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Case Report

Fasciola hepatica infestation masquerading as hydatid cysts of the liver

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Abstract:
Human hepatic fascioliasis has been reported in 81 countries, some of which are endemic areas. Fascioliasis is a re-emerging food-borne parasitic zoonosis which presents with nonspecific clinical symptoms. Hepatobiliary fascioliasis is one of the rare but important parasitic infections in endemic areas such as Pakistan. Definitive diagnosis requires demonstration of parasitic ova in stool which may often be elusive. Imaging plays a crucial role in raising the possibility of this diagnosis early in the disease course. Contrast enhanced CT scan was performed in an 18 years old female with recent history of hydatid cyst excision and sub-hepatic drain placement, who now presented with increased biliary output. Endoscopic retrograde cholangiopancreatography was performed and this liver parasite was removed.

Keywords:
Fasciola Infection, ERCP, Hydatid Cyst

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Introduction:

Over 3 million people globally suffer from the parasite illness Fasciola hepatica. In Latin America, Eastern Europe, the Far and Middle East, it occurs more commonly. It may result in pancreatitis, cholecystitis, cholangitis, and biliary blockage. There have been reports of human hepatic fascioliasis in 81 countries, including endemic ones like Bolivia, Peru, Ecuador, Iran, Egypt, Turkey, China, Vietnam, Nepal, Pakistan, and Syria. Confirmed incidences in North America are linked to immigrants or foreign workers from endemic regions. Humans may unintentionally become hosts of Fasciola hepatica by ingesting metacercarciea through contaminated food or drink.

Case Summary:

18 years old female presented with a complaint of increased drain output of about 1500ml/day. She has a past history of hydatid cyst excision from a local hospital few days back, followed by sub hepatic drain placement. Her lab workup, including liver function test, renal function test, thyroid function test, serum electrolytes, was normal. Complete blood count showed normal leukocyte count with 6% eosinophil. Her abdominal imaging showed defects involving the segment VII and VIII of the liver. There was a well-defined fluid attenuated area along resected margin, involving the sub-capsular area of segment VII having internal septations, tracking inferiorly along the peri-hepatic space and appear to be closely approximated to right intrahepatic biliary channels. There were few prominent lymph nodes at porta hepatis. Common bile duct was slightly prominent with thick walls. Another multiloculated cystic area with internal septations was noted, involving the body and tail of pancreas. Findings were consistent with hydatid cyst.

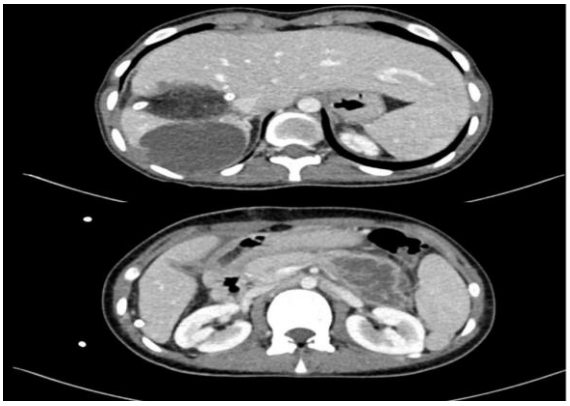

Figure I: Contrast enhanced CT showing fluid attenuated area along resected margin in segment VII.

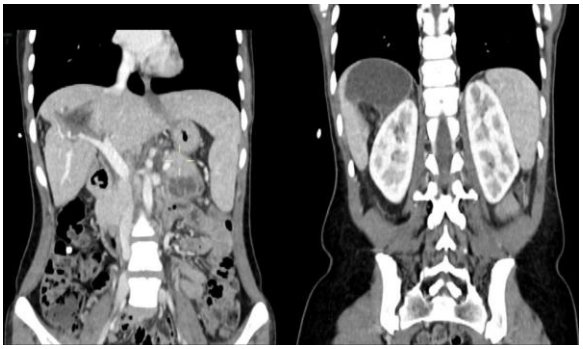

Figure II: Coronal view of CECT Abdomen showing dilated biliary channels (left) and fluid filled area in segment VII (Right).

Endoscopic retrograde cholangiopancreaticography was planned which showed deformed ampulla due to previous history of attempted ERCP from local hospital. Biliary cannulation was challenging in this patient. Contrast was injected which showed leak at common hepatic duct. Multiple balloon trawl done which showed extrusion of liver parasite. 7Fr x 12cm plastic stent was placed in CBD across leak.

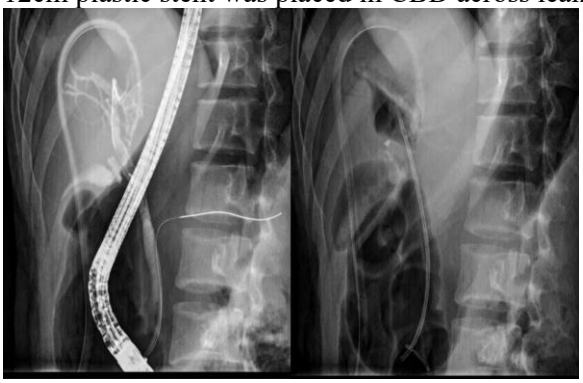

Figure III: ERCP Cholangiogram showing bile leak (left).

Parasite was retrieved by suction and sent for histopathology. Fragments of the worm confirmed Fasciola hepatica.

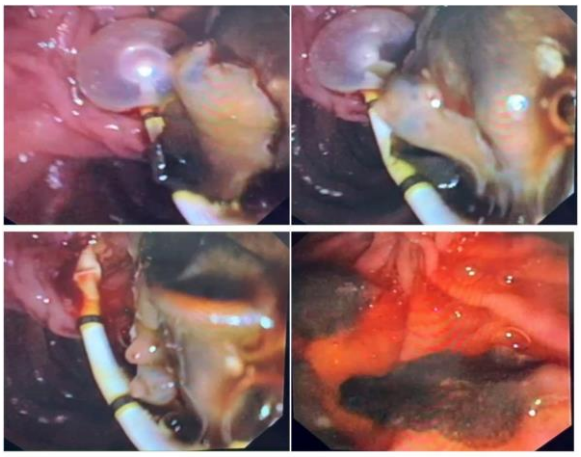

Figure IV: Endoscopic Retrograde Cholangiogram showing extrusion of liver parasite during balloon trawl.

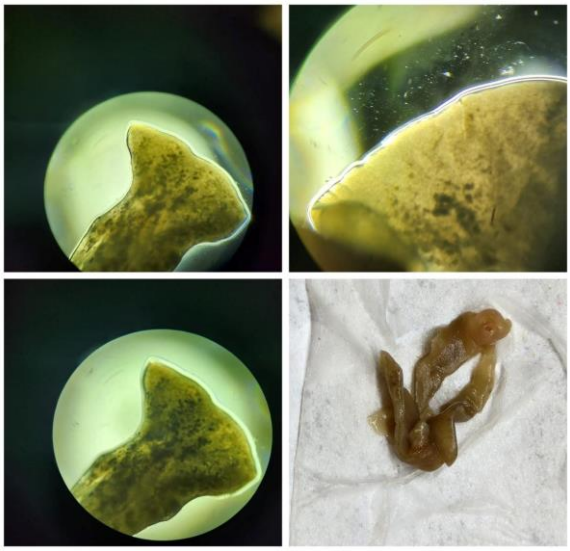

Figure V: Gross appearance of Liver fluke

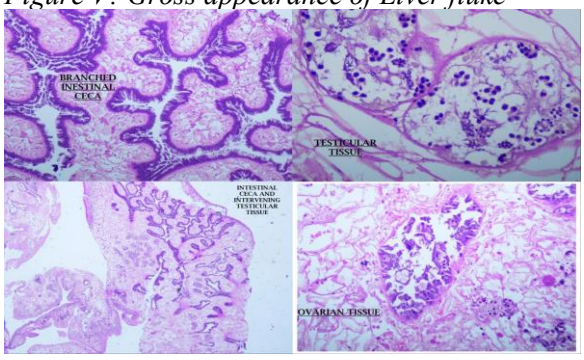

Figure VI: Histopathology slide of fragments of Fasciola Hepatica.

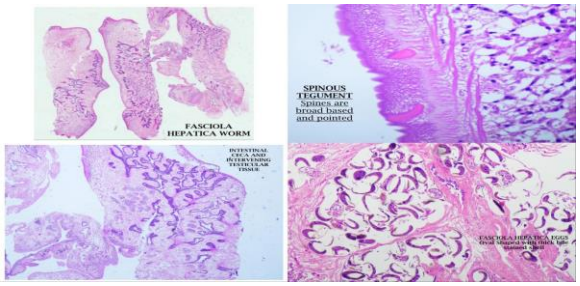

Figure VII: Histopathology slides of fragments of Fasciola Hepatica

Nitazoxanide 500mg twice daily for 7 days was started. Her drain output decreased significantly to 50ml/day.

Discussion:

In our case, we report a confirmed case of hepatic fascioliasis in a young woman, presented with increase biliary output after hydatid cyst excision and sub-hepatic drain placement. This case study emphasizes the value of cross-sectional imaging in both the diagnosis and distinction of hepatic fascioliasis from other liver illnesses that present with strikingly similar radiological and clinical features.

There have been reports of human infections caused by the liver fluke F. hepatica in various regions of the world where sheep are raised especially from Australia, China, South America, Europe, and Africa [1]. Water plants can be a cause of hepatiotic fascioliasis infection to humans with a wide range of clinical presentation, from an infection without symptoms to severe liver cirrhosis. Highly sensitive serologic tests FAST-ELISA, indirect hemagglutination, complement fixation, and indirect immunofluorescence (IIF), counter electrophoresis, as well as double diffusion are critical for the diagnosis of acute fascioliasis but may cross-react with other diseases caused by parasites, such as echinococcus relatively common in Nepal[2].

Hepatobiliary fascioliasis in humans is diagnosed using a combination of specific parasitological tests, indirect immunological testing, and cross-sectional imaging modalities including ultrasound, CT, and MRI, provided that a suitable clinical situation is present. The degree of suspicion, the disease's stage, and the availability of resources and knowledge are some of the variables that may affect the diagnostic technique. In this instance, the patient's CT scan, revealed very suggestive results for hepatic fascioliasis, which the ELISA test verified [3].

F. hepatica often manifests as a hypo dense lesion on CT scan pictures and a hypo echoic lesion on ultrasound imaging [4]. 180 million individuals are at risk and 2.4 million people worldwide have this zoonotic disease. The illness progresses in two stages: acute and chronic. The parasite's acute phase spans the hepatic invasion period, while its chronic phase is spent in the bile ducts. Because of the obstruction in the bile pathways, symptoms such as jaundice, cholangitis, pancreatitis, nausea, anorexia, and cholecystitis may manifest during the chronic phase of the parasite [5]. Because of this, the patient's history of consuming watercress and residing in an endemic location may provide diagnostic cues.

Cholangitis and hepatitis, liver abscess, brucellosis, cholecystitis, biliary tract stones, and primary and secondary liver cancers are among the conditions that fall within the category of differential diagnosis but fascioliasis hepatica is often misdiagnosed, resulting in needless surgery. Seldom is a liver biopsy for tissue diagnosis carried out; the results may necrosis, acute and/or chronic inflammatory alterations, debris, and sometimes small pieces of migratory larvae[2].

The main course of treatment is anthelminthic medication. Patients who do not respond well to treatment or who exhibit signs of acute cholangitis and bile duct obstruction may need to have their biliary system decompressed or stented, or they may need endoscopic parasite extraction. Cholecystectomy is typically required when the gallbladder is involved [6].

It is reported in the literature that ERCP is used in the diagnosis and treatment of patients in the chronic phase. In our case, we performed ERCP and the parasite was removed from the bile duct.

Conclusion:

In this case report, we emphasized that fascioliasis might manifest itself through unusual symptoms with no specific clue as to its underlying cause. They might be confused with liver abscess, malignant liver mass or complex hepatic cyst. By doing so, the problem can be diagnosed earlier, therapeutic interventions can begin sooner, and

invasive diagnostic tests can be avoided. ERCP provides important benefits both in the diagnosis and treatment of Fasciola hepatica. Fascioliasis can be prevented with public education and environmental precautions such as avoiding the consumption of contaminated water and plants.

Ethical statement:-

Consent taken from patient to report his case.

Funding Disclosure:-

None

Conflict of interest:-

None

Author's Contribution:

FA: Conceived and designed the study, involved in data collection, performed statistical analysis and writing the manuscript.

MA, ZA, MRJ, AF: Collected the data, critical review and preparation of manuscript.

All authors have read, approved the final manuscript and are responsible for the integrity of the study.

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