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Conservative Management of Biliary Obstruction Due to Fasciola hepatica

We report a case of temporary biliary obstruction due to fascioliasis. This case report shows that in Central Europe, fascioliasis is one of the differential diagnoses of abdominal pain, especially if it is associated with eosinophilia. Successful medical treatment is possible even with obstruction of the bile duct.

Fascioliasis (liver fluke disease) is an infrequent infectious disease in Western Europe and the United States. If the diagnosis is established (e.g., by examination of stool or bile), medical treatment is the first choice for management. However, several reports have been published showing that biliary obstruction due to fascioliasis is almost always relieved by surgical intervention. Here we report a case of liver fluke disease with biliary obstruction that occurred in Germany, for which conservative medical treatment rather than surgery was attempted.

In October 1998, a 43-year-old woman presented to the outpatient department of our institution because of the recent onset of pain in the right upper abdominal quadrant and bouts of nausea 1–3 times a week, lasting for up to several hours each time. She did not have fever, diarrhea, or vomiting. The patient worked as a cleaning person in a hospital in Munich and had traveled during the previous 3 years only to Turkey, her home city (Antalya) 2 months before her admission. None of her family members or friends had similar symptoms. She had no history of other diseases and did not take any medication.

On physical examination the patient was found to be obese but otherwise normal, and eosinophilia was the only laboratory abnormality detected. Stool examination for ova and parasites was negative. Two blood cultures did not grow any organisms. Findings of electrocardiography, chest and abdominal radiography, and gastroscopy were normal.

Ultrasonography revealed that the common bile duct was dilated to 15 mm in its proximal portion, with a normal width in the distal portion. No gallstones were detected. A hypoechoic structure (10 mm) was seen at the transition between the normal and the dilated portion. The patient received fluids and ceftriaxone iv because of suspected cholangitis. A CT scan performed on the second hospital day showed a dilated biliary system, 2 hypodense structures within the liver, and a hyperdense structure in the distal ductus choledochus (figure 1).

On the fourth hospital day, endoscopic retrograde cholangiopancreatographic examination demonstrated an impassable stenosis in the distal ductus choledochus. A malignant tumor was suspected and an operative approach discussed. A percutaneous transhepatic cholangio-drainage procedure was performed. Again, a concentric stenosis was found. At that time an infectious disease consultation led to the differential diagnosis of fascioliasis.

Microscopic evaluation of the bile fluid revealed eggs of Fasciola hepatica, which established the diagnosis of fascioliasis (liver fluke disease). Meanwhile, results of serological testing for F. hepatica were received and showed strongly positive antibody titers (table 1).

A second abdominal ultrasonograph revealed a hyperechogenic structure (18 × 5 mm), possibly the adult worm, within the gallbladder. To avoid surgical intervention, medical treatment was tried. Triclabendazole (Egaten, a nonregistered compound, obtained as a kind gift from Novartis Pharma AG [Nyon, Switzerland]) was given orally once to the patient (10 mg/kg) after informed consent had been obtained on the basis of compassionate drug use.

References

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Table 1. Laboratory values for a patient with biliary obstruction that was found to be due to *Fasciola hepatica*.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Admission</th>
<th>Hospital day 2</th>
<th>Hospital day 7</th>
<th>4 mo</th>
<th>9 mo</th>
<th>Normal range</th>
</tr>
</thead>
<tbody>
<tr>
<td>WBC count ×10^3 cells/mm³</td>
<td>10.8</td>
<td>7.6</td>
<td>15.8</td>
<td>8.1</td>
<td>10.1</td>
<td>4.0–10.0</td>
</tr>
<tr>
<td>Differential count, %</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neutrophils</td>
<td>79</td>
<td>49</td>
<td>49</td>
<td>52</td>
<td>58.2</td>
<td>42–75</td>
</tr>
<tr>
<td>Lymphocytes</td>
<td>7</td>
<td>25</td>
<td>16</td>
<td>35</td>
<td>29.1</td>
<td>20–45</td>
</tr>
<tr>
<td>Monocytes</td>
<td>5</td>
<td>9</td>
<td>5</td>
<td>7</td>
<td>8</td>
<td>2–14</td>
</tr>
<tr>
<td>Eosinophils</td>
<td>8</td>
<td>17</td>
<td>30</td>
<td>5</td>
<td>3</td>
<td>0–4</td>
</tr>
<tr>
<td>C-reactive protein, mg/dL</td>
<td>4.4</td>
<td>3.9</td>
<td>5.4</td>
<td>0.6</td>
<td>0.5</td>
<td>&lt;0.5</td>
</tr>
<tr>
<td>Bilirubin, mg/dL</td>
<td>2.0</td>
<td>1.4</td>
<td>0.4</td>
<td>0.4</td>
<td>0.9</td>
<td>&lt;1.3</td>
</tr>
<tr>
<td>Alkaline phosphatase, U/L</td>
<td>215</td>
<td>344</td>
<td>219</td>
<td>80</td>
<td>80</td>
<td>55–170</td>
</tr>
<tr>
<td>Alanine aminotransferase, U/L</td>
<td>93</td>
<td>48</td>
<td>10</td>
<td>8</td>
<td>NA</td>
<td>&lt;15</td>
</tr>
<tr>
<td>Aspartate aminotransferase, U/L</td>
<td>55</td>
<td>103</td>
<td>30</td>
<td>10</td>
<td>7</td>
<td>&lt;19</td>
</tr>
<tr>
<td>Lactate dehydrogenase, U/L</td>
<td>286</td>
<td>154</td>
<td>123</td>
<td>172</td>
<td>186</td>
<td>80–240</td>
</tr>
<tr>
<td>γ-Glutamyl transpeptidase, U/L</td>
<td>178</td>
<td>339</td>
<td>174</td>
<td>13</td>
<td>13</td>
<td>4–18</td>
</tr>
<tr>
<td><em>Fasciola</em> EIA antibody titer</td>
<td>61</td>
<td>35</td>
<td></td>
<td></td>
<td></td>
<td>Negative</td>
</tr>
</tbody>
</table>

**NOTE.** NA, not available.

She tolerated the treatment well; her laboratory test values normalized, and she was discharged in good condition. On follow-up ultrasonographic examinations the structure that had been seen in the gallbladder was not detected again, and titers of antibodies to *F. hepatica* fell to nondetectable levels (table 1).

Fascioliasis (liver fluke disease) is a disease of sheep, cattle, and other herbivorous animals virtually throughout the world. Humans are only accidental hosts for *F. hepatica* [1]. Infection results from ingestion of metacercariae on uncooked and unwashed vegetables (e.g., watercress and sorrel). After oral ingestion the larvae excyst and pass through the intestinal wall into the peritoneum. They find their way through the liver to the bile ducts, where they reside as adult worms. *Fasciola hepatica* is a relatively large, flat, brownish worm, measuring 30 × 13 mm [2, 3]. In humans, maturation and excretion of the eggs take ~3–4 months.

Typical symptoms of fascioliasis that develop within 2–3 months following ingestion are fever, nausea, hepatomegaly, abdominal pain, and eosinophilia. Diagnosis is based on microscopic identification of the characteristic eggs in the feces or bile. They are large, oval, yellowish-brown, operculated ova (140 × 75 µm) [2]. Serological tests (ELISAs) help in establishing the diagnosis.

Intermittent obstruction of the biliary duct system by worms rarely occurs and may lead to periods of jaundice [2, 4]. The clinical presentation of bile obstruction often leads to surgical treatment for suspected tumor disease. A number of reports have been published in which the diagnosis of fascioliasis was not possible prior to surgery [5–11]. Our patient presented with biliary obstruction and cholangitis. On the basis of the findings of initial imaging procedures (ultrasonography and CT), a neoplastic disease was suspected, biliary drainage was performed, and surgery was planned. Because of the finding of eosinophilia, biliary parasites were suspected, and the diagnosis of fascioliasis was established by microscopic examination of bile fluid.

Medical treatment was initiated. Since *F. hepatica* is basically unresponsive to praziquantel, in contrast to other relevant human-pathogenic trematodes, new agents for the treatment of fascioliasis have been tested in recent years. The antiparasitic drugs used for the medical treatment of fascioliasis in the past (e.g., parenteral dehydroemetine and oral bithionol) have not been proven very effective. We decided to use triclabendazole, which is safe and effective as a single oral dose of 10 mg/kg. It is highly efficient against both mature and immature *Fasciola* worms and has been successfully administered to patients with fascioliasis [12–17]. The only side effects are due to disintegrating dead parasites. However, it is not yet approved for this indication (except in Egypt), although it is recommended by the World Health Organization.
Organization [18]. Therefore, triclabendazole was administered on the basis of compassionate drug use. The patient showed no side effects, and a single dose proved to be effective in eradicating the parasite: her symptoms disappeared, the eosinophilia resolved, the other laboratory values returned to normal, and antibodies against *F. hepatica* could not be detected after 9 months. The structure seen in the gallbladder by ultrasonography, which might have been an adult worm, also disappeared.

In summary, fascioliasis is one of the differential diagnoses of abdominal pain, especially if it is associated with eosinophilia. Successful medical treatment is possible even when biliary obstruction is present.

Acknowledgment

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Michael Mannstadt, Andreas Sing, Lorenz Leitritz, Karine Brenner-Maucher, and Johannes Bogner

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References


**Persistence of Cryptococcomas on Neuroimaging**

Three previously normal patients with cryptococcal meningitis had intracranial lesions on computed tomography and magnetic resonance imaging that persisted for >5 years after successful cure with antifungal drugs. Persistence of lesions on neuroimaging should not be misinterpreted as evidence of active cryptococcosis.

_Cryptococcus neoformans_ is the most common fungal infection of the CNS, usually presenting as chronic meningitis. The majority of patients with cryptococcosis have preexisting immunodeficiency such as AIDS. CT and/or MRI of the brain only occasionally detect abnormalities specifically related to this infection. When abnormalities are present, persistence of any lesion is often interpreted as continued disease activity. The long-term natural history of these neuroradiologic abnormalities found in cryptococcosis, however, is not well documented. We report the long-term follow up at the Warren G. Magnuson Clinical Center of the National Institutes of Health of 3 patients without known immunodeficiency who had persistent parenchymal lesions following clinical resolution of their cryptococcal infections. Persistence of the neuroimaging abnormalities did not correlate with persistent infection or other morbidity.

**Case 1.** A 62-year-old white man presented with a severe headache and a newly noted parenchymal lung lesion. Fiber optic bronchoscopy found no malignant cells, but CT of his head revealed several enhancing lesions without edema. At that time, he was believed to have a lung carcinoma with metastasis to the

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