FASCIOLIASIS - A CAUSE OF OBSTRUCTIVE JAUNDICE: A CASE REPORT

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ABSTRACT

A rare case of obstructive Jaundice in a 35 yrs old male from Afghanistan is presented with recurring attacks of upper abdominal pain and jaundice. Ultrasound examination revealed multiple gallstones with dilated common bile duct. During exploration of common bile duct, five leaf like liver flukes(Fasciola Hepatica) were recovered and identified. Patient was treated with Albendazole and had an uneventful recovery. Biliary fascioliasis should be considered in the differential diagnosis of obstructive jaundice.

Keywords: *Fascioliasis, Fasciola Hepatica, Liver flukes, Gallbladder, Obstructive Jaundice, Gallstones.*

INTRODUCTION

Human fascioliasis is a zoonosis caused by liver flukes Fasciola Hepatica and Fasciola gigantica. Human are accidental hosts in the life cycle of this parasite. The disease effects all ages, both sexes, all social classes and professions particularly inhabitants of rural areas. The prevalence is lowest in children under 5 yrs of age. Females are more commonly infected, the sex ratio being 1.4:1[1]. Human Fascioliasis is a major public health problem around the world. It is reported that 2.5 million people have been infected in 61 countries especially from Bolivia, Egypt, Iran, Portugal, France and that more than 180 million are at risk[2]. While normally being an infection of cattle and sheep, environmental modification and changes in human behavior define new geographical limits and population at risk for Fascioliasis.

Infection occurs when human consumes uncooked raw vegetables or drink fresh water contaminated with parasite larvae. The infection in the human has both an acute and chronic phase. The former starts 1-3 weeks after ingestion. Immature worms penetrate the gastrointestinal wall into the peritoneal cavity, liver capsule, liver parenchyma and into the bile duct. Generalized malaise, high fever, mild hypochondrium pain and hepatomegaly clinically characterize this phase. Intense eosinophilia and non-specific liver enzyme elevation dominate the picture. The chronic phase starts 3-4 months after infestation. The adult flukes remain in the gallbladder, deposit eggs in common bile duct resulting in inflammation and subsequently present as biliary obstruction[3].

A rare case of fascioliasis caused by fasciola hepatica, causing obstructive jaundice is reported, not described before in the available local medical literature.

CASE REPORT

A 35 yrs old male presented to the outpatient clinic of Rehman Medical Institute with a three years history of repetitive attacks of upper abdominal pain simulating biliary Colic. Pain was associated with generalized itching (pruritis). Yellowish discoloration was noted for the last 2 months. The pain was moderate in severity, colicky in nature, without radiation or any relieving or aggravating factor.

There was no history of fever, Haemetamesis/Malena, rigors/chills and maintain normal dietary and bowel habits. There was no

history of smoking or alcohol use. Patient is married with three healthy children. No definite pet history but having frequent contacts with domestic animal like dog, cat, goat and sheep. Clinical examination revealed healthy looking, middle age male with mild jaundice, slight pallor with no sign of chronic liver disease. Vital signs revealed a pulse rate of 78/min, Blood Pressure 110/80 mm of Hg, Respiratory rate 17/min and body temperature of $98^{?}$F. Cardiac examination revealed normal heart sounds. Chest revealed normal breath sounds. Abdomen was soft with mild tenderness in the right hypochondrium. There was no gaurding or rigidity. No viscera was palpable. Bowel Sounds were normal. Rest of the examination was normal. Baseline laboratory investigation revealed; Hemoglobin 11.8 g/dl, white blood count 7.5 x 10^{9}/L, differential showed neutrophils 65%, Eosinophils 11%, Lymphocytes 20%, Monocytes 4% and platelets count 398 x 10^{9}/L. Coagulation profile was normal. Liver profile revealed total bilirubin 4.3 mg/dL (normal <1.1 mg/dl), alanine transaminase 100 IU/L (normal 10-50 IU/L), alkaline phosphatase 224 IU/L (normal 40-117 IU/L). Viral profile for Hepatitis A, B and C did not show any infection. ECG and chest X-ray was normal. Abdominal Ultrasound showed mildly dilated common bile duct with intrahepatic dilatation and multiple gallbladder stones.

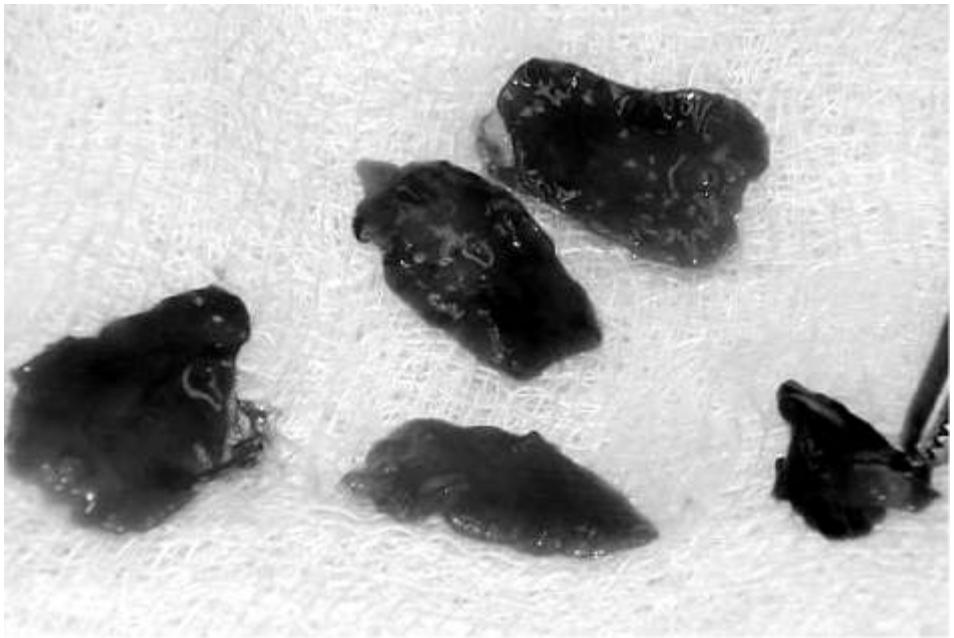
At operation, liver was unremarkable. Gallbladder was dilated, thick walled with multiple small stones. Common bile duct was dilated with no palpable stones. Per operative cholangiogram revealed filling defects at various levels of common bile duct. During exploration of common bile duct multiple leaf like Fasciola Hepatica worms were recovered (Figure 1). Histopathologic examination of the gallbladder revealed eosinophilic cholecystitis with no evidence of malignancy. Multiple Fasciola hepatica eggs were identified in the cystic duct. Postoperative recovery was uneventful with both clinical and biochemical improvement. The patient was followed in the outpatient clinic and became asymptomatic.

DISCUSSION

Fascioliasis is most commonly acquired by eating fresh water plants such as watercress, to which infective metacercariae attach themselves. The infection can also be acquired by drinking water contaminated with metacercariae. Cattle, sheep and domestic animals are the definite host and reservoirs[4]. In our case close association to the domestic animals like sheep and cattle might be cause of fascioliasis.

Fasciola hepatica has both an acute (invasive) and chronic (obstructive) phases. Both these entities are distinct clinically and biochemically[5].

Figure 1: Fasciola hepatica



Acute phase may be severe but more commonly passes without significant symptoms which usually include dyspepsia, fever, abdominal pain and tenderness. Marked eosinophilia may be present. No ova are present in the stool, making diagnosis of acute fascioliasis difficult. The diagnosis depends on clinical suspicion and serological tests. An enzyme-linked immunosorbent assay (ELISA) has a sensitivity of 100% and a specificity of 97.8%[6]. A variety of much less common clinical presentation are also possible during acute phase due to migration of larvae into subcutaneous, intestinal, pleural, pulmonary, pericardial and cerebral sites[7].

Chronic phase is characterized by intermittent biliary obstruction due to the presence of adult flukes in the main bile duct. There are often fluctuating elevation of alkaline phosphatase, bilirubin and transaminase levels. The patient may suffer from upper abdominal pain (Biliary colic), dyspepsia, pruritis, nausea and episode of jaundice and fever[5]. Similar findings are seen in our case. Long standing cases causes common bile duct obstruction, cholangitis, severe hemorrhage, portal fibrosis, invasion of the gallbladder and sub-capsular hemorrhage[3].

The levels of hepatic enzymes may be normal or abnormal, reflecting the symptoms and pathologic features of biliary obstruction by adult flukes and stones. Peripheral eosinophilia is mild or absent. Anemia seen in our case is due to bleeding into the bile duct and to the anemia of chronic infections[8]. Associated lithiasis of the bile ducts and gallbladder are common, as the eggs or fragments of dead parasite can form nuclei for calculi[9].

The diagnosis of fascioliasis depends on clinical suspicion. In high prevalence area, familiarity with the disease, improve clinical outcome, however in non-endemic areas, the identification is more difficult[4]. The diagnosis can be confirmed by serology and by identification of ova in the stool or in the duodenal aspirates.

Imaging studies including ultrasound, CT and ERCP have been utilized in the diagnosis. Ultrasound and CT revealed Biliary dilatation in the CBD, but do not help to clarify the differential diagnosis[10]. ERCP is an important tool for direct diagnosis and for providing bile drainage. In Biliary Fascioliasis, ERCP frequently demonstrates typical features of Fasciola Hepatica in the gallbladder, dilated bile duct with small, radiolucent linear or crescent like shadows suggesting parasites with jagged, irregular margins[10, 11].

Triclabendazole and Bithional are reported to be most effective drugs against Fasciola hepatica[12]. Others drugs like emetine, dehydroemetine, chloroquine, metronidazole, albendazole and praziquental have shown variable results[7]. Our case was treated with Albendazole. The patient became symptom free after three months regular medical follow-up. Non-pharmacologic treatment include ERCP with removal of live parasites from the common bile duct. In conclusion, this case is presented because of its rarity and should be considered in the differential diagnosis of obstructive jaundice along with stones, stricture and tumor as the common causes.

REFERENCES

1. Farag HF. Human fascioliasis in some countries of the Eastern Mediterranean Region. East Mediterr Health J 1998;4:156-60.
2. Moghadami M, Mardani M. Fasciola hepatica: a cause of obstructive jaundice in an elderly man from Iran. Saudi J Gastroenterol 2008;14:208-10.
3. Al-Mekhaizeem k, Al-Mukhaizeem F, Habib MA. Fasciola hepatica infestation presenting as biliary obstruction 11 years after open cholecystectomy and CBD exploration. Kuwait Med J 2004;36:293-5.
4. Maclean JD, Graeme-Cook FM. Case records of the Massachusetts General Hospital: weekly clinicopathological exercises: Case 12-2002 A 50-year old man with eosinophilia and fluctuating Hepatic lesions. N Engl J Med 2002;346:1232-9.
5. Osman M, Lausten SB, El-Sefi T, Boghdadi I, Rashed M, Jenson SL. Biliary parasites. Dig Surg 1998;15:287-96.
6. Patil K, Kulkarni S, Gorad K, Panchal A, Arora S, Gautam R. Acute fascioliasis- rare cause of obstructive jaundice. Bombay Hosp J 2009;52:398-400.
7. Arjona R, Riancho JA, Aguado JM, Salesa R, Gonzalez-Macias J. Fascioliasis in developed countries: a review of classic and aberrant forms of the disease. Medicine (Baltimore) 1995;74:13-23.
8. Chen MG, Mott KE. Progress in assessment of morbidity due to fasciola hepatica infection: a review of recent literature. Trop Dis Bull 1990;87:37.
9. Ozar B, Seryn E, Gumurdulu Y, Gur G,

Yilmaz U, Boyaciodlu S. Endoscopic extraction of living fasciola hepatica: case report and literature review. Turk J Gastroenterol 2003;14:74-7.

10. Gulsen MT, Savas MC, Koruk M, Kadayifci A. Demirci F. Fascioliasis: a report of five cases presenting with common bile duct obstruction. Neth J Med 2006;64:17-9.
11. Van Beers B, Pringot J, Geubel A. Hepatobiliary fascioliasis: noninvasive imaging findings. Radiology 1990;809-10.
12. Saeed I, Satti MB, Khamis A, Al Muhanna F. Hepatic fascioliasis: a cause of pyrexia of unknown origin and persistent eosinophilia. Saudi J Gastroenterol 2000;6:51-5.

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