

Case Report

Fulminant Amoebic Liver Abscess with Pleural Involvement and Fatal Intraperitoneal Rupture: A Case Report

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Received: 03 March 2026

Accepted: 12 March 2025

Published: 09 April 2026

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Abstract

Background: Amoebic liver abscess (ALA) is the most common extraintestinal manifestation of *Entamoeba histolytica* infection. Although most cases respond to antimicrobial therapy, complications such as rupture into adjacent cavities are associated with high mortality.

Case Presentation: A 44-year-old Malaysian woman presented with hepatomegaly, right-sided pleural effusion, and ascites. Thoracentesis yielded chocolate-colored fluid containing numerous *E. histolytica* trophozoites. Shortly after admission, she developed shock due to rupture of a hepatic abscess into the peritoneal cavity and expired despite resuscitative efforts.

Conclusion: This case highlights a rare but catastrophic complication of ALA. Early recognition of extrahepatic spread and prompt aggressive management are critical to improving outcomes.

Keywords: Amoebic liver abscess; *Entamoeba histolytica*; pleural effusion; abscess rupture; septic shock

Introduction

Amoebiasis remains a major global health concern, particularly in tropical and subtropical regions, where *Entamoeba histolytica* infection contributes significantly to morbidity and mortality [1]. Amoebic liver abscess is the most frequent extraintestinal manifestation and typically presents with fever, right upper quadrant pain, and hepatomegaly [2].

While most ALAs respond well to metronidazole-based therapy, complications such as rupture into pleural, pericardial, or peritoneal spaces are uncommon but life-threatening [3]. Intraperitoneal rupture represents one of the most severe complications, often leading to rapid hemodynamic collapse

Case Presentation

A 44-year-old woman from Malaysia presented with fever, right upper quadrant pain, progressive abdominal distension, and dyspnea. She had no known history of chronic liver disease.

On examination, she appeared acutely ill with hepatomegaly, ascites, diminished breath sounds over the right lung base, and signs of hemodynamic instability.

Chest imaging demonstrated a large right-sided pleural effusion and ascites (Figure 1). Thoracentesis yielded thick, chocolate-colored exudative fluid. Microscopy revealed numerous motile *Entamoeba histolytica* trophozoites, confirming invasive amoebiasis (Figure 2).

Figure 1: Admission Chest Radiograph.

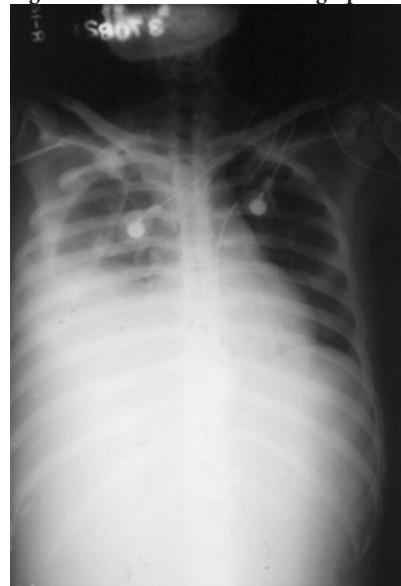


Figure 1. Portable chest radiograph obtained on admission demonstrating a large right-sided pleural effusion with associated elevation of the right hemidiaphragm and evidence of concurrent ascites. These findings are consistent with transdiaphragmatic extension of an amoebic liver abscess.

Figure 2. Pleural Fluid Aspirate and Microscopy.

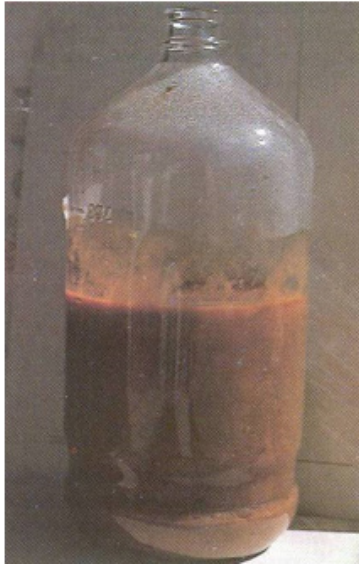


Figure 2. Gross appearance of pleural fluid obtained by thoracentesis showing thick, chocolate-colored (“anchovy paste”) exudate characteristic of amoebic infection. Microscopic examination reveals numerous motile *Entamoeba histolytica* trophozoites, confirming invasive extraintestinal amoebiasis.

Despite supportive care, the patient rapidly deteriorated. She developed hypotension and signs of circulatory collapse due to rupture of a hepatic abscess into the peritoneal cavity. Resuscitation was unsuccessful, and the patient expired.

Discussion

Pathophysiology

Amoebic liver abscess results from hematogenous spread of *E. histolytica* trophozoites via the portal circulation, leading to hepatic tissue necrosis. The characteristic “anchovy paste” aspirate reflects necrotic hepatocytes rather than purulent material [2,4].

Epidemiology

Amoebiasis affects approximately 50 million people worldwide, with up to 100,000 deaths annually [1]. It is endemic in regions with poor sanitation, including parts of Asia, Africa, and Latin America. ALA develops in fewer than 1% of infected individuals but is more common in adult males and in those with risk factors such as malnutrition, alcohol use, or immunosuppression [2,10]. Mortality increases significantly when complications such as rupture occur [3,8].

Types of Clinical Manifestations

Clinical manifestations include:

- **Typical hepatic disease:** fever, right upper quadrant pain, hepatomegaly [2]
- **Thoracic extension:** pleural effusion, empyema, lung abscess [5]
- **Pericardial involvement:** rare but often fatal cardiac tamponade [6]
- **Intraperitoneal rupture:** diffuse peritonitis, septic shock, high mortality [7,8]
- **Chronic/subacute presentations:** weight loss, low-grade fever

This case demonstrates advanced disease with both thoracic involvement and intraperitoneal rupture.

Treatment

Management includes:

- **Antimicrobial therapy:** metronidazole or tinidazole followed by luminal agents [2,4,11]
- **Percutaneous drainage:** for large or high-risk abscesses [3]
- **Surgical intervention:** for rupture or treatment failure
- **Supportive care:** intensive resuscitation in severe cases

Despite therapy, mortality remains high in ruptured cases [8].

Prevention

Preventive strategies include:

- Improved sanitation and access to clean water
- Safe food handling practices
- Hand hygiene and public health education
- Treatment of asymptomatic carriers [10,11]

Travelers to endemic regions should avoid contaminated food and water.

Prognostic Factors

Poor outcomes are associated with:

- Large abscess size
- Right-lobe involvement
- Delayed diagnosis
- Pleural effusion or extrahepatic spread
- Abscess rupture [3,7,9]

Conclusion

This case illustrates a rare and fatal presentation of amoebic liver abscess complicated by pleural involvement and intraperitoneal rupture. Early diagnosis and aggressive management are essential to reduce mortality.

Acknowledgement

The author thanks the Department of Medical Education for its support.

Ethics Statement

Written informed consent could not be obtained due to the patient’s death. All identifying information has been anonymized.

Conflict of Interest

The author declares no conflicts of interest.

Funding

No external funding was received.

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Cite this article: John Kelly Smith, MD. (2026) Fulminant Amoebic Liver Abscess with Pleural Involvement and Fatal Intraperitoneal Rupture: A Case Report. *Archives of Clinical Case Studies and Case Reports* 6(1): 397-400.

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