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Case Report

Amoebic Liver Abscess Ruptured into Lung: A case report

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Abstract: Infections with Entamoeba histolytica are seen worldwide and are more prevalent in the tropics. About 90% of infections are asymptomatic, and the remaining 10% produce a spectrum of clinical syndromes, ranging from dysentery to abscesses of the liver or other organs. Extra-intestinal infection by Entamoeba histolytica most often involves liver. Pleuro-pulmonary involvement, seen as the second most common extra-intestinal pattern of infection, is frequently associated with amebic liver abscess. Pulmonary amebiasis occurs in about 2-3% of patients with invasive amebiasis. .

Key Words: Entamoeba histolytica, liver abscess, pulmonary involvement.

Introduction

Among parasitic diseases, amebiasis caused by Entamoeba histolytica, is the third most frequent cause of mortality after malaria and schistosomiasis.[1] Developing countries are the most affected by this disease.[2] The largest burden of E. histolytica infection is seen in Central and South America, Africa, and the Indian subcontinent.[3]

Entamoeba histolytica, an amoebic protozoan parasite, is the most invasive of the Entamoeba group. The life cycle of the protozoon includes an infective cyst and an invasive trophozoite form, and infection occurs due to fecal-oral mechanism through water or food contaminated with feces.[3] Clinically, the disease presentation in amebiasis ranges from asymptomatic colonization to colitis and/or liver abscess.[1]

Pulmonary amebiasis, the second most common extra-intestinal pattern of infection, is frequently associated with amebic liver abscesses. It occurs in 2-3% of patients with invasive amebiasis.[1,2] Lung disease without liver involvement is exceptional and it is believed that infection of the lung is a result of haematogenous spread from a primary site, usually colon.[2]

For diagnosis of amebiasis, microscopy is a very useful method, especially in developing countries, although worldwide other more advanced methods such as antigen detection, polymerase chain reaction or serology are available.[3]

Case Report

A 45-year-old man presented to the emergency department with sudden-onset diffuse right hypochondriac pain since 2days, fever since the past 4 days and vomiting since 1 day. He had undergone an open cholecystectomy 5 years back. Per abdomen examination revealed guarding in the right hypochondrium .Laboratory findings showed rise in the wbc counts to 14000. X ray showed right sided pleural effusion(Figure 1). A CT scan was planned which showed right sided liver abcess ruptured into the right pleural cavity(Figure 2). Immediately an intercostal drain was put in the pleural cavity which drained anchovy sauce pus and a pigtail was inserted in the liver abcess. The patient was put on antibiotics and painkillers. Stool routine was send which showed trophozoites. The has an uneventful course in the ward and was discharged on the 14th day.

Discussion

Amoebiasis is a major parasitic infection in developing countries. Amoebiasis is a common cause of recurrent diarrhoea and bloody mucoid stool. An estimated 40000– 100 000 people die every year from amoebiasis worldwide. With medical treatment, the death rates are between 1 and 3%. Transmission is usually via contaminated food or water but can be associated with sexual contact through faecal oral contact. Development of amoebiasis usually starts with the ingestion of faecally contaminated water or food containing Entamoeba histolytica cysts. The initial E histolytica infection causes acute amoebic colitis. Typical symptoms include abdominal pain and fever. Abdominal pain is reported to be present in 98% and fever in 74% of the cases. A history of diarrhoea is present in 20–30% of the cases. Hepatomegaly and tenderness in the right upper quadrant of the abdomen (over the liver) are the most frequent physical signs. Other pathogenic spread is secondary to the development of colonic

amoebiasis and can affect multiple systems leading to liver abscess formation, hepatopulmonary fistula, amoebic pericarditis or brain abscesses. In 90% of cases, the infection is asymptomatic and self-limiting. Around 10% of the cases show invasive disease, and less than 1% of the cases show extraintestinal disease. Liver abscess formation is the commonest extraintestinal manifestation, most commonly developing in the right lobe with characteristic 'anchovy-sauce' pus.

The diagnosis of amoebiasis is based on:

1) Direct microscopy of the stool sample for trophozoites.

2) Enzyme immunoassay (EIA) kits for the detection of faecal amoebiasis (the parasite will not be found in the stool once disease is extraintestinal).

3) Identification of the parasite in liver abscess aspirate (20% sensitivity); however, PCR on the aspirate can detect E histolytica with a sensitivity of 83%.

4) Diagnostic serology screening with the latex agglutination test: rapid test with a sensitivity of 98% and specificity of 96%.

5) Detection of antibodies by IFA detection, indirect haemagglutination or gel diffusion precipitation tests.

A non-invasive diagnostic test for amoebic liver abscess is required; amoebic and bacterial abscesses can appear identical on ultrasound scans or CT. IFA titre of 16 or higher is diagnostic. The test will be positive if tissue invasion has occurred. No rise is found in patients who have acute amoebic dysentery or are asymptomatic cyst passers. Conversely, significant titres are found in patients with active hepatic amoebiasis. Sensitivity and specificity are >95%. Antiamoebic activity is almost exclusively confined to IgG autoantibodies. Serological testing demonstrates the presence of antiamoebic antibodies and is positive for most patients with an amoebic liver abscess. However, in individuals from endemic areas, it can remain positive for antiamoebic antibodies for several years after an infection. The differentials would include hepatocellular carcinoma, hepatic metastases and pyogenic abscess. It should also be remembered that certain patient groups like the elderly and the immunosuppressed may not always display a response to infection, for example, with a fever. If anyone has a history of travel to an endemic area with compatible symptoms, there should be a high index of suspicion and appropriate serological testing should be undertaken.

Conclusion

It is important to be aware of the epidemiology of the disease, and to relate it to patients presenting with symptoms suggestive of amoebiasis. It is advised that medical management is first line, and only with failure to improve on medical management should more invasive management methods be used. This was a case of secondary complication of amoebic liver abscess in the form of rupture in the pleural cavity and all cases with secondary complications should undergo surgical intervention as early as possible before the condition of patient deteriorates.

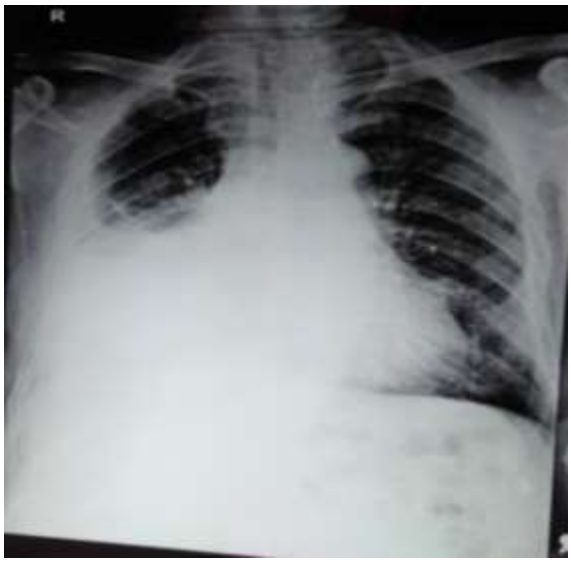

Figure 1: Showing rupture of liver abcess in the pleural cavity.

Figure 2: Showing the liver abcess.

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