Chest Radiographic Diagnosis of a Large Gas-Forming Pyogenic Liver Abscess

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A 75-year-old man walked into the emergency department complaining of having had progressive general malaise for 3 weeks, and a low-grade fever for one week. The patient had type 2 diabetes mellitus which had not been controlled for 10 years. On physical examination, the patient appeared mildly distressed and was tachycardic, but afebrile. His abdomen was soft and non-tender with normal active bowel sounds. Laboratory evaluation showed leukocytosis, with a white-cell count of 14,900/μL and 91% segmented neutrophils; anemia with hemoglobin levels of 9.2 g/dL, and elevated liver function with a GPT of 97 IU/L. An upright chest radiograph was reported as “unremarkable” by a radiologist, but a right subdiaphragmatic air-content cavity with an air-fluid level was found (Panel A, arrow) after a hepatic abscess was suspected and the x-ray carefully reviewed. Computed tomography (CT) of the abdomen confirmed the presence of hepatic abscesses (Panel B, arrow). Blood culture revealed Klebsiella pneumoniae. The patient received intravenous antibiotics with CT-guide drainage of hepatic abscesses, and he was discharged uneventfully after a 34-day hospitalization.

Fig. 1 Chest radiograph shows a right subdiaphragmatic air-content cavity with an air-fluid level (arrow)

Comments

The presentation of a gas-forming pyogenic liver abscess can be non-specific, so it usually
leads to a delay in diagnosis\(^{(1)}\). A gas-forming pyogenic liver abscess is commonly associated with underlying diabetes mellitus and carries a high mortality rate\(^{(1)}\), so early and correct diagnosis is very important. Although Computed Tomography with contrast is the gold standard to the diagnosis of this disease\(^{(2)}\), it has been reported that an abdominal radiograph could detect a large niveau in the right subphrenic space\(^{(3)}\), however, it has never been reported that the chest radiograph could detect similar findings. We herein reported a diabetic elderly man, who had a large gas-forming pyogenic liver abscess, presenting with non-specific complaints. His gas-forming liver abscess was diagnosed early after a careful review of his chest radiograph, so he could receive correct treatment and expect a better outcome.

**References**