# **Case Report**

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# Ruptured amoebic liver abscess with empyema thoracis - a case report

## Danny Darlington C.1\*, Fatima Shirly Anitha G.

<sup>1</sup>Department of of Urology, Stanley Medical College Chennai-1, Tamil Nadu, India <sup>2</sup>Consultant paediatrician, CSI Kalyani Hospital, Mylapore, Chennai-4, Tamil Nadu, India

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# \*Correspondence:

Dr. Danny Darlington C.,

E-mail: dannycarbin2@gmail.com

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### **ABSTRACT**

Amoebiasis is one of the leading causes of deaths in the world. Though the most common manifestation is colitis, liver and lung involvement can occur. High index of suspicion is warranted to diagnose this condition. Apart from surgery and drainage, medical treatment is also important. We present a five year old boy with ruptured amoebic liver abscess with right empyema thoracis and right sided psoas abscess. The boy recovered well after timely percutaneous drainage and antibiotics. This case highlights the importance of serology and imaging in the diagnosis of this rare manifestation of a common etiology.

Keywords: Amoebiasis, Empyema thoracis, Entamoeba histolytica, Liver abscess, Psoas abscess

## INTRODUCTION

Amoebiasis is endemic in tropical countries, affecting about 500 million people. The primary infection is colitis. Extra intestinal infections are due to embolization of *Entamoeba histolytica* into the liver through portal vein. Liver is the most common and lung is the second most common extra intestinal site of amoebiasis. Pleuropulmonary involvement occurs when a right lobe liver abscess ruptures through the diaphragm and produces an empyema. We present a rare case of amoebic liver abscess rupturing into the right thoracic cavity causing empyema thoracis, and tracking down into the pelvis as a Psoas abscess.

## **CASE REPORT**

A five year old boy presented with history of fever with pain in the right hypochondrium and right chest for one week duration. There was no history of dysentery. On examination the boy was tachypnoeic and febrile. His vitals were stable. Chest examination revealed reduced air entry in the right hemithorax, with tenderness over the

right lower ribs. Abdomen was soft, bowel sounds were present. Chest x-ray was taken which showed a right massive pleural effusion with mediastinal shift to left side. Hence an emergency intercostal chest drain was placed in right side which drained about one liter of "Anchovy sauce-like" pus. A non-contrast CT abdomen was taken which showed a ruptured 15cm liver abscess in the segments 5 and 8 of liver with communication superiorly into right pleural cavity causing empyema, and tracking inferiorly into the psoas sheath causing right psoas abscess (Figure 1). A pig tail catheter was placed into the liver abscess under Ultrasound guidance and drained 500ml of "anchovy sauce-like" pus.

Laboratory reports were as follows: blood haemoglobin 9g/dl; urea- 20mg/dl; creatinine- 0.9mg/dl; total counts- 20000 cells/mm³, Differential counts: Neutrophil- 75%, Lymphocyte- 15%; Eosinophils- 10%. Erythrocyte sedimentation rate (ESR) was 8mm in 30 minutes and 18mm in one hour. Pus culture- no growth on aerobic and anaerobic culture. Pus AFB (acid fast bacilli)- negative. Stool examination-no evidence of parasites. Enzyme linked immunosorbent assay (ELISA) tested positive for

Entamoeba histolytica. Hence the patient was started on intravenous metronidazole and oral chloroquine. After the general condition improved and conformation of resolution of the abscesses radiologically, both the ICD and pigtail catheter were removed and patient had an uneventful recovery.



Figure 1: CT thorax and abdomen of the patient showing ruptured liver abscess with empyema, ICD in situ, and right psoas sheath.

## **DISCUSSION**

Amoebic liver abscess occurs in less than 1% of patients infected with *E. histolytica*. Most patients present with an acute illness of duration less than 2 weeks as in the present case where the main presenting features were abdominal pain and fever.

About 10% of patients with amoebic liver abscess develop pleuropulmonary amoebiasis.<sup>2</sup> It can occur by several mechanisms: rupture through diaphragm, hematogenous route, lymphatic spread through the diaphragm.<sup>3</sup> Intra-abdominal extension in the form of rupture occurs in 7% of cases and can present with sepsis and shock. In the present case the spread occurred by rupture of the abscess into right pleural cavity and psoas sheath but there was no peritonitis.

Serum antibodies to amoebae can be detected in 85-95% of patients with extraintestinal amoebiasis or liver abscess. ELISA has the highest sensitivity and specificity.<sup>3</sup>

Amoebicides effective in both tissues and the intestinal lumen include metronidazole, tinidazole, emetine, chloroquine. The present case received intravenous metronidazole and oral chloroquine and demonstrated good response free of recurrence.

Most amoebic abscesses can be treated by percutaneous drainage using pigtail catheter. Open surgical drainage is rarely indicated when there is large abscess with inadequate draining on aspiration or clinical deterioration, rupture of the liver abscess into peritoneal cavity with peritonitis and shock. Hence this present case was effectively managed using pigtail drainage and ICD.

#### **CONCLUSION**

This case has been presented to highlight the need for high index of suspicion in diagnosing and the importance of early imaging, serological tests and intervention in treating this condition.

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