



Bioscientia Medicina: Journal of Biomedicine & Translational Research

Journal Homepage: www.bioscmed.com

Extraintestinal Amoebiasis: Amebic Liver Abscess in a 48-Year-Old Male Patient

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ARTICLE INFO

Keywords:

Amoebiasis
Entamoeba histolytica
Thrombocytosis
Liver abscess
Case report

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The author has reviewed and approved the final version of the manuscript.

<https://doi.org/10.37275/bsm.v6i8.556>

ABSTRACT

Background: The liver is the most common organ for abscesses. Liver abscesses can be solitary or multiple. Approximately 90% of right-lobe liver abscesses are solitary abscesses, while only 10% of left-lobe abscesses are solitary abscesses. This can occur from hematogenous spread or directly from the site of infection in the peritoneal cavity. **Case presentation:** A 48-year-old male patient had been administered into the internal medicine ward with the chief complaint of pain in the upper right quadrant of the abdominal increased 3 days before being admitted to the hospital. The patient also complains that pain increase when the patient moves forward and is influenced by activity. The patient walked like a person who carried his stomach. The patient complained of watery stools 3 months ago in ten days, which frequency two to three times a day. The stools are bloody and slimy. Swelling of an upper right quadrant of abdominal since 1 month ago. Decrease of appetite since 1 month ago. Decrease of body weight since 1 month ago, about 5 kilograms. Fever since 2 weeks ago, not high, disappearing, no chill, no sweat. Nauseous since 1 week ago. The patient was admitted to the hospital with awareness of compos mentis, cooperative, and his general condition appeared to be moderately ill, blood pressure 120/80 mmHg, pulse rate 86 times/minute, regular pulse, adequate filling, respiratory rate 24 times/minute, temperature 37°C. On physical examination, the conjunctiva of the patient's eyes was anemic. *Entamoeba histolytica* was found on a routine stool examination. **Conclusion:** The main clinical manifestations of amoebiasis are right abdominal pain can be features of iron deficiency anemia and reactive thrombocytosis. Diagnosis is based on the finding of characteristic *Entamoeba histolytica* in the stool. Metronidazole 500 mg three times daily dose resulted in 80% cure and a dose of 750 mg/three times daily for 10 days gave 100% cure. Treatment of reactive thrombocytosis is by curing the basic disease.

1. Introduction

Liver abscess is gradually divided into two types. The first is an amoebic liver abscess and a pyogenic liver abscess. The pyogenic liver abscess has a higher incidence than an amoebic liver abscess. Amoebic liver abscess is only 20% of all liver abscesses. A liver abscess is an infection in the liver caused by an infection of bacteria, parasites, fungal, or sterile infection caused by the gastrointestinal tract from the suppuration process. The suppuration process contains pus from necrotizing hepatic cells, inflammatory cells, and blood cells in the hepatic parenchymal. Liver abscess is divided into two types,

amoebic liver abscess and bacterial liver abscess, which is called a pyogenic liver abscess. Amoebic liver abscess is one of the complications of extraintestinal amoebiasis, which is found in tropical and subtropical countries, including Indonesia. Pyogenic liver abscess is also called a hepatic abscess, bacterial liver abscess, bacterial abscess of the liver, and bacterial hepatic abscess. Amoebiasis is an endemic disease related to social aspects in rural areas with poor hygiene and a low economic state. Indonesia has many endemic areas for the virulent strain of *Entamoeba histolytica*. *Entamoeba histolytica* lives commensally in the human

intestine, although in humans, poor hygiene can be a pathogen and increase morbidity. Research in Indonesia found that the ratio between men and women is about 3: 1. The age of the patient is between 20 and 50 years old, almost young adults, not children.^{1,2}

Amebic liver abscess is rarely found than pyogenic liver abscess, with an incidence of only 20 % of all liver abscesses. This infection is often in tropical areas, where 10 to 20 % population is infected with this organ. Centers for disease control reported 1.3 cases of amoebiasis per 100.000 population. An amoebic liver abscess occurs because *Entamoeba histolytica* is carried by the portal vein to the liver, but not all amoebas that enter the liver can cause abscesses.^{3,4}

2. Case Presentation

A 48-year-old male patient is being treated at the Internal Medicine Ward of Sentosa hospital in Bogor with the main complaint of pain in the upper right quadrant of the abdominal increased 3 days before being admitted to the hospital. The patient also complained of throbbing heartburn that was felt intermittently. There were complaints of intermittent fever since 1 week ago. Complaints of weakness, tiredness, and lethargy, as well as decreased appetite, had initially been felt 2 weeks ago, accompanied by watery bowel movements. The patient had lost weight but did not know how much weight had been lost. There were nauseous since 1 week ago, not followed by vomit, and no complaints of vomiting, chest pain, or urination.

The patient was admitted to the hospital with awareness of compos mentis and was cooperative. Her general condition appeared to be moderately ill, with blood pressure measuring 120/80 mmHg, pulse rate 86 x/minute, regular pulse, adequate filling, respiratory rate 24 x/minute, and temperature 37 °C. On physical examination, there was atrophy of the papillae of the tongue and anemic conjunctiva. Examination of the lungs, heart, back, and limbs were found to be within normal limits, in the abdominal found, hepatomegaly, and fluctuation.

Laboratory examination revealed Hemoglobin 10 g/dl, Hematocrit 30%, MCV/MCH/MCHC 62fl/15pg/25%, Reticulocytes 0.5%, SI/TIBC 22/315 mg/dL, Ferritin 8.5 ng/mL, and peripheral blood smear showing mild hypochromic microcytic anemia. On routine stool examination, the stool sample was found to be brown in color, liquid in consistency, and cysts of *Entamoeba histolytica* were present. Urinalysis examination was found to be within normal limits.

3. Discussion

A male patient, 48 years old, has been treated in the internal medicine ward of the hospital with a final diagnosis of amebic liver abscess and reactive thrombocytosis. Amebic liver abscess caused by an *Entamoeba histolytica* in this patient was established based on patient history, physical examination, and further laboratory investigations. During the patient interview, the patient complained of pain in the upper right quadrant of the abdomen that had increased 3 days before being admitted to the hospital. The patient also complains that pain increase when the patient moves forward and is influenced by activity. The patient walked like a person who carried his stomach. The patient complained of watery stools 3 months ago in ten days, which frequency two to three times a day. The stools are bloody and slimy. Swelling of the upper right quadrant of the abdomen since 1 month ago. On routine blood examination, there was a high leucocyte, thrombocyte, and erythrocyte sedimentation rate, while hemoglobin was low. His peripheral blood smear showed a hypochromic microcytic appearance. On examination, feses erythrocyte levels were 20-25/field of view. On routine stool examination, *Entamoeba histolytica* cysts were found. According to Brooker and Hotez, *Entamoeba histolytica* can cause higher morbidity than other types of parasites, mainly due to iron deficiency anemia. From abdominal ultrasonography shows a hepatic abscess and the aspiration with Chiba needles shows dark red colored pus from parasitology. The examination was found *Entamoeba histolytica*.⁵⁻⁸



Figure 1. Abdominal ultrasonography

According to De Silva, Amoebiasis increases with age.⁵ This corresponds to this patient, who was 48 years old. The environment around the patient's house is dirty, and the patient often cleans the area around her house without using good hygiene, including eating and drinking. This is one way of the entry of *Entamoeba histolytica* cysts into the human body, which is through the intestines. However, *Entamoeba histolytica* can infect humans through the ingestion of cysts. Treatment is aimed at eliminating parasites and

treating anemia. Metronidazole 500 mg three times daily dose resulted in 80% cure and a dose of 750 mg/three times daily for 10 days gave 100% cure. Treatment of reactive thrombocytosis is by curing the basic disease. Treatment of anemia is by administering ferrous sulfate or ferrous gluconate orally 200 mg three times a day and continued for up to 3 months after normal hemoglobin levels are achieved to maintain iron stores. It is also necessary to give folic acid 5 mg/day for 1 month.⁹⁻¹²



Figure 2. Abscess aspiration

The patient was given oxygen therapy 5 L/minute, Paracetamol 3 x 500 mg, Metronidazole 3 x 750 mg, Sulfas ferosus 3 x 200 mg, and Folic acid 1 x 5 mg. The patient was given a transfusion of 1 unit of PRC. After hospitalization for 8 days, the patient's complaints decreased, and her condition improved. For prevention, a clean lifestyle must be established, such as drinking clean water, always cleaning and cooking food thoroughly, and washing hands before eating. Antiparasitics can be given to high-risk populations, such as children, pregnant women, lactating women, and the elderly.¹³⁻¹⁵

4. Conclusion

Entamoeba histolytica infects many people worldwide and causes high morbidity, mainly due to iron deficiency anemia. The highest prevalence is found in the tropics and subtropics, including Indonesia. The main clinical manifestations are abdominal pain, features of iron deficiency anemia, and hypoproteinemia. Diagnosis is based on the finding of characteristic cysts in the stool. Treatment is aimed at eliminating parasites and treating anemia. Metronidazole 500 mg three times daily dose resulted in 80% cure and a dose of 750 mg/three times daily for 10 days gave 100% cure. Treatment of reactive thrombocytosis is by curing the basic disease. Treatment of anemia is by administering ferrous sulfate or ferrous gluconate orally 200 mg three times a day and continued for up to 3 months after normal hemoglobin levels are achieved to maintain iron stores.

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