Pneumoperitoneum Caused by Ruptured Gas-Containing Pyogenic Liver Abscess: A Case Report and Literature Review

Chih-Chung Chao[1], Sung-Yuan Hu[2,3,4,5], Ying-Hock Teng[1,3]

Pneumoperitoneum reflects intra-abdominal visceral perforation in 85 to 95 % of all occurrences. In 5 to 15 % of cases, however, pneumoperitoneum does not reflect perforation and results from another source. Herein, we report a rare case of surgery indicated pneumoperitoneum caused by the rupture of gas-containing pyogenic liver abscess (GPLA) in a newly-diagnostic diabetic 57-year-old man. He presented the symptoms mimicking intra-abdominal visceral perforation. He recovered uneventfully after surgical intervention, drainage, full-course of antibiotics and strict control of blood glucose. Cultures of blood and ascites grew Klebsiella pneumoniae.

***Key words:** gas-containing pyogenic liver abscess (GPLA), pneumoperitoneum, rupture*

Introduction

Acute abdomen is a common and emergent condition in the emergency department (ED). Indeed, it is necessary to be investigated immediately and treated it without delay. Pneumoperitoneum is the term used to describe the presence of free air within peritoneal cavity but outside the viscera. In the major cases of pneumoperitoneum, it is the result of intra-abdominal visceral perforation, especially the hollow organs(1). Gastric and duodenal ulcers account for the majority of these cases(2). Generally, prompt surgical intervention is required in these patients. Ruptured GPLA is a rare cause of surgery indicated pneumoperitoneum(3-6).

Case Report

A 57 year-old man presented to the ED with fever, productive cough and general weakness for 1 week. He denied any systemic disease in the past except herbal drugs for polydipsia, polyuria, polyphagia and body weight lost from 78 to 50 kg in recent 3 years. On arrival of ED, vital signs were body temperature of 36.1°C, blood pressure 164/106 of mmHg, heart rate of 96 beats/min and respiratory rate of 18 breaths/min. Physical examination revealed coarse crackles over the right lung field, soft abdomen on palpation, normal peristalsis on auscultation and there were no localized tenderness, rebounding pain or percussion pain over the right flank and right lower chest regions. First look of the upright chest X-ray (CXR) (Fig. 1) was increased infiltration over right lung field. Laboratory investigations were white blood cell counts 33960/μL with 90% neutrophils and 2.5% bands, C-reaction protein 31.6 mg/dL, glucose 838 mg/dL, HbA1c 14.6%, aspartate aminotransferase 117 U/L, alanine aminotransferase

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From the [1]Department of Emergency Medicine, Chung Shan Medical University Hospital; [2]Division of Toxicology, Department of Emergency Medicine, Taichung Veterans General Hospital; [3]School of Medicine, Chung Shan Medical University; [4]Institute of Medicine, Chung Shan Medical University; [5]National Taichung Nursing College, Taiwan (R.O.C.)
Address reprint requests and correspondence: Dr. Sung-Yuan Hu
Division of Toxicology, Department of Emergency Medicine, Taichung Veterans General Hospital
160 Section 3, Chung-Kang Road, Taichung, Taiwan (R.O.C.)
Tel: (04)23592525 ext 3670 Fax: (04)23594065
E-mail: song9168@pie.com.tw