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Ultrasonographic and cholangiographic findings in human fasciolasis: a case report

İnsan fasioliazisinde ultrasonografik ve kolanjiografik bulgular: olgu sunumu

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Abstract

Fasciola Hepatica is a trematode that infects cattle and sheep, humans may be infected sporadically. We describe the case of a 43-year-old female who had a history of upper right quadrant pain and fever. Fasciolasis was diagnosed on the basis of clinical findings, laboratory investigations, and imaging studies with ultrasonography and cholangiography. We discuss this condition, and its associated cholangiographic and ultrasonographic features.

Keywords: Fasciola hepatica, ultrasonography, endoscopic retrograde cholangiopancreatography

Özet

Fasciola Hepatica insanlarda sporadik enfeksiyon yapabilen, daha çok kedi ve koyunlarda enfeksiyona neden olan bir trematod'dur. Biz sağ üst kadran ağrısı ve ateş öyküsü olan 43 yaşında bir kadın olgu tanımladık. Klinik bulgular, laboratuar araştırmaları, ultrasonografik ve kolanjigrafik görüntüleme yöntemleri ile Fasciola tanısı konuldu. Bu olguda klinik durum ile ultrasonografik ve kolanjiografik özellikler tartışıldı.

Anahtar sözcükler: Fasciola hepatica, ultrasonografi, endoskopik retrograd kolanjiopankreatikografi

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Introduction

Fasciola Hepatica is a trematode that infects cattle and sheep. Humans are accidentally infected by ingestion of raw vegetable. Most reports of human infection have come from South America, Europe, Africa, China, Australia, and the Middle East, but sporadic caseshave also beenreported in the United States [1]. In a recent study from the East of Turkey, its seroprevalence was reported to be 2.78% independent age [2]. The acute and chronic phases of the disease in humans are well-documented. Most patients are asymptomatic in chronic phases [3]. We describe a patient with typical ultrasonography and cholangiography images. The diagnosis was confirmed with stool examination and live parasites extraction.

Case report

A 43-year-old woman presented with a 5-year history of recurrent epigastric pain radiating to her back. Prior to her visit, she had experienced jaundice and fever episodes,

but these symptoms were never severe enough to see a doctor. Physical examination revealed jaundice, right upper-quadrant pain, hepatomegaly, and tenderness in the liver area. The patient was not febrile. Laboratory investigations showed a white blood cell count of 13,500/mm3 with 17% eosinophils; aspartate aminotranferase 47 U/L (normal<35 U/L); alanine aminotransferase 39 U/L (normal<37 U/L), alkaline phosphatase 197 U/L (normal<120 U/L); total bilirubin 3.6 mg/dL (conjugated bilirubin 2.7 mg/dL). Upper abdominal ultrasonography (USG) revealed an enlarged liver with dilated intra- and extrahepatic bile ducts, and an echogenic, mobil oval structure, without acoustic shadow in gallbladder (Figure 1).

Figure 1. Ultrasonographic view of a hyperechoic parasite.

Stool testing was done for parasites and it revealed fasciola hepatica eggs. Endoscopic retrograde cholangiopancreatography (ERCP) was performed successfully, and showed several filling defects in the common bile duct (CBD) (Figure 2).

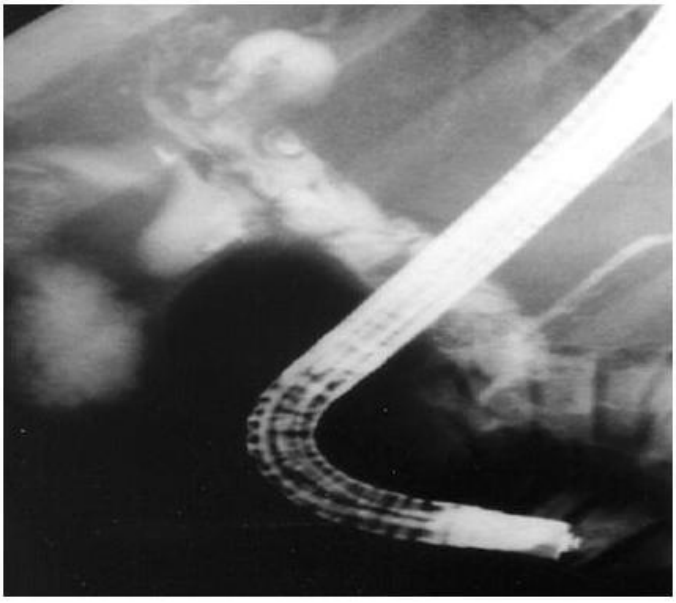

Figure 2. ERCP shows filling defects in the common bile duct.

We performed sphincterotomy, and passed a basket through the length of the CBD. When the basket was withdrawn, it contained live parasites (Figure 3), and on examination, proved to be an adult Fasciola Hepatica flukes. Parasite eggs were also found in the patient's feces after ERCP. The patient was prescribed treatment with 200 mg oral albendazole twice daily for 10 days. At a follow-up check 6 months later, she was asymptomatic. Cure was confirmed by the absence of Fasciola eggs on repeated stool examinations.

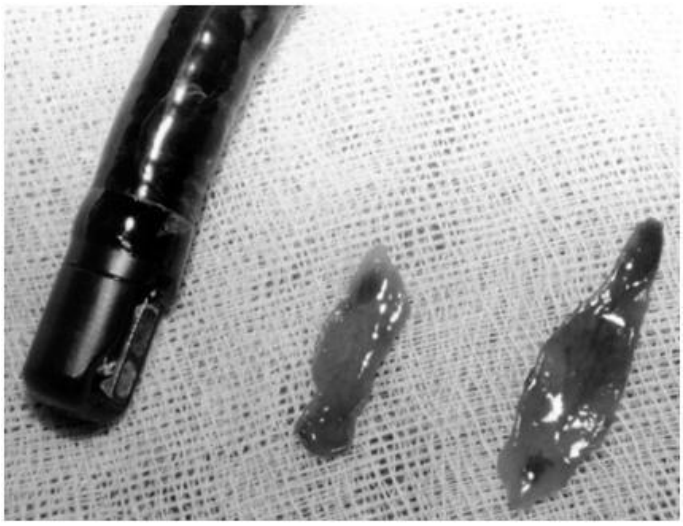

Figure 3. Live parasites that were withdrawn from the patient's common bile duct.

Discussion

In humans, encysted metacercariae are ingested when a person eat raw vegetables. When the metacercariae hatches in the digestive tract, the inmature fluke penetrates the intestinal wall and enters the abdominal cavity. Then, it penetrates Glisson's capsule and enters the liver parenchyma. During the next 3 months, the organisms mature and reach the bile ducts. The adult forms survive in the liver for years, causing damage in the form of fibrous perihepatitis, liver necrosis, and fibrosis. The life span of F. hepatica is approximately 10 years, and most chronic cases remain asymptomatic. Occasionally, common bile duct obstruction and cholangitis develop.

The diagnosis of fascioliasis is usually confirmed only after meticulous examination of the patient's stool, duodenal aspirate, or bile aspirate reveals the eggs [3]. Reports have identified the characteristic radiological features of fasciolasis as clusters of microabscesses arranged in the pattern of the biliary tract, and subcapsular perihepatic lesions [4-6]. USG is valuable, as it may demonstrate mobile vermiform structures typical of parasitic infection, and other signs such as bile duct dilatation or irregular duct wall thickening [6]. Percutaneous transhepatic cholangiography and ERCP may reveal non-specific bile duct changes. The characteristic finding with these methods is a crescent-shaped filling defect in the bile duct [5-7].

In our case, we performed sphincterotomy and retrieved adult parasites. In published reports, most patients who had endoscopic therapy for fasciolasis had biliary obstructtion as a result of a severe infection with multiple worms, in such circumstances, papillotomy and extraction of the worm plug are mandatory [8]. Furthermore most drugs paralyzing worm, but may be recovers and re attaches itself to the wall of the bile duct, thereby resulting in the therapy resistant state [9].

Accepted pharmacological treatments for fascioliasis include emetine and bithionol,

despite previous reports, praziquantel is not effective [10]. Other drugs, namely, metronidazole, albendazole, and triclabendazole, have been proposed, but these have only been used in a small number of patients [10]. We treated our patient with albendazole because none of the other above-mentioned agents are available in Turkey. The outcome indicates that albendazole was effective in our case.

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