Journal of Acute Medicine 9(4): 198-199, 2019
DOI:10.6705/j.jacme.201912_9(4).0007
Make Your Diagnosis

Emphysematous Liver Abscess Mimicking A Gastric Bubble

Yu-Hsuan Lee, Gho-Sheng Yu, Kuang-Chau Tsai, Chun-Yen Huang*
Department of Emergency Medicine, Far Eastern Memorial Hospital, New Taipei City, Taiwan

Case Presentation

A 47-year-old man presented to our emergency department after 5 days of epigastric pain. He denied having a medical history of both diabetes mellitus and hypertension. He had been drinking alcohol daily for more than 10 years. His pain was intermittent and aggravated during coughing. He had a fever of up to 38.4ºC with mild productive coughing. He had no vomiting or diarrhea. On physical examination, rigidity and rebounding tenderness were noted over the epigastric area. Laboratory data showed leukocytosis with hyperglycemia. Chest posteroanterior X-ray revealed air accumulation with an air-fluid level over the left upper quadrant of the abdomen. (Fig. 1A). The air was different from a gastric bubble and could initially be easily mistaken for a gastric bubble. Contrast abdominal computed tomography (CT) revealed a huge abscess that was 8 cm in diameter with an air-fluid level over the left lobe of the liver (Fig. 1B). He received treatment with the antibiotic flomoxef, pigtail drainage, and insulin control. Pus culture revealed a *Klebsiella pneumoniae* infection. The patient was discharged after his condition became stable 10 days later.

Discussion

Emphysematous liver abscess developed in 10–20% of patients with liver abscess and was first

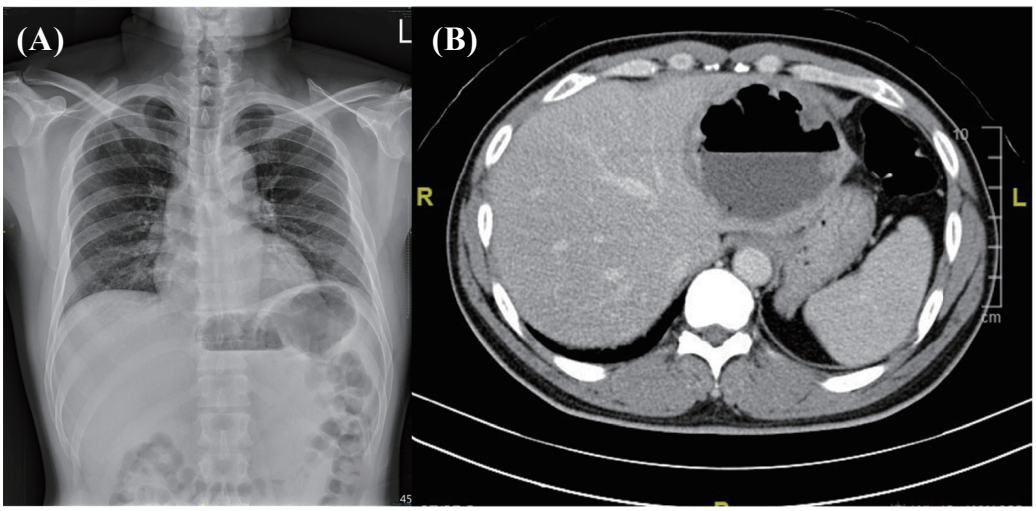

Fig. 1. Abdominal image: (A) X-ray revealed air accumulation over the left upper quadrant of the abdomen (B) computed tomography revealed a huge abscess that was 8 cm in diameter over the left lobe of the liver.

Received: September 23, 2018; Revised: November 30, 2018; Accepted: January 15, 2019.
*Corresponding author: Chun-Yen Huang, MD, Department of Emergency Medicine, Far Eastern Memorial Hospital, No. 21, Sec.2 Nan-Ya S. Rd., Pan-Chiao Dist., New Taipei City 220, Taiwan. E-mail: meureka@gmail.com

reported by Smith.[1] This disease is relatively rare in the West but common in Asia, particularly in Taiwan. Poor blood sugar control is a crucial risk factor. *Klebsiella pneumoniae* is the most common pathogen of emphysematous liver abscess,[2] and is known to cause septic pulmonary emboli, meningitis, and endophthalmitis. Gas in the abscess has been suggested to result from glucose fermentation by *Klebsiella pneumoniae*.[3] On a plain film, an air-fluid level or mottled gas patterns are the most common findings.[4] The formation of a huge round air content that resembles gastric gas on plain film is rare. Most cases show air in the right upper quadrant of the abdomen, and the finding of air in the left upper quadrant of the abdomen, as in our patient, is extremely rare. Because of air pressure overload, a gas-filled abscess spontaneously ruptured in approximately 7.1–15.1% of emphysematous liver abscess cases. The plain film may mimic hollow organ perforation when a gas-filled abscess ruptures.[3] Although a plain film may be less important for diagnosis, CT is the most sensitive modality for detecting emphysematous abscesses. In addition to prompt percutaneous abscess drainage, antibiotic treatment and glucose control, surgery is often required for a ruptured emphysematous liver abscess.

References

1. Smith RS. Pyogenic liver abscess in the aged. *Am J Surg* 1944;63:206-213. doi:10.1016/S0002-9610(44)90267-9
2. Lee CJ, Han SY, Lee SW, et al. Clinical features of gas-forming liver abscesses: comparison between diabetic and nondiabetic patients. *Korean J Hepatol* 2010;16:131-138. doi:10.3350/kjhep.2010.16.2.131
3. Lee CC, Tsai KC, Fan CM. An unusual cause of epigastric pain in a diabetic patient. *Gut* 2006;55:477. doi:10.1136/gut.2005.076091
4. Huang CY, Chou WK, Lin MS, Tsai KC, Sun JT. Gas-forming pyogenic liver abscess. *QJM* 2009;102:885-886. doi:10.1093/qjmed/hcp058