



Case Report

FASCIOLIASIS- AN UNCOMMON CAUSE OF RECURRENT CHOLANGITIS

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Abstract

We report a case of Fascioliasis presented with recurrent cholangitis in a female necessitating multiple consultations and hospitalizations over a period of two years. Investigative profile failed to confirm any definite diagnosis prior to her admission in Hepato-Biliary-Pancreatic Surgery Division of the Department of Surgery of Bangabandhu Sheikh Mujib Medical University where she was provisionally diagnosed as a case suffering from extrahepatic cholangiocarcinoma. With the intent of extrahepatic excision with Roux-en-Y hepaticojejunostomy abdomen was explored and surprisingly 28 mature liver flukes (*fasciola hepatica*) were found lodged in the extra and intrahepatic biliary tree. Although fasciola hepatica infestation is more common in far East Asia, this case may represent the tip of an iceberg of endemic infestation of this trematode in Bangladesh which warrants further investigations.

Key Words: Fascioliasis, *Fasciola hepatica*, Liver flukes, cholangitis

Introduction

Although traditionally regarded as a disease of livestock, Fasciolosis is now recognized as an important emerging zoonotic disease of human. Recent report suggests that between 2.4 and 17 million people are infected with Fasciolosis, and a further 91.1 million living at risk of infection¹. Human infections normally occur in areas where animal Fasciolosis is endemic². Transmission occurs where rural farming communities regularly share the same water source as their animals or consume water-based vegetation growing in endemic areas².

Though *Fasciola hepatica* is of European origin its geographical distribution has expanded over the last five centuries as a result of global colonizations by Europeans, and the associated continual export of livestock. *Fasciola hepatica* infections in livestock have now been reported on every continent (except Antarctica). The highest human prevalence has been reported in the Bolivian Altiplano, where more than 60% of the population is infected. Next to that, infection is occurring in temperate countries like Peru, Iran, Portugal, Egypt and France with near similar high rates³. This expansion has greatly been facilitated by the remarkable ability of this parasite to adapt to new hosts—flukes can develop, mature and produce viable offsprings even in very recently encountered species such as llama and alpaca in South America, camels in Africa and kangaroos in Australia⁴. *Fasciola hepatica* also infects a wide variety of wild animals including deer, rabbits, hare, boars, beavers and otters which collectively are the major reservoir host population that contribute significantly to the worldwide dissemination of the disease and to its local transmission patterns⁴.

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This case report may explore the necessity of further research on human Fascioliasis in our community as our endeavor aims to investigate the possibility of this zoonotic disease having an increased incidence among the population.

Case Report

A 35 year-old house-wife from Jamalpur was admitted to our hospital with recurrent upper abdominal pain, fever, and intermittent jaundice for last two years. Before attending us she was hospitalized twice in two different hospitals. During her first hospital admission she was evaluated and on the basis of computed tomography scan was diagnosed as a case having multiple space occupying lesions in liver without any conclusive aetiology. Her symptoms soon subsided with antibiotics and analgesics. About a year later she again got admitted to another hospital with similar complaints. This time she was diagnosed as a case of secondary liver metastasis with a mass lesion in porta hepatis. But the result of FNAC from the mass found no mitotic lesion other than an inflammatory reaction. She was then referred to the Division of Hepatobiliary and Pancreatic surgery, Department of Surgery, Bangabandhu Sheikh Mujib Medical University. MRCP was advised to evaluate the relationship of the mass lesion at porta hepatis with the biliary tree. MRCP revealed a mass in common bile duct with intrahepatic duct dilatation. She was severely anemic (hemoglobin 4g/dl) with eosinophilia (12.0%). Her liver functions were within normal limit except alkaline phosphatase (645U/L) which was higher than normal. All tumor markers (CA19-9, CEA) were within normal limit. On the basis of previous reports and physical findings the patient was provisionally diagnosed as a case of extrahepatic cholangiocarcinoma though the cause of eosinophilia remained unexplained. Laparotomy was planned for cholecystectomy, excision of extrahepatic ducts and Roux-en-Y hepaticojejunostomy.

On exploration, severe fibrinous inflammatory reaction was noted in the sub-hepatic and supra hepatic areas. The gallbladder was distended, the common bile duct (CBD) was dilated and thick walled and some spongy mass could be felt inside it. There were several enlarged, firm, discrete hepatoduodenal lymph nodes. Dissection followed in the region to isolate CBD from portal vessels and it was skeletonized from its upper part (above confluence) to lower part (behind the pancreatic head). The whole CBD was excised ; several matured liver flukes (*Fasciola hepatica*) came out from extra and intrahepatic billiary tree (Figure-1). Intrahepatic bile ducts were irrigated and biliary



Fig.-1: Matured *Fasciola Hepatica*

reconstruction was performed using a Roux-en-Y jejunal loop with three separate intrahepatic ducts (hepatico-jejunostomy) (Figure-2). Her postoperative recovery was excellent. Histopathological examination of CBD revealed chronic cholangitis. The liver fluke was confirmed to be *fasciola hepatica* by the department of microbiology, Bangabandhu Sheikh Mujib Medical University. She received praziquintal 1200 mg / day in 4 divided doses for 3 days (20-25 mg/kg/day). She was discharged from hospital on 14th postoperative day and she visited surgical OPD for follow up with very good health. She had negative stool examination for *Fasciola hepatica* done at 1 month interval for consecutive 3 months.

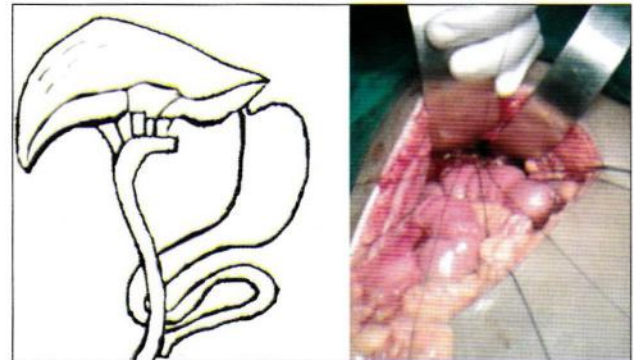


Fig.-2: After excision of the extrahepatic bile duct, reconstruction was performed by anastomosing a Roux-en-Y jejunal loop with three separate intrahepatic ducts.

Discussion

A disproportionate burden of helminthiases in human population occurs in marginalized, low-income, and resource-constrained regions of the world, with over 1 billion people in developing areas of sub-Saharan Africa, Asia, and the Americas infected with one or more helminthes species^{1,5,6}. The morbidity caused

by such infections imposes a substantial burden of disease, contributing to a vicious circle of infection, poverty, decreased productivity, and inadequate socioeconomic development. Furthermore, helminthes infection accentuates the morbidity of malaria and HIV/AIDS, and impairs vaccine efficacy⁶. Polyparasitism is the norm in these populations, and infections tend to be persistent. Hence, there is a great need to reduce morbidity caused by helminthes infections. However, major deficiencies exist in diagnostics and interventions, including vector control, drugs, and vaccines^{5,6,7}.

The definitive hosts of *Fasciola hepatica* are cattle and human while the intermediate hosts are freshwater snails, watercress and fishes. The infection in human begins when larva from intermediate hosts are ingested. The larva (metacercaria) excyst in the stomach, penetrate the duodenal wall and escape into the peritoneal cavity. They penetrate the Glisson's capsule to enter the liver parenchyma. The flukes slowly migrate through the hepatic parenchyma randomly making multiple small holes and cavities, causing inflammation, abscess formation, hemorrhage, necrosis, granulation, and fibrosis until they reach the larger bile ducts. They penetrate the duct walls to lodge in the lumen which is their permanent residence. Young fluke within the hepatic parenchyma measures few millimeters, while adult fluke within the bile ducts measure 20-40 mm in length and 8-13 mm in width. The hepatic stage may last for two to several months and the parasite may persist for a decade or more in the bile ducts silently^{5, 6}.

Clinical presentation, hematological, biochemical and radiological features widely varies among cases because of the nature of life cycle of *Fasciola hepatica* in human⁶. Infected patients may present with urticaria, vague abdominal pain, fever, features of hepatitis, liver abscess, cholangitis and obstructive jaundice; which are also common in other diseases and so a high index of suspicion is required to establish a correct diagnosis^{3,4,7}. The reported case also presented in various forms of clinical feature in different hospitals at different times that lead to diagnostic dilemma. Hematological, biochemical and imaging findings were variable enough to reach a correct diagnosis. In fact the patient was diagnosed with confidence at laparotomy when definitive presence of adult fluke worms in both extra and intra-hepatic biliary trees were noted. The differential diagnosis of

Fasciolosis includes hepatitis, cholecystitis, cholangitis, liver abscess, brucellosis, and primary and secondary Hepatobiliary malignancies^{8,9}. Failure or delay in the diagnosis of Fascioliasis is not a rare phenomenon in literatures and may lead to unnecessary patient sufferings as is in our case^{6, 9, 10}.

Triclabendazole (single 10 mg/kg oral dose or two doses 12 hours apart) or Praziquintel (20-25 mg/kg of body weight 3-4 times a day for 2-3 days) or Bithionol (30-50 mg/kg/day in three divided doses on alternate days for 10 to 15 days) are the drugs of choice for medical treatment. Complications like cholangitis, sludge, liver abscess, and obstructive jaundice might warrant surgical intervention¹¹.

Though human fascioliasis is a major health problem in both developing countries like Bolivia, Peru, Chile, and Ecuador and developed countries like Cuba, Egypt, Portugal, France, Spain, and Iran² Medline searches failed to produce any published data on human fasciolosis in Bangladesh. Sardar et al.¹² and Talukder et al¹³ investigated liver fluke infestations in cattle. Sardar et al. studied 360 animal intestines and found 25% were infected with *fasciola hepatica* while Talukder et al studied 325 black Bengal goats' liver and found 70 goats' (21.5%) liver to be infected with *fasciola hepatica*. Majority of Bangladeshi population are habituated to have these frequently in their diet. Alongside comes the chance of transmission in butchers and meat-handlers. Therefore definitely the chance of liver fluke infestations in our context may be prudently assumed not rare.

Conclusion

This case report justifies the necessity of high index of suspicion on clinical grounds for early diagnosis of human Fasciolosis and might represent the tip of an iceberg of liver fluke infestations in our community that undoubtedly warrants further insights.

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