
ABSTRACT: Pleuropulmonary amebiasis is the 2nd most common extraintestinal site of amebiasis after liver abscess. We describe a man with pleuropulmonary amebiasis presenting with pulmonary consolidation and pleural effusion. In patients with pneumonia coming from endemic countries such as Lebanon, pleuropulmonary amebiasis should be considered in the setting of chocolate-colored sputum, negative respiratory cultures, and failure of antibacterial therapy.

INTRODUCTION

Amebiasis is the third most common parasitic infection worldwide, with around 500 million infections [1] and 100,000 deaths per year [2]. Although asymptomatic in 90% of cases [3], amebiasis may present with intestinal and extraintestinal manifestations. Pleuropulmonary disease is the second most common extraintestinal manifestation after liver abscess. We report herein a case of pleuropulmonary amebiasis detected incidentally in an elderly immunocompetent man.

CASE REPORT

The patient is an 84-year-old man known to have atrial fibrillation on warfarin and type 2 diabetes mellitus on oral antidiabetics. He had a pacemaker insertion 20 years ago for an unknown type of arrhythmia. He presented on 11/12/08 with hematemesis and hypovolemic shock. He had a new left-side pleural effusion. CT-scan of chest and abdomen revealed a cavitating consolidation in the posterior segment of the left upper lobe and the entire left lower lobe with bilateral pleural effusions and a calcified focus in the left lobe of the liver (Figure 1). The remainder of the CT examination was unremarkable. A left thoracocentesis yielded a chocolate-colored fluid, which was exudative in nature (Lab results • LDH: 289/312; protein : 25/73; glucose : 256/341). The patient then underwent a bronchoscopy that revealed an erythematous bronchial mucosa with chocolate-colored secretions. Ordinary bacterial cultures as well as acid fast stains of the pleural fluid and bronchoalveolar washings were negative. Microscopic examination of the pleural fluid revealed motile trophozoites of Entamoeba. The patient was treated with metronidazole 750 mg TID for 10 days. Seventy-two hours later, he de-vascularized and showed significant clinical improvement.

DISCUSSION

Entamoeba histolytica is a protozoan parasite of worldwide distribution. Its greatest incidence is in areas with tropical and subtropical climates [4], and in areas with poor economic and sanitary conditions [1]. E. histolytica causes pleuropulmonary complications in 7-20% of patients with amebic liver abscesses and in 2-3% of those with invasive disease [5]. Pleuropulmonary infection is the second most common extra-intestinal manifestation of amebiasis after liver abscess [5]. Although the treatment is usually curative, the diagnosis is often missed due to lack of awareness of the disease.

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The most common mode of dissemination to the lungs (75% of cases) occurs when an amebic liver abscess ruptures into the chest [6]. This can result in empyema, lung abscess, bronchopleural fistula, hepatobronchial fistula or pericarditis. In case of bronchial communication, chocolate-colored necrotic debris may be expectorated [7]. In addition, irritation of the diaphragm by an amebic abscess may cause pleural irritation and exudative pleural effusion [6, 8]. Diaphragmatic disruption is common in pleuropulmonary amebiasis, ranging from 21 to 96% [5]. In fact, in the absence of trauma, a hepatic lesion associated with diaphragmatic disruption is virtually diagnostic of amebiasis [4].

The presentation of pleuropulmonary amebiasis is variable, ranging from mild clinical disease to respiratory failure and shock due to aspiration of the chocolate-colored material [9]. The patient is chronically ill usually presenting with weight loss, fever, abdominal pain, pleuritic chest pain, and cough. On physical examination, hepatomegaly and abdominal tenderness may be found [10]. The diagnosis should be considered in any patient from an endemic area presenting with signs and symptoms suggestive of the disease. Diagnostic methods are mainly based on clinical and radiological findings such as elevated right hemidiaphragm, basilar pulmonary infiltrates with areas of focal atelectasis, and pleural effusions [4]. Pulmonary amebiasis may manifest as a homogenous opacity or as a cavitating lesion. The right lower and middle lobes are the most commonly involved areas. A triangular density in the lung base, widest against the right hemidiaphragm, has been described as characteristic of amebic diaphragmatic perforation [11]. Diagnosis also involves microscopic study to detect active, motile trophozoites from pus or sputum. Saline wet mount on a warmed microscope is the most sensitive diagnostic tool for *E. histolytica* [9]. Amebic pus or sputum is usually thick, resembling “anchovy paste” or “chocolate sauce” [12]. Stool specimens may show cysts or trophozoites of amoebae, although this finding does not necessarily imply lung involvement since asymptomatic infestation is common in the general population [13]. Immunological tests such as indirect hemagglutination assay (IHA) and enzyme-linked immunosorbent assay (ELISA) are characterized by high sensitivity as demonstrated in a recent study from Kuwait, which reported sensitivities of 99% and 97.9% and specificities of 99.8% and 94.8% respectively [14]. These serologic tests remain positive for years, and therefore are not useful for diagnosing acute infections in endemic areas.

The treatment of pulmonary amebiasis is with metronidazole 750 mg orally TID for 10 days, in combination with an intraluminal amebicide to eradicate intestinal amebic cysts [10], such as paromomycin [15] or diloxanide furoate [16], (both of which are not available in Lebanon). Thoracocentesis should be reserved for patients who do not respond to medical therapy or complain of a symptomatic large effusion. Nevertheless, thoracocentesis is sometimes performed to confirm the diagnosis and rule out an underlying bacterial superinfection [10]. Full recovery without recurrence of the disease is the usual outcome, but mortality and morbidity increase (5.4%-16.5%) if the diagnosis is missed [8].

Our case illustrates that in endemic areas, pleuropulmonary amebiasis should be suspected in the setting of chocolate-colored sputum, negative respiratory cultures, and failure of antibacterial therapy, even in the absence of amebic liver abscess or intestinal manifestations.

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REFERENCES