



# A Case Report of *Fasciola hepatica* for the First Time in Nepal

Ranjit Sah<sup>1</sup>, Shusila Khadka<sup>1</sup>, Mohan Khadka<sup>3</sup>, Bharat Mani Pokhrel<sup>1</sup>, Jeevan Bahadur Sherchand<sup>2</sup>, Keshab Parajuli<sup>1</sup>, Niranjana Prasad Shah<sup>1</sup>, Shyam Kumar Mishra<sup>1</sup>, Sangita Sharma<sup>1</sup>, Hari Prasad Kattel<sup>1</sup>, Basista Rijal<sup>1</sup>

1. Department of Microbiology, Tribhuvan University and Teaching Hospital (TUTH), Institute of Medicine, Kathmandu Nepal.

2. Public Health Research Laboratory, Tribhuvan University Institute of Medicine, Kathmandu Nepal.

3. Department of Medicine (Gastroenterology), Tribhuvan University and Teaching Hospital (TUTH), Institute of Medicine, Kathmandu Nepal

## ABSTRACT

Fascioliasis is a zoonotic disease caused by *Fasciola hepatica*. Patient generally presents with jaundice and biliary colic or right upper abdominal pain due to bile duct obstruction. We report a case with obstructive jaundice whose peripheral blood smear revealed eosinophilia. The patient also gives the history of consumption of water-cress. ERCP showed the presence of a flat worm resembling *Fasciola hepatica* and stool routine examination revealed ova of *Fasciola hepatica*. The patient was treated with Nitazoxanide with which the patient recovered. Repeat stool examination two weeks after treatment revealed no ova of *Fasciola hepatica*. Patient with fascioliasis can be simply diagnosed with stool routine microscopy and treated with a 5-7 days course of Nitazoxanide. So patient with symptoms of obstructive jaundice, eosinophilia and history of water-cress consumption should be suspected for fascioliasis and investigated and treated accordingly.

## INTRODUCTION

Fascioliasis is caused by infection of trematodes belonging to the genus *Fasciola* (*F. hepatica* and *F. gigantica*). Its infection is known to cause bile duct inflammation and biliary obstruction<sup>1,2</sup>. Fascioliasis can be presented as various clinical manifestation from mild to severe in nature. Patient may be asymptomatic or presents 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<sup>3</sup>. Patient of Fascioliasis often give the history of consumption of water-cress, a water plant which *Fasciola hepatica* requires for completion of its life cycle.

We are reporting a case of 45 years old female from Surkhet presented with the complain of fever for 4 months which was irregular in nature, pain in the right hypochondriac region with jaundice and occasional vomiting for same duration. She gave the history of drinking local river water with the habit of eating aquatic plant (water-cress), there was no history of consumption of raw fish. She had visited to different health institute of Nepal as well as India for seeking proper treatment, however no proper diagnosis was done and finally she was admitted in department of medicine (gastroenterology) of Tribhuvan University and Teaching Hospital (TUTH), Kathmandu, Nepal on August 2015. Her routine peripheral blood smear examination showed hyper-eosinophilia (27%). So, Endoscopic Retrograde Cholangiopancreatogram (ERCP) was done to evaluate the cause of her obstructive jaundice and an uncommon morphology of adult worm was seen (figure 1 and 2) which send to microbiology department of TUTH by gastroenterologists for further evaluation and identification

## METHODS AND MATERIALS

The adult worms were received in our laboratory and its morphological characteristics were studied. Patient stool sample was collected and processed for routine macroscopic and microscopy examination. For increased yield of ova, stool was concentrated by modified zinc sulphate concentration technique<sup>4</sup> and wet mount was prepared for microscopy. The size of the detected ova was measured using cell sensation software version 1.12 for DP73 camera installed to the Olympus BX53 microscope used for the microscopy. The photographs of the ova was sent to CDC (Centre for Disease Control and prevention) for confirmation.

**Keywords** : *Fasciola hepatica*, Fascioliasis, TUTH, Nepal

## RESULTS

The morphology of the adult worm revealed flat, leaf like measuring approximately 2 to 2.5 cm in length by 1 cm in breadth and brown to pale grey in colour (fig no.3). It had a distinct conical projection at the anterior end and broadly pointed posterior end. On macroscopic examination of stool, it was yellowish-brown with soft consistency. Microscopic examination of the wet mount of the stool sample showed large, elliptical to oval, operculated, light yellowish brown ova (fig no.4,5,6) measuring 140-142  $\mu$ m by 70-75 $\mu$ m (fig no.7). On the basis of morphological appearance of adult worm and characteristic feature of the detected ova and its measurement, *Fasciola hepatica* was identified. The photographs of the ova was confirmed as ova of *Fasciola hepatica* by CDC. Patient was treated with Nitazoxanide 500mg twice daily for 5 days and follow up stool examination two weeks after treatment revealed no ova of *Fasciola hepatica*.



Figure 1. Adult worm of *Fasciola hepatica* during ERCP.

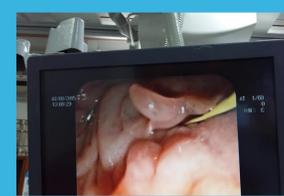


Figure 2: Adult worm of *Fasciola hepatica* during ERCP.



Figure 3: Dead adult worm of *Fasciola hepatica* received in microbiology laboratory



Figure 4: Ova of *Fasciola hepatica*



Figure 5: Next ova of *Fasciola hepatica* seen in same patient



Figure 6: Another ova of *Fasciola hepatica* seen in same patient

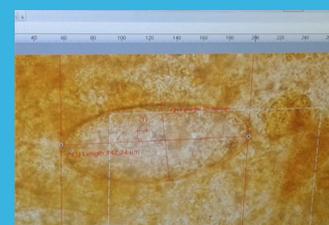


Figure 7: Measurement of the ova (142 $\mu$ m by 70  $\mu$ m) using cell sensation software version 1.12 for DP73 camera installed to the Olympus BX53 microscope used for the microscopy

## DISCUSSION

We are reporting a case of *Fasciola hepatica* which has not been diagnosed earlier in Nepal to our knowledge, although fascioliasis is regarded as one of the most important platyhelminthic infection of Asia and Africa<sup>5</sup>. Its infection is known to cause biliary tract inflammation and obstruction. Symptoms may include fever, malaise, fatigue, anorexia, weight loss and peripheral eosinophilia. Symptoms may be absent in case of light infection. Infection is more common in indigenous people and farmers who share same water sources with their animals and have a habit of eating fresh-water aquatic plants such as water cresses<sup>5</sup> locally called seem-saag in Nepal.

In fascioliasis, the causative agent could be *Fasciola hepatica* or *Fasciola gigantica*. In countries where both species co-exist, size and shape of the eggs passed in the faeces are crucial diagnostic feature<sup>5</sup>. The differentiation between *Fasciola hepatica* and *Fasciola gigantica* infection in humans is very important because of their different transmission and epidemiological characteristics<sup>6</sup>.

The recommended anti-parasitic agent for *Fasciola hepatica* is triclabendazole 10mg/kg body weight as a single dose<sup>1</sup>. However, we have treated our patient with Nitazoxanide 500mg twice daily for 5 days as Triclabendazole is not available in Nepal and Nitazoxanide is an alternative choice<sup>1</sup>. The patient was improved with the treatment and follow up stool routine examination 2 weeks after treatment revealed no ova of *Fasciola hepatica*.

## CONCLUSIONS

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 routine microscopy examination and their treatment is simply a short course of anti-helminthic therapy. So, patient with supporting clinical history and clinical findings should be suspected and searched for the evidence of such parasitic infections.

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## CONTACT

Dr. Ranjit Sah  
Institute of Medicine, Maharajgunj  
Medical Campus, TUTH, Kathmandu,  
Nepal  
Email:ranjitsah57@gmail.com  
Phone:+977- 9808182012