

# Biliary Tract Obstruction Due to *Fasciola hepatica* Managed by ERCP

Y. Bafandeh, D. Daghestani, S. Rad

## Abstract

Fascioliasis is a health problem in several countries including the Islamic Republic of Iran. In a review of the medical publications during 1990-2002, only 22 cases of biliary tract obstruction by *fasciola hepatica* have been reported. Herein, we are adding a new case of fasciola hepatica causing bile duct obstruction and presenting with intermittent colicky pain, eosinophilia and bile duct dilatation. This condition was diagnosed by endoscopic retrograde cholangiopancreatography (ERCP) and was treated by extemporaneous papillotomy. This case report confirms that in endemic areas, fascioliasis should be included in the list of the differential diagnosis for colicky abdominal pain, eosinophilia and bile duct dilatation. The condition could be concurrently diagnosed and treated by ERCP.

**Iran J Med Sci 2003; 28 (1):43-45.**

**Keywords** • Fascioliasis • fasciola hepatica • bile ducts • cholangiopancreatography, endoscopic retrograde•

## Introduction

**F**asciola hepatica (FH) is a leaf-shaped trematode that usually attacks cattle and sheep. Nevertheless, human infestations are common in underdeveloped or developing countries.<sup>1</sup> Humans become accidental host in the reproductive cycle of the parasite by eating cyst-laden water plants.<sup>2</sup> WHO has stressed the widespread health problem of fascioliasis in several countries including the Islamic Republic of Iran.<sup>3</sup>

Biliary parasites including FH are reported to induce cholangitis in many parts of the world.<sup>4</sup> Only few cases of common bile duct (CBD) obstruction by FH have been reported.<sup>5</sup> Herein we report another case of CBD obstruction by FH, diagnosed by ERCP and treated by papillotomy without resorting to open surgery.

## Case Presentation

A 36-year-old male patient with a history of exacerbating pain in right upper quadrant (RUQ), fever and jaundice for 3 years. Laboratory findings during an episode consisted of a white blood cell count of 13400/mm<sup>3</sup> with 22% eosinophils; an erythrocyte sedimentation rate of 16 mm/hr, Hb of 11.7 g/dL, a total bilirubin of 1.3 mg/dL (direct=0.3 mg/dL), an aspartate transaminase (AST) activity of 70 U/L, an alanine aminotransferase (ALT) of 105 U/L, and an alkaline phosphatase (ALP) of 1800 U/L. During asymptomatic and remission phases, CBC, ESR, AST, ALT, ALP, bilirubin, prothrombin time and partial thromboplastin time were normal except for a 10% eosinophilia. Frequent stool examinations for ova and parasites were negative. The findings of ultrasonographic (US) studies,

Departments of Gastroenterology and  
Radiology of Tabriz University of  
Medical Sciences, Tabriz, Iran

**Correspondence:** Y. Bafandeh M.D.,  
Departments of Gastroenterology and  
Radiology of Tabriz University of  
Medical Sciences, Tabriz, Iran  
**Tel:** +98-411-3352079  
**E-mail:** [y\\_bafandeh@yahoo.com](mailto:y_bafandeh@yahoo.com)



**Fig 1:** CT scan of the patient demonstrates: multiple subcapsular hypodense lesions in both lobes, dilatation of intra and extrahepatic bile ducts, and ascites.



**Fig 2:** ERCP of the patient showing: dilated bile ducts with multiple densities striated by hypodense lines.

performed at least 4 times over the past 3 years were: a 2 × 3 cm heterogeneous mass in right hepatic lobe accompanied by dilatation of CBD, ascites, and mild hepato-splenomegaly. In CT scan performed twice, multiple small subcapsular hypodense lesions in both lobes, possibly due to metastasis, were discovered along with dilatation of intra and extrahepatic bile ducts, and ascites (Figure 1). Because of the dilatation of bile ducts we performed endoscopic retrograde cholangiopancreatography (ERCP), which revealed dilated CBD containing multiple densities and striated by hypodense lines (Figure 2). After papillotomy, 12 leaf-shaped live FH, each measuring 15 × 25 mm were evacuated. A small, yellow biliary stone was also extracted. Triclabendazole (Egaten) 10 mg / kg was prescribed as an oral single dose.

## Discussion

Humans are the only accidental host for FH infestation which results from ingestion of uncooked and unwashed vegetables. After oral ingestion, the larva find their way through the liver to the bile ducts where they mature into adult worms.<sup>6</sup> Abdominal pain, fever, and hepatomegaly are the most common manifestations of the involvement.<sup>7</sup> In case of CBD obstruction, almost all of the patients have a positive history. The symptoms and signs characteristics for cholelithiasis are recurrent colicky pain in RUQ, fluctuating or stable fever, jaundice, and palpable painful gall-bladder.<sup>5</sup> Thus, in endemic areas many cases upon surgical exploration of biliary tract, with preoperative diagnosis of cholelithiasis, it is not uncommon to find FH as the cause of obstruction.<sup>8</sup> Our patient was admitted with symptoms of colicky pain in RUQ, intermittent fever and jaundice. Ascites induced by FH may mimic peritoneal carcinomatosis.<sup>7</sup>

Blood eosinophilia, as was seen in our patient, is the most frequent abnormal laboratory finding.<sup>7</sup> No parasite eggs are found in stools until the worm reaches the bile duct. Therefore, suspicion of the parasitic infestation, as indicated by radiologic study, is important for early diagnosis.<sup>9</sup>

Ultrasonographic (US) findings comprise: impaired gallbladder contractility, tenderness on transducer application (Murphy sign), debris in the gall-bladder, calculi and wall thickening associated with marked bile duct dilatation.<sup>6,9</sup> In case of hepatic involvement multiple nodular lesions of variable echogenicity may be found<sup>9</sup> and CT scan will demonstrate nodular and tortuous structures, and intravenous administration of contrast medium may improve detection of the lesions.<sup>9</sup> In biliary fascioliasis, US may reveal motile parasites.<sup>9</sup> CT although, of little value, may show dilatation of biliary tract and enhancement of thickened wall.<sup>1,9</sup> In our case, US and CT showed nonspecific hepatic and biliary tract involvement. In chronic fascioliasis ERCP will show bile duct dilatation, crescent or leaf-shaped defects in the gall-bladder or bile ducts.<sup>1</sup> In our patient ERCP revealed parasites both in intra and extrahepatic bile ducts.

Several drugs have been tried for the prevention and treatment of FH. Triclabendazole and bithionol appear to be most effective.<sup>1,10</sup> They have been shown to be equally beneficial in biliary tract involvement.<sup>6</sup> However, the consensus is that biliary obstruction caused by fascioliasis should always preferably be relieved by surgical intervention.<sup>5,6</sup>

In some cases live motile parasites have been extracted from the CBD after sphincterotomy.<sup>1</sup> The main diagnostic tool in our case was ERCP, which offers the advantage of performing sphincterotomy and extraction of live parasites. There was, in addi-

### Report of a case with biliary tract obstruction due to fasciola hepatica treated by ERCP

tion, a small stone in CBD of our patient, which was also extracted. Association of the development of CBD stones concomitant with the presence of worms in rats has been reported.<sup>11</sup>

### Conclusion

This case report shows that in endemic areas fascioliasis should be included in the differential diagnosis of colicky abdominal pain and CBD dilatation, which can be diagnosed and treated simultaneously by ERCP.

### References

- 1 Arjona R, Riancho JA, Aguado JM, et al: Fascioliasis in developed countries: A review of classic and aberrant forms of the disease. *Medicine* 1995; **74(1)**: 13-23.
- 2 Pulpeiro J.R, Armesto V, Varcla J, Corredoira J : Fascioliasis: findings in 15 patients. *Bri J Radiolo* 1991; **64(765)**: 798-801.
- 3 Mas-Coma M S, Esteban J G, Bargues M D: Epidemiology of human fascioliasis: A review and proposed new classification. *Bull World Health Organ* 1999; **77(4)**: 340-6.
- 4 Carpenter H A: Bacterial and parasitic Cholangitis. *Mayo Clin Proc* 1998; **73 (5)**:473-8.
- 5 Kiladze M, Chipashvili L, Abuladze D, Jatchvliani D : Obstruction of common bile duct caused by liver fluke fasciola hepatica. *Sb Lek* 2000; **101(3)**: 255-9 .
- 6 Mannstadt M, Sing A, Leitritz L, et al: Conservative management of biliary obstruction due to fasciola hepatica. *Clin Infect Dis* 2000; **31(5)**: 1301-3.
- 7 Rangheard A S, N'Senda P, Dahan H, et al: Peritoneal Location of Fascioliasis Mimicking Peritoneal Carcinomatosis. *J Comput Assist Tomogr* 1999; **23(5)** :699-700.
- 8 Campos Leon A, Garcia Bonilla A: Fasciola hepatica in the common bile duct. Presentation of a case. *Rev Gastroenterol Mex* 1990; **55(1)**: 25-9.
- 9 Han J k, Jang H J, Choi B I, et al: Experimental Hepatobiliary Fascioliasis in Rabbits: A radiology-pathology correlation. *Invest Radiol* 1999; **34(2)**: 99-108.
- 10 Liu Lx, Weller P F: Antiparasitic Drugs. *N Engl J Med* 1996; **334(18)**: 1178-87.
- 11 Valero MA, Varea MT, Marin R: Fasciola hepatica: Lithogenic capacity in experimentally infested rats and chemical determination of the main stone components. *Parasitol Res* 2000; **86(7)**:558-62.