

# An Asymptomatic *Fasciola hepatica* Infestation Resembling a Hepatic Mass Lesion in Ultrasonography: Case Report

ULTRASONOGRAFİDE KİTLE LEZYONUNU TAKLİT EDEN  
ASEMPTOMATİK BİR FASCIOLA HEPATİCA İNFESTASYONU: OLGU SUNUMU

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## Abstract

*Fasciola hepatica* (FH) is a liver fluke that may mimic many other diseases and may lead to misinterpretation. A 43 year-old asymptomatic patient with known fascioliasis presented in our clinic with hepatic mass. He had elevated hepatic enzyme levels and eosinophilia. Certain diagnostic features of the subsequent radiological evaluation helped in establishing the correct diagnosis. In this report, we discuss the difficulties in the diagnosis of FH infestation and the role of radiological evaluation. We suggest that FH infestation should be taken into consideration when evaluating the patient with hepatic mass with elevated liver enzymes, especially if accompanied by eosinophilia or if the patient is known to have spent time been in an endemic region.

**Key Words:** *Fasciola hepatica*, liver, radiology

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## Özet

*Fasciola hepatica* (FH) birçok hastalığı taklit eden bir karaciğer trematodu olup, tanıda zorluğa yol açabilir. Bu makale ile 43 yaşında, asemptomatik hepatik kitle nedeni ile incelenirken fascioliasis tanısı alan bir olgu sunulmuştur. Karaciğer enzim düzeylerinde yükseklik ve eozinofili tespit edilen olgu değerlendirilirken radyolojik değerlendirme ile tespit edilen görüntüler doğru tanıya ulaşmayı sağlamıştır. Bu olgu sunumu ile FH infestasyonunun tanısında karşılaşılan zorluklara ve doğru tanıya ulaşmada radyolojik değerlendirmenin önemine dikkat çekilmek istenmiştir. Karaciğer enzimlerinde yükselme ve karaciğerde kitle nedeni ile incelenen olgularda, özellikle eozinofili eşlik ediyor ve hasta endemik bir bölgede bulunmuşsa FH infestasyonu olasılığı hatırlanmalıdır.

**Anahtar Kelimeler:** *Fasciola hepatica*, karaciğer, radyoloji

**F**ascioliasis is an infestation caused by the liver fluke *Fasciola hepatica* (FH). It is endemic in South and Central America, Puerto Rico, the Caribbean region, many parts of Africa, Asia, Middle East, Australia, and China.<sup>1</sup> It spreads via contaminated water and water-products. FH predominantly affects the cattle and sheep and humans are the accidental host.

There are only few reports that fascioliasis causes an ultrasonographic appearance resembling a hepatic mass. We report an asymptomatic patient with fascioliasis who had a hepatic lesion resembling a mass in ultrasonography (US) to draw attention that FH infestation should also be included in the differential diagnosis of ultrasonographically detected hepatic masses and emphasize the radiological findings, which will help the physician to establish the correct diagnosis.

## Case Report

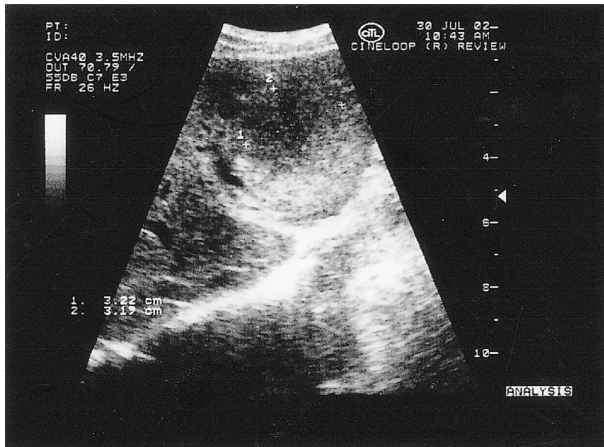
A 43 year-old man was admitted to Otolaryngology department with the complaints of headache. Clinical and radiological evaluation led to the diagnosis of maxillary sinusitis, which needed surgical procedure. As elevated hepatic enzymes

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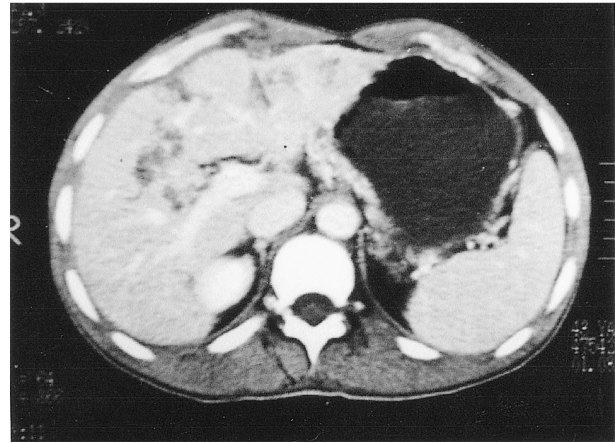
26-30 Eylül 2003 tarihleri arasında Antalya'da yapılan 5. Ulusal İç Hastalıkları Kongresi'nde poster bildirisi olarak sunulmuştur.

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**Figure 1.** Ultrasonographic appearance of the lesion in the lateral segment of the left lobe of the liver, resembling a mass.



**Figure 2.** Computerized tomographic appearance of tubular lesions in the liver.

were detected on routine pre-operative tests, he was referred to Internal Medicine Department. On admission, serum alkaline phosphatase level was 622 IU/L (N: 79-270 IU/L), aspartate aminotransferase: 37 IU/L (N: 0-32 IU/L) and alanine aminotransferase: 55 IU/L (N: 0-41 IU/L). Leukocyte count was 13.000 cells/mm<sup>3</sup>, with 42% polymorphonuclear leukocytes, 11% lymphocytes, 5% monocytes and 42% eosinophils. Other biochemical and hematological parameters were all in normal limits. Physical examination did not reveal any pathological finding. He had history of smoking, 1/2 packet of cigarettes for 25 years, and alcohol intake for 17 years. His father had died due of hepatic cirrhosis related to hepatitis C infection and mother had thyroidectomy due to thyroid cancer. He had no history of recent vacation or contact with animals.

Based on the history of alcohol intake he was suspected to have an alcoholic hepatitis. Abdominal US showed a hypoechoic, heterogenous mass lesion in the lateral segment of the left lobe of the liver nearby the porta hepatis with 32 x 31 mm dimensions, leading to suspicion of a hepatic tumor (Figure 1). Abdominal computed tomography (CT) without a contrast agent showed patchy hypodense lesions causing parenchymal heterogeneity, localized peripherally and especially nearby the porta

hepatitis in the left lobe of the liver. CT with a contrast agent revealed hypodense, tubular and subcapsular hepatic lesions with well-defined margins, mainly localized in the left lobe and anterior segment of the right lobe (Figure 2). We couldn't demonstrate the lesions which were localized peripherally with US. The finding in US resembling a hepatic mass was thought be resulted from crowded tubular structures surrounded by the biliary ducts near the porta hepatis.

Based on the ultrasonographic findings, subcapsular tubular appearance in CT imaging, and marked eosinophilia with elevated liver enzymes, infestation with FH was suspected. Parasite was not detected in stool specimen evaluation. Fine needle aspiration biopsy of the liver showed eosinophilic infiltration but no parasite eggs. Serologic tests for anti-FH antibody revealed positive results as 6 precipitation arcs (N: < 2 precipitation arcs) and 1/280 titer (N: < 1/80) with immunoprecipitation and indirect hemagglutination techniques respectively. He was treated with triclabendazole 10 mg/kg given orally, which was proven to be a very effective and safe drug in FH eradication and no adverse effect was observed.<sup>2</sup> Nine months after the treatment, all the radiological, biochemical and hematological findings came back to normal.

## Discussion

Fascioliasis may present with fatigue, gastroenteritis, abdominal pain, the Murphy symptom, jaundice, fever, hepatomegaly and other non-specific symptoms during acute phase. However, 18% of patients with FH infestation may not have any symptom.<sup>3</sup> Recognition of the FH infestation is important as it may be complicated with iron deficiency anemia, biliary obstruction and pain, cholangitis, multiple liver abscesses, portal fibrosis, hematuria, hemoperitoneum, subcapsular hematoma, pancreatitis and even death.<sup>4,5</sup> FH may have clinical symptoms similar to most of the hepatobiliary diseases at different stages of disease process such as metastatic liver disease, peritoneal carcinomatosis and choledocholithiasis. It can also affect extrahepatic organs and can cause pulmonary infiltrates, pleuropericarditis, meningitis, hydrocele, lymphadenopathy and skin manifestations.<sup>6,7</sup>

There are very few reported cases of hepatic mass caused by FH in the literature.<sup>8,9</sup> This is one of the few asymptomatic FH infestation cases, causing an appearance resembling a hepatic mass in US associated with elevated liver enzymes. Ultrasonographical findings in patients with hepatic lesions related to FH may vary. There may be focal areas of increased echogenicity, multiple nodular or irregular lesions of variable echogenicity, complex mass or cystic lesions.<sup>8</sup> We could show only the lesion localized near the porta hepatis in the center of biliary tree. This is the limitation of US. However, CT findings are more specific. Appearance of the hepatic tunnel-like branching lesions as a result of migration of parasite through the liver is diagnostic, which also led us the correct diagnosis. In addition to tunnel-like lesions, CT examination may also reveal some non-specific findings, including hepatic calcifications, intrahepatic and extrahepatic biliary dilatation, irregular thickening of the distal common bile duct wall and biliary duct mass.<sup>5,10</sup>

Marked eosinophilia is an important sign for FH infestation. Previous studies showed that FH is associated with eosinophilia in 43-48% of pa-

tients.<sup>5</sup> Striking eosinophilia is characteristic of the invasive phase of the disease, however, eosinophilia may be absent in chronic phase of the disease.<sup>5</sup> It peaks at about 2 to 3 months and then declines progressively. As the number of eggs in the feces is small and eggs are not released during the first 3-4 months of acute infestation, they may not be detected by parasitological stool tests, as in our case. Serologic tests are the mainstay of diagnosis and sensitivity of serological tests are high, however, they lack optimal specificity and may cross-react with other parasitic infestations, such as echinococcosis.<sup>3</sup> In these circumstances radiological findings would be of value leading to the correct diagnosis.

Typical histopathological findings in liver biopsy specimens include necrotic debris, tract-like destruction of parenchyma, polymorphonuclear infiltration with abundant eosinophils, Charcot-Leyden crystals, bile duct proliferation, fibrosis and granulomas with or without eggs.<sup>3,10</sup>

In order to establish a correct diagnosis of FH infestation, a high index of suspicion is required. We suggest that FH infestation must be remembered while evaluating a patient with elevated liver enzymes or a hepatic mass lesion, especially if eosinophilia is associated and/or if the patient had been in an endemic region. Being familiar with the radiological findings would be helpful in cases which lack diagnostic laboratory findings, such as the absence of eosinophilia or eggs in the stool.

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