A Rare Case of Primary Pulmonary Amoebiasis without Gastrointestinal Involvement: A Case Report

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**INTRODUCTION**

Amoebiasis is one of the most common parasitic disease caused by *Entamoeba* infection. The main pathogen of amoebiasis is *Entamoeba histolytica*. Amoebiasis is very common in tropical and developing countries, such as Mexico, Central and South America, Africa, and the Indian Subcontinent, where sanitation, hygiene, and low socio-economic status are major problems. Nowadays, supported by easier travel between countries, it becomes a globalized disease. Amoebiasis is currently estimated to cause 50 million cases a year with 40,000 to 100,000 deaths worldwide. Most of the amoebic infection found in human gastrointestinal tract are asymptomatic. Up to 90% of the people infected with amoeba are carriers, which carry nonpathogenic *Entamoeba dispar* rather than the pathogenic *Entamoeba histolytica*.1,2

*Entamoeba histolytica* has two life cycles, one as an infectious trophozoite and the second life cycle as a cyst where it can survive in harsh environment outside a host’s body weeks to months thanks to its chitinous cell wall. The most common route of infection is through gastrointestinal tract, where a mature cyst is ingested through fecal material which is contaminated in food, water, hands, or sexual contact, followed by excystation, releasing trophozoites into the small intestine. The released trophozoites then multiply in the lumen of the intestine, some may inhabit intestinal mucosa or blood vessels to infect extraintestinal organs such as liver, brain, and lungs. Cysts can be formed through binary fission and excreted through feces to infect subsequent hosts. Trophozoites

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**ABSTRACT**

**Introduction:** The main pathogen of amoebiasis is *Entamoeba histolytica* which is very common in tropical and developing countries, where sanitation, hygiene, and low socio-economic status are major problems. The most common site of infection is the intestinal mucosa. For extraintestinal amoebiasis, the most common sites are the liver, followed by the lungs and brain.

**Case:** A 15-year-old male was presented to the ER with chief complaint of breathlessness for the last 10 days, accompanied by productive coughing with dark brown sputum and pain on lower right chest. The patient had fever while the disease progressed. Gastrointestinal symptoms were denied. Physical examination showed lowered breathing sound on the right lung, dullness on lower right chest, and usage of accessory breathing muscles. USG found heteroechoic lesion of 8x7cm in size suspicious of lung abscess, later on confirmed as *Entamoeba histolytica* found in sputum sample, while abdominal USG showed no abnormality. The patient was admitted for One of the rarest routes of amoebiasis is primary deposition of cysts to the lungs through aspiration. Pulmonary amoebiasis often causes abscess formation, produces brown-colored sputum called “anchovy sauce”. It is notable that we found one of the rarest cases of amoebiasis infection, where there is a pulmonary infection without any intestinal involvement.

**Conclusion:** Whilst infection of primary pulmonary amoebiasis is very rare, it is still an important etiology to put on the differential diagnosis of pulmonary abscess. Therefore, sputum examination or biopsy is required even when there are no gastrointestinal disturbances.

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