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ASPIRATION OF *FASCIOLA HEPATICA* METACERCARIAE FROM LIVER ABSCESS: A RARE CASE REPORT

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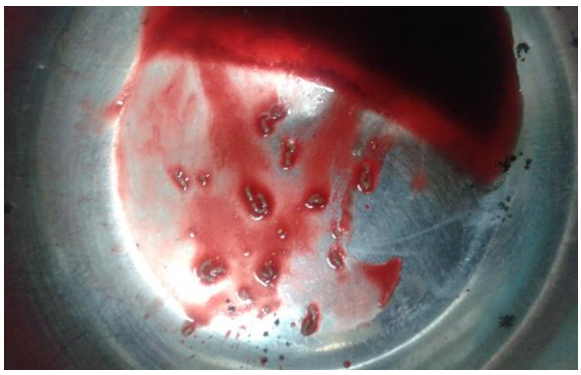
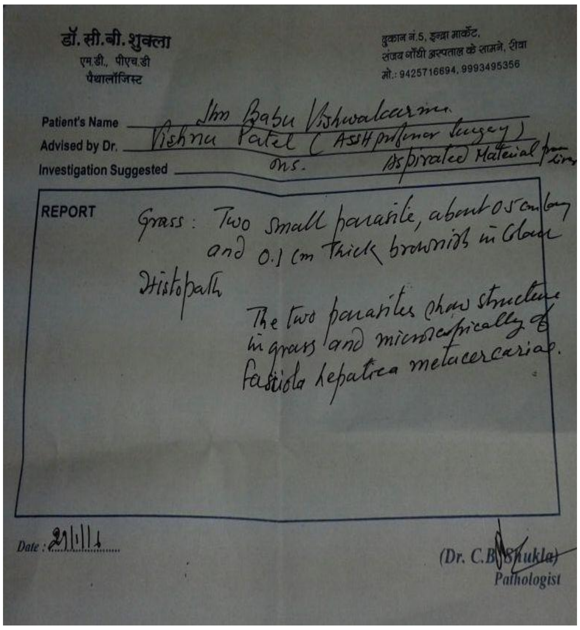
ABSTRACT
Human Fascioliasis is a zoonotic disease caused by trematodes – *Fasciola hepatica* and *Fasciola gigantica*[1] and present clinically either as an acute hepatic phase or a chronic biliary phase.[2] They are diagnosed directly by parasitological identification of eggs in stool or metacercariae/adults in hepatobiliary fluids or indirectly by detection of antigens in serological tests. Imaging techniques provide a useful aid in diagnosis. Most of the flukes are retrieved from common bile duct either during open exploration or ERCP. USG guided bile aspiration from gall bladder or Common Bile Duct is another important mode of retrieval. Rarely analysis of gall bladder or CBD stones reveal calcified flukes and aspiration of liver abscess may yield flukes. Triclabendazole is the drug of choice.[3] Here, we report a rare case of aspiration of live metacercariae of *Fasciola hepatica* from the liver abscess of a 22 year old male who presented to us with fever and pain in the right upper quadrant of abdomen. **Introduction:** The possibility of *Fasciola hepatica* should be kept in mind when dealing with cases of hepatic abscesses, hepatitis and chronic CBD obstruction. Its impact and wide emergence has prompted the World Health Organization (WHO) to include human fascioliasis on its list of priorities among neglected tropical diseases (NTDs).[4] Its diagnosis is challenging as no single test claims good predictive value but once the diagnosis is made by a combination of tests or repeating the tests serially, the treatment is rather easy and rewarding unless life-threatening complications have set in. A high index of clinical suspicion combined with timely intervention can go a long way in dealing with this emerging public health problem.

KEYWORDS: *Fasciola hepatica*, metacercariae, liver abscess.

CASE REPORT
A 22 year old man presented to the Surgery Department of Shyam Shah Medical College, Rewa (M.P.) with chief complaints of fever and pain in the right upper quadrant of abdomen since past 7 days. The fever was remittent in nature and associated with chills. The pain was dull aching in character, associated with nausea, radiating to right shoulder region and relieved with analgesics. On examination, the patient was dehydrated, tachycardiac and febrile. Abdominal examination revealed tender hepatomegaly with smooth surface, regular margin, firm consistency. Complete blood count revealed Leucocytosis (12500/mm^3) with 12% eosinophils. Malarial parasite was not detected on peripheral smear. Chest X-ray and routine urine examination were unremarkable. Liver function and Renal function tests were normal. Patient was resuscitated with isotonic saline and started on broad spectrum antibiotics. Ultrasound of the abdomen was done which revealed an abscess of 150 cc in the right lobe of a liver. The abscess was aspirated the next day with 18 Fr spinal needle which yieded 5mm x 1 mm brownish worms along with about 100 cc pus. The worms were sent for parasitological examination and were found to be metacercariae of *Fasciola hepatica.* Serological investigation was not done due to financial constraints. Albendazole was given orally to the patient. His symptoms resolved over 7 days after which he was discharged. On subsequent follow-ups, the patient remained asymptomatic and hence was not subjected to any further investigation.

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दुकान नं.5, इन्द्रा मार्केट,
संजय गाँधी अस्पताल के सामने, रीवा
मो.: 9425716694, 9993495356

Patient's Name: Shri Babu Vishwakarma
Advised by Dr. Vishnu Patel (Asstt professor Surgery)
Investigation Suggested: ons. Aspirated Material from liver

REPORT
Grass: Two small parasite, about 0.5 cm long and 0.1 cm thick browniss in Cla
Histopath
The two parasites show structure in grass and microscopically of Fasciola hepatica metacercariae.

Date: 21/1/1

(Dr. C.B. Shukla)
Pathologist

DISCUSSION

Human Fascioliasis is a zoonotic disease caused by trematodes of genus Fasciola, most commonly implicated species being *Fasciola hepatica* and *Fasciola gigantica*.[1] Human Fascioliasis is a significant public health problem and a neglected tropical disease with a great impact on human development.[4,5] Life cycle of this parasite starts as eggs which are shed with mammalian stool and get deposited in tepid water (22-26°C) where miracidia appear, develop, and hatch within two weeks. These miracidia invade many species of freshwater snails in which they further develop to sporocyst and redia for 4-7 weeks. They leave as free-swimming single tailed cercaria that subsequently attach to many water plants like watercress and water lettuce.[6,7] They encyst within few hours and are eaten by the definite host, humans.[5] The metacercariae residing in human small intestine release the young parasites, which then rapidly penetrate the intestinal wall and enter the peritoneal cavity. The immature flukes penetrate the Glisson's capsule after 48 hours and enter the liver and migrate throughout the hepatic parenchyma till they reach the biliary system where they become adults within 3 to 4 months from the initial infection and lay eggs.[5]

The clinical presentation of Fascioliasis vary according to 2 different phases of infection. The acute or hepatic phase occurs when the worm migrates through the liver parenchyma and can last for up to 3 months after ingestion of metacercariae and is characterized by eosinophilia, hepatomegaly, ascites, subscapular hemorrhage, hepatic necrosis, hepatic abscesses and pulmonary infiltration.[2] The second phase is the chronic or biliary phase, which begins when the adult flukes enter the biliary tree, where they can remain asymptomatic for many years. They occasionally cause inflammation, epithelial hyperplasia and fibrosis, which can lead to biliary obstruction, cholangitis, pancreatitis[8], hemophilia.[2] and anemia.[9]

Diagnosis of Human Fascioliasis is made by direct parasitological examination of fecal sample and biliary aspirate for the presence of eggs or rarely the parasite. Intradermal test and stool antigen detection tests are also available and have the added advantage of being applicable during all stages of disease and act as a useful tool to monitor post-treatment evaluation. USG, CT scan, MRI and MRCP are the imaging techniques used in helping the diagnosis. ERCP is commonly used as a diagnostic as well as therapeutic tool.[5,10,11,12] Other modalities of diagnosis include liver scan using 99^{m}Tc uptake, which may show irregular radio colloid and/or lacunar areas and Laparoscopy which may show features of diseased liver with tunnel like lesions on its surface and yellow-white nodules with hyper-vascularized halo of different sizes and shapes.[13] Liver biopsy may show granulomas with central necrosis, cellular debris, and Charcot-Leyden crystals encompassed by eosinophils and inflammatory infiltrate. Diagnosis of Fasciola hepatica during hepatobiliary surgeries has been reported.[3,14,15,16.17,18]

Triclabendazole is the drug of choice for the treatment of both the acute and chronic phases. The recommended dose is 10mg/ kg as single dose taken with fatty meal for better absorption. The dose can be repeated 12 hours or 24 hours apart for severe cases. Albendazole and Praziquentel have shown variable degrees of success.[5] Emetine and Dehydroemetine are other useful options but they come with potential side effects on heart, liver and digestive tract.

We report a rare case of retrieval of live metacercariae of *Faciola hepatica* from liver abscess of a 22 year old male. Liver abscess is one of the manifestation of the transient acute phase of Human Fascioliasis which is treated with aspiration and systemic antibiotics along with symptomatic and supportive management. Such cases of retrieval of *Faciola hepatica* from liver abscess has been rarely reported in medical literature.[3,15,16,17,18]

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