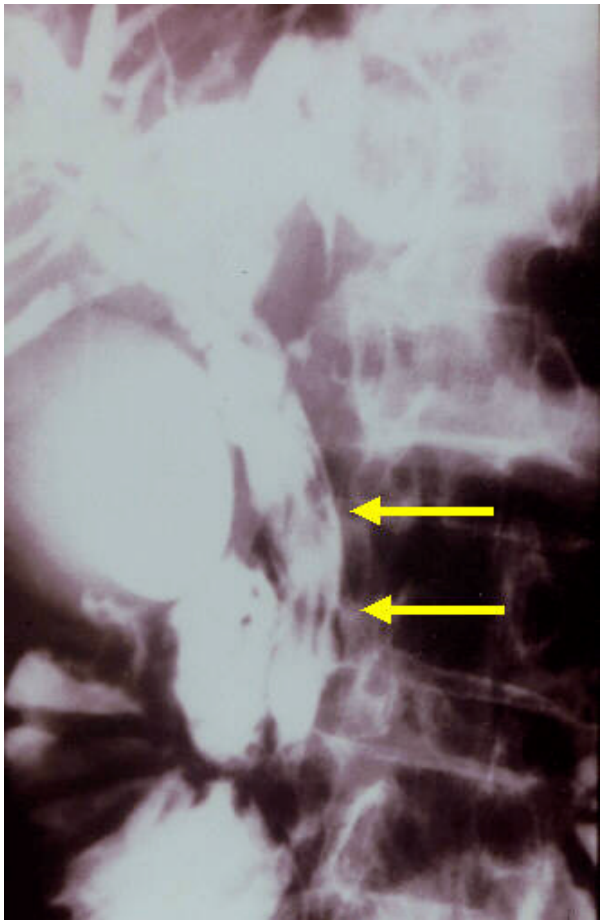

Figure 2. Cholangiogram showing dilatation of the main bile duct and multiple filling defects within (arrowhead).

fever, nausea, hepatomegaly, abdominal pain, and eosinophilia. Diagnosis is based on microscopic identification of the characteristic eggs in the feces or bile. Serological tests (ELISAs) are of help in establishing diagnosis.
Intermittent obstruction of the biliary duct

Figure 3. Multiple fluke *Fasciola hepatica*.

system by worms rarely occurs but may lead to periods of jaundice if present [2, 4] and often may lead to surgical treatment on the basis of suspected neoplasm. A number of reports have been published where diagnosis of fascioliasis on the bile duct was not done prior to surgery [3, 5]. Our patient presented with biliary obstruction and acute pancreatitis. A high index of suspicion and specific sonogram findings are very helpful in the diagnosis. However, serological studies and ERCP can confirm the diagnosis.

The disease evolves in 2 stages: hepatic stage and biliary stage. While several drugs can be used during the hepatic stage, ERCP is particularly effective in the biliary stage. As fascioliasis initially involves the liver parenchyma and then the biliary ducts, the disease can mimic most of the common hepatobiliary diseases at different stages of involvement. *Fasciola hepatica* infection is known to cause bile duct inflammation and biliary obstruction. ERCP shows distinct features in some patients, but the condition may be overlooked in chronic cases. ERCP images must be carefully examined to rule out other possible causes producing irregularity and thickening of the common bile duct wall. Parasite removal during ERCP [6] is one therapeutic option in patients with acute obstructive cholangitis due to *Fasciola hepatica* [7].

Medical treatment was prescribed. Since *Fasciola hepatica* is basically unresponsive to praziquantel, in contrast to other relevant human-pathogenic trematodes, new agents for the treatment of fascioliasis have been tested in recent years [8]. Antiparasitic agents used for medical treatment of fascioliasis in the past (e.g., parenteral dehydroemetine and oral bithionol) have not been proven to be very effective. We decided to use triclabendazole, which is safe and effective as a single oral dose of 10 mg/kg. It is highly efficient against both mature and immature worms and has been successfully administered to patients with fascioliasis [9, 10]. The only side effects are due to disintegrating dead parasites. However, it is not yet approved for this indication worldwide (except in Egypt), although it is recommended by the World Health Organization [11]. Therefore, triclabendazole was administered on the basis of compassionate drug use.

Patient showed no side effects, and a single dose proved to be effective in eradicating the parasite: her symptoms disappeared, eosinophilia was absent, other laboratory values returned to normal, and antibodies against *Fasciola hepatica* could not be detected after 9 months.

In summary, fascioliasis must be considered on differential diagnosis of abdominal pain, especially if associated to eosinophilia. Pancreatitis a is an extremely rare complication that can be associated to biliary involvement. Successful medical treatment is possible even when biliary obstruction is present but development of complications may preclude a more active attitude.

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Keywords Cholangiography; *Fasciola hepatica*; Pancreatitis

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