

**IMAGES IN EMERGENCY MEDICINE**

## Infectious Disease

**A man with abdominal pain, diarrhea, and multiple liver lesions**Samuel L. Burleson MD  | Ashton E. Kilgore MD

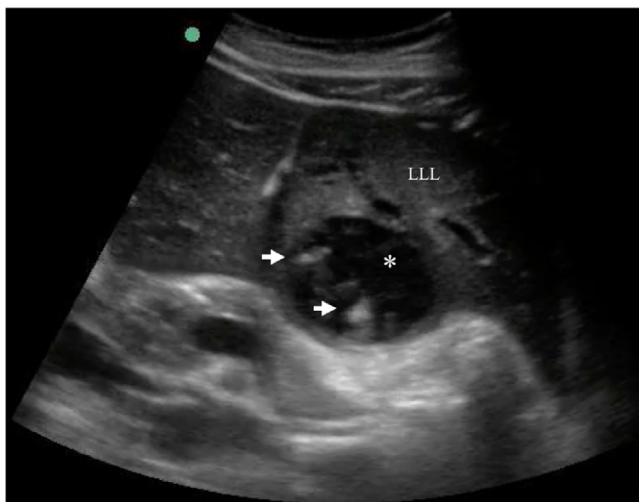
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Email: [sburleson@uabmc.edu](mailto:sburleson@uabmc.edu)**PATIENT PRESENTATION**

A 26-year-old previously healthy African American male presented to the emergency department with 2 weeks of abdominal pain, nausea, vomiting, occasional bloody diarrhea, fever to 101.4°F, and 1 day of pleuritic chest pain. He denied any history of international travel, immunosuppression, or intravenous drug abuse. Point-of-care ultrasound of the liver revealed large, complex, fluid-filled structures with internal echoes in both lobes of the liver (Figures 1 and 2). Computed tomography (Figures 3 and 4) with angiography of the chest, abdomen,



**FIGURE 1** Point-of-care ultrasound of the left liver lobe (LLL) in the transverse axis revealing complex fluid-filled cystic structure (\*) and internal echoes (arrows). Copyright 2011-2021, American College of Emergency Physicians, Reprinted with permission



**FIGURE 2** Point-of-care ultrasound of the right liver lobe. Note the complex structure measuring the 10.3 cm by 13.2 cm with multiple areas of varying echogenicity. Copyright 2011-2021, American College of Emergency Physicians, Reprinted with permission

and pelvis visualized these suspected hepatic abscesses, inferior vena cava thrombus, and multiple pulmonary thromboemboli. Heparin infusion, vancomycin, cefepime, and metronidazole were initiated. The patient was admitted and percutaneous hepatic drains were placed. Blood and abscess aspirate cultures were negative. The patient was discharged on amoxicillin/clavulanic acid and metronidazole, followed by paromomycin. *Entamoeba histolytica* immunoglobulin G was pending at the time of discharge and was subsequently positive.

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**FIGURE 3** Axial computed tomography scan revealing the hypoattenuating cystic lesions in the left (\*) and right (arrow) liver lobes



**FIGURE 4** Axial computed tomography scan with a large, complex, heterogenous, and hypoattenuating lesion filling the right liver lobe. Note the calipers measuring the lesion at 107 mm by 143 mm

## DIAGNOSIS

### Amebic liver abscess

Amebic liver abscess (ALA) is the most common extra-intestinal manifestation of infection with *E histolytica*, a common parasitic pathogen

worldwide. Incidence varies widely between regions and is low (1.38 per million) and decreasing in the United States.<sup>1</sup> ALA is most often located in the posterior right liver lobe (Figures 2 and 4).<sup>2,3</sup> Lesions are typically round and hypoechoic compared to surrounding liver parenchyma, but may have internal echoes.<sup>3</sup> ALAs lack distinct walls or capsules,<sup>3,4</sup> which may differentiate them from indeterminate echinococcal cysts. Amoebic and pyogenic liver abscesses are difficult to differentiate sonographically,<sup>4,5</sup> but have different epidemiology and risk factors<sup>2</sup> and may be aspirated and cultured for diagnostic and therapeutic certainty. The classic “anchovy paste” aspirate of amoebic abscesses is absent in a majority of cases.<sup>4</sup> Other non-infectious focal liver lesions, such as malignancy, should be considered in the differential diagnosis.

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