

# Incidental Human Fascioliasis in a Patient of Blunt Trauma Abdomen: First Case Report

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**Abstract:** Fascioliasis caused by *Fasciola hepatica*, is a zoonotic disease predominantly affecting hepato biliary tree. In India this disease has been limited to few case reports. A 34 yr old male, operated for complete jejunal transection due to blunt trauma abdomen, was found to be having *Fasciola hepatica*.

**Keywords:** Human Fascioliasis, Fasciola Hepatica, Blunt trauma abdomen, Zoonosis.

## 1. Introduction

Fascioliasis is a zoonosis caused by trematodes *Fasciola hepatica* and *Fasciola gigantica*. Human infection occurs due to the ingestion of uncooked aquatic vegetables and drinking water containing encysted metacercariae, including watercress (*Nasturtium officinale*), particularly in communities where infected cattle and/or sheep are present [1],[2]. Patients may be asymptomatic or present as gastrointestinal symptoms, chronic cholecystitis, cholangitis and liver abscesses which may be accompanied by biliary colic, epigastric pain, jaundice, pruritus and upper right quadrant pain [3]. The asymptomatic patient can be diagnosed on stool examination. Such an asymptomatic case was incidentally encountered who sustained blunt trauma abdomen and underwent exploratory laparotomy.

## 2. Case Report

A 34 years old patient with alleged history of fall from height presented with blunt trauma abdomen with features of peritonitis and sepsis. Prior to this, patient has no past history of pain abdomen or any features suggestive of obstructing jaundice. Exploratory laparotomy was performed. There was complete transection of jejunum and two fasciolae were retrieved from the transected small intestine. Intra-op, no significant changes were noted in hepato biliary tree. Resection and anastomosis of small bowel was performed. The helminths were sent to department of microbiology for confirmation. Praziquantal was given as 10mg/kg body weight (single dose) in post-operative period.



**Figure 1:** Fasciola hepatica

## 3. Discussion

Human fascioliasis in India has been limited to a few case reports and incidental findings on imaging or endoscopy mainly from north and northeastern India including Assam, Uttar Pradesh and Bihar with more recent reports from Mumbai [4]-[6]. Most of these reports have documented the presence of flukes in the bile duct and spine and only one report, the presence of ova in stool [4]-[7]. We incidentally found the adult form of fasciola while operating upon a patient of blunt trauma abdomen. Such a unique case has never been reported till date.

Infection is more common in indigenous people and farmers who share same water sources with their animals such as sheep, goat and cattle which are the definitive host including humans and also commonly consume fresh-water aquatic plants such as water cresses [8]. *Fasciola hepatica* passes its life cycle in two different hosts. The adult worms reside in the biliary passage of the definitive host & the eggs are passed out in the faeces; which in water develop into a ciliated miracidium. In the intermediate host, the Lymnaea snails, the miracidium passes through the stages of sporocyst and rediae; and finally to the stage of cercariae; the whole cycle taking a period of 30–60 days. The mature cercariae escape from the snail into the water and encyst in the blades of grasses or water cress to metacercariae which are swallowed by definitive host including humans. In

duodenum, excystation occurs, migrate through the intestinal wall into the peritoneal cavity, penetrate the capsule of the liver, traverse its parenchyma and settle in the biliary passage [9].

The acute phase of fascioliasis is characterized by fever, abdominal pain, hepatosplenomegaly, gastrointestinal disturbances, skin rashes, high leukocyte count, eosinophilia, anemia, and raised erythrocyte sedimentation rate (ESR) with abnormal liver function tests [10]. The latent phase is characterized by nonspecific symptoms, including vague gastrointestinal disturbances, and intermittent eosinophilia. The chronic phase is characterized by regular and constant biliary obstruction; symptoms include biliary colic pain, intermittent jaundice, eosinophilia, and right upper-quadrant abdominal tenderness [11]. In our case, clinical sign and symptoms was not present. Classical coprology (stool examination by microscopy) and serology (using enzyme-linked immunosorbent assay, ELISA) are commonly used to diagnose [12],[13].

In fascioliasis, the causative agent could be *F. hepatica* or *F. gigantica*. In countries where both species co-exist, size and shape of the eggs passed in the feces are crucial diagnostic feature [8]. Multiple specimens may need to be examined because egg production is relatively low and egg excretion may be intermittent [14]. Serology may be inconclusive as antibodies may be detectable for years after infection, even with successful treatment [15].

The recommended anti-parasitic agent for *Fasciola hepatica* is triclobendazole 10mg/kg body weight as a single dose. Praziquintal is an effective alternative drug as 10mg/kg body weight (single dose). Nitazoxanide (500mg BD X 7days) is a good alternate drug especially for chronic stage of infection [16].

#### 4. Conclusion

Parasitic infestations are common in developing countries. However, they are wrongly diagnosed as other medical or surgical conditions; and remain untreated for long. Infections like fascioliasis can be diagnosed by simple stool microscopic examination and can be treated with a short course of anti-helminthic therapy. A high index of suspicion is must to diagnose such parasitic infections. Family members of the patient should also be screened since they share the common food and water and may harbor the parasite.

#### References

- [1] Datt LA, Varma S (2015) Management of hypereosinophilia in tropical settings. Medical Journal Armed Forces India 71: 60-66.
- [2] Chatterjee KD. Parasitology (Protozoology and helminthology) 13th edition. Kolkata. 2014. p. 186-8.
- [3] Arora DR, Arora BB. Medical parasitology, 3rd edition. 2010. p. 158-60.
- [4] Narain K, Biswas D, Rajguru SK, Mahanta J. Human distomatosis due to *Fasciola hepatica* infection in Assam, India. J Commun Dis 1997; 29:161-5.
- [5] Elhense v, Mehta B ,Gupta RK. Fascioliasis: A case fom central Uttar Pradesh. Indian J Gastroenterol 2001;20:164.
- [6] Vatsal DK, Kapoor S, Venkatesh V, Vatsal P, Husain N. Ectopic fascioliasis in the dorsal spine: Case report. Neurosurgery 2006;59:E706-7; discussion E- 706-7
- [7] Gandhi V, Jain P, Rathod V, Nagral S. Endoscopic ultrasound in biliary fasciolosis. Indian J Gastroenterol 2010;29:128.
- [8] Marcilla A, Barques MD, Mas-Coma S. A PCR-RFLP assay for the distinc- tion between *Fasciola hepatica* and *Fasciola gigantica*. Mol Cell Probes. 2002;16(5):327-33.
- [9] Sah R,Khadka S, Khadka M, Gurubacharya D,Sherchand JB, Parajuli K, Shah NP,et all . Human fasciolosis by *fasciola hepatica*:the first case report in Nepal. BMC Research Notes. 10. 10.1186/s13104-017-2761-z
- [10] Mas-Coma S, Bargues MD (1997) Human liver flukes: A review. Research and reviews in Parasitology 57: 145-218.
- [11] Calvopina M, Gonzalez M, Muñoz G, Cevallos W, Celi M, et al. (2018) Asymptomatic *Fasciola hepatica* Infection Presenting with Hypereosinophilia. Arch Clin Microbiol. Vol.9 No.1:73.
- [12] WHO (2007) Report of the WHO Informal Meeting on use of triclabendazole in fascioliasis control. WHO headquarters, Geneva, Switzerland 22: 154.
- [13] Van Beers B, Pringot J, Geubel A, Trigauxc JP, Bigaignon G, et al. (1990) Hepatobiliary fascioliasis: Noninvasive Imaging Findings. Radiology 174: 809-810.
- [14] Jones EA, Kay JM, Milligan HP, Owens D. Massive infection with *Fasciola hepatica* in man. Am J Med. 1977;63:836.
- [15] Santiago N, Hillyer GV. Antibody profiles by EITB and ELISA of cattle and sheep infected with *Fasciola hepatica*. J Parasitol. 1988;74:81.
- [16] WHO (2011) Report of the WHO Expert Consultation on Foodborne Trematode Infections and Taeniasis/Cysticercosis. Vientiane, Lao People's Democratic Republic, WHO/HTM/NTD/PCT/2011 3: 12-16.

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**Manish Verma** received the M.S. degrees in General Surgery from PGIMS Rohtak in 2007. During 2007-2009, he stayed in PGIMS Rohtak as Senior Resident in the department of Surgery. For the last 10 years, he is working as consultant in the department of Surgery PGIMS, UHS, Rohtak, Haryana, India