Usefulness of the Presence of Trophozoites in Pleural Fluid in the Diagnosis of Amebic Empyema and Liver Abscess

Utilidad de la visualización de trofozoitos en líquido pleural en el diagnóstico de empiema y absceso hepático amebianos

To the Editor:

Entamoeba histolytica (E. histolytica) is an uncommon cause of liver abscess, affecting immigrants or travellers to endemic areas, although indigenous cases have been reported in our country. The exact incidence of pulmonary alterations in patients with hepatic amebiasis is unknown, although it has been estimated that there can be clinical or radiological pulmonary findings in 50% of the cases. One-third of said alterations include inflammatory reactions (pleural effusion and pneumonitis), and there is frequently rupture of the abscess to the airway, pleural cavity or both.

We present the case of a patient with liver abscess and right pleural effusion. The identification of E. histolytica in the pleural liquid allowed us to make a diagnosis of amebic empyema and amebic liver abscess, even though the microbiological study of the pus drained from the abscess had come back negative for bacteria and parasites.

The patient is a 57-year-old man who is a professional bullfighter and travels to Ecuador annually. He arrived at the ER due to symptoms evolving over the previous three weeks of fever (39 ºC) with shivering. These symptoms began while in Ecuador after having been there for two weeks, and a fortnight before his return to Spain. In recent days, the fever was accompanied by dry cough and pain on the right side and ipsilateral hypochondrium. Physical exploration showed an axillary temperature of 37.5 ºC, hypoventilation in the right lung base and painful hepatomegaly at one fingerbreadth. Hemogram: 14.350 leukocytes/mm³ (72.3% neutrophils), hemoglobin 10.8 g/dl with normal MCV and MCH and 599,000 platelets/mm³. Biochemistry: urea 28 mg/dl, creatinine 0.79 mg/dl, total protein 6 g/dl, GOT 36 IU/l, GPT 78 IU/l, alkaline phosphatase 283 IU/l, GGT 278 IU/l, total bilirubin 0.84 mg/dl, LDH 129 IU/l, VSG 110 mm/h and CRP 147 mg/l. Chest radiograph showed evidence of elevation of the right hemidiaphragm with ipsilateral pleural effusion in limited quantity. The abdominal ultrasound showed a liver abscess of 9.5 × 9 cm in the posterior segments of the right hepatic lobe. A percutaneous drain was placed and maintained for 11 days, while antibiotic therapy was initiated with piperacillin/tazobactam at a dose of 4/0.5 g IV/8 h. The culture of the pus and the analysis for parasites were negative. In successive days, the patient was afebrile, although the non-productive cough and general malaise continued. Treatment with metronidazole IV 750 mg/8 h was added due to the suspicion of amebic abscess. Diagnostic thoracocentesis revealed pleural liquid that was melenic in appearance with 7,200 cel/mm³ (PMN 75%), protein 4.91 g/dl, LDH 615 mU/ml, glucose 0.95 g/l, pH 7.31, ADA 27.5 mU/ml, and presence of trophozoites of E. histolytica. Indirect immunofluorescence for E. histolytica was positive at 1/512. A pleural drain tube was placed and removed four days later. The patient’s symptoms remitted. Oral treatment was continued at 750 mg/8 h for two weeks, followed by paromomycin 30 mg/kg/day for 10 days. On the follow-up CT done two weeks later, persistence of the residual cavity was observed in the right hepatic lobe (3 × 2.8 cm in diameter), with no evidence of pleural effusion.

The previously described case suggests that when given a liver abscess with associated pleural effusion in which the patient history show suspicions for amebic etiology, both diagnostic thoracocentesis and the investigation of trophozoites in the pleural liquid can be useful, especially if the culture and the investigation for parasites in the pus of the liver abscess are negative. This would be of special interest if the clinical evolution was unfavorable with antimicrobial treatment and percutaneous drain of the liver abscess since, as happened in our patient, a correct diagnosis allowed for continued treatment with metronidazole, already initiated empirically, and the placement of a pleural drain tube, as is recommended for the treatment of amebic empyema.

Although the most frequent access pathway to the pleural space of E. histolytica is the transdiaphragmatic rupture of an amebic liver abscess, the trophozoites can also reach the pleural space through the blood or lymphatic flow. Therefore, imaging tests, as happened in our case, may not show signs of diaphragmatic perforation.

References


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