

Hepatic Abscess with Gas by Streptococcus Pyogenes (Group A)

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ABSTRACT

Background: It is reported that the pyogenic liver abscess has an annual incidence of 2.3 cases 100 000 inhabitants and has an incidence of up to 30% of all hepatic gas-forming pyogenic abscesses.

Clinical case: A 34-year-old man who began his condition a month ago when presenting dyspepsia data with pain in the hypogastrium and right upper quadrant. An abdominal ultrasound is performed that reports bilateral renal lithiasis. Twenty days ago he presented fever of 102o F, anorexia, dry cough, three days ago he presented respiratory distress plus unquantified fever. Initial Laboratories Hb. 3.6 g/dL, Hto. 15.8%; leukocytes $14.4 \times 10^9/L$, AP 129 (UI/L), other laboratory tests were normal. Rx of the upper abdomen showed a basal hydro-aerial level. Initial diagnoses of probable community-acquired pneumonia, parapneumonic effusion, and abdominal pain understudy. Cabinet studies confirm the diagnosis. Open drainage of hepatic abscess of approx. 600 ml, without incidents or accidents. Abscess secretion culture was performed by developing Streptococcus pyogenes (Group A).

Discussion: The differentiation between amoebic liver abscess and pyogenic abscess is difficult to establish by imaging, similarly, the clinical is not useful to establish the precise etiology in such a way that the treatment will be with antibiotics plus drainage either open or by a guided puncture. Our case presents some characteristics of ultrasound and tomographic images that showed gas in the abscess which guided us towards a pyogenic etiology.

INTRODUCTION

Wellman GO in 1948 [1] reported a case of pyogenic abscess successfully treated with penicillin that was newly discovered and was the antibiotic of choice for most of the infectious diseases of the time. Coe way Boulder Thng, et al., [2] report that the pyogenic liver abscess has an annual incidence of 2.3 cases 100 000 inhabitants and has an incidence of up to 30% of all hepatic pyogenic gas-forming abscesses. This entity was first described in 1944 [3]. Hayashi Y, et al., [4] reported a case in which there was a case of hepatic pyogenic abscess with gas in its interior as a rare situation and diagnosed by abdominal X-ray and treated by percutaneous drainage that was converted to open drainage with good results Jung Hwan Oh, et al., [5] also report a case in a 70-year-old man with an insidious febrile condition whereby means of imaging studies he made a diagnosis of pyogenic liver abscess due to Klebsiella pneumonia in such a way that the presence of gas inside of a liver abscess can be

observed by ultrasound, CT and simple abdominal X-ray can be diagnosed in up to 36% of cases. Ming-Chung Ko, et al., [6] found in their analysis that the bacterium strongly associated with pyogenic liver abscess is *E. coli*, which is why in patients with type 2 DM they are exposed to the acquisition of this disease and, like Wenfei Li, et al., [7] the association of diabetes plus liver abscess worsens the prognosis, our patient did not present this risk factor.

CLINICAL CASE

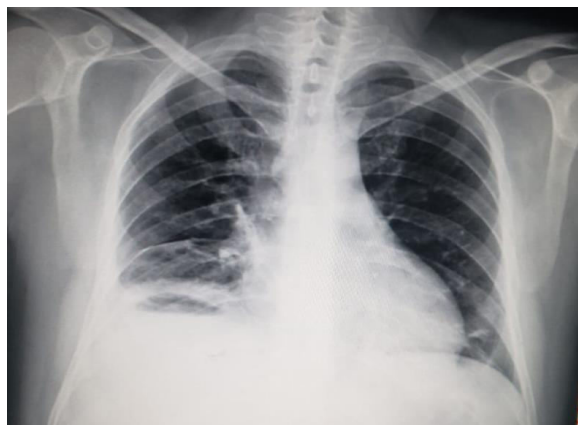


Figure 1: AP x-ray of the chest observing a hydroaereo level between the pleura and the liver.



Figure 2: Abdominal ultrasound observing in the liver between segments VII and VIII a focal image of oval shape and heterogeneous content predominantly anechoic and with gas inside, suggestive of a hepatic abscess.

A 34-year-old male from Quintana Roo with chronic alcoholism since 12 years of age, daily intake, positive tobacco consumption from 12 years of age, a daily pack. Her condition began one month ago when she presented dyspepsia data

with pain in the hypogastrium and right hypochondrium. An abdominal ultrasound is performed that reports bilateral renal lithiasis. 20 days ago he presented fever of 100.4°F, anorexia, dry cough, 3 days ago he presented respiratory distress plus unquantified fever. Entry Laboratories Hb 3.6 g / dl, Hto. 15.8%; Leukocytosis $14.4 \times 10^9 / L$, AP 129 (UI / L), other laboratory tests were normal. X-ray basal right hydro-aerial levels (Figure 1).



Figure 3: Contrast tomography image in coronal projection showing the same image of the previous ultrasound, with enhancement of ring contrast characteristic of hepatic abscesses.

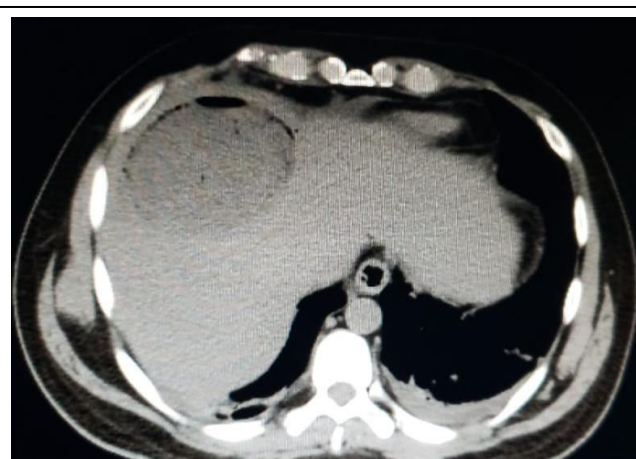


Figure 4: Axial CT image showing the same hydro-aereo level of the chest X-ray and liquid density (22UH) (as in ultrasound) and gas bubbles (-877UH), as well as the annular enhancement of the contrast medium characteristic of a hepatic abscess.

Initial diagnosis of probable community-acquired pneumonia, parapneumonic effusion, and abdominal pain understudy. Ultrasound (Figure 2) shows a focal liver lesion due to amebic liver abscess. CT (Figure 3,4) reports liver abscess in segments V, VI, and VII greater than 15 cm with gas in its interior. Its initial management was with metronidazole 500 mg IV every 8 hours and ceftriaxone 1 gram every 12 hours with suspension of metonidazole upon receiving the etiological diagnosis. Open drainage of hepatic abscess of approx. 600 ml, without incidents or accidents, Open access is due to the fact that we do not have an interventional radiologist in our hospital. After hospital discharge, the patient was sent to the department of internal medicine for diagnosis and treatment of alcoholism and anemia. No initial electrocardiogram was performed because it was an acute condition that required emergency treatment. The patient was discharged with outpatient treatment and referred to his home clinic in another city. Abscess secretion culture was performed by developing *Streptococcus pyogenes* (Group A).

DISCUSSION

Neill L, et al., [8] report that the differentiation between an amoebic liver abscess from a pyogenic abscess is difficult to establish through imaging. Likewise, the clinic is not useful to establish the precise etiology in such a way that the treatment will be with antibiotic therapy. More drainage either opens or by the guided puncture. Our case presents some characteristics that make it difficult to establish the amoebic or pyogenic etiology, likewise, the ultrasound and tomographic images showed gas in the hepatic abscess which guides us towards a pyogenic etiology. The diagnosis of a pyogenic liver abscess in the emergency room is difficult because its presentation is nonspecific and therefore the diagnosis may be delayed, although it is not significant concerning mortality or failure to treat or stay in hospital. [9] And Liu L, et al., [10] in their study found that the rapid recognition of the disease, the empirical onset of antibiotic therapy and the timely drainage either percutaneous (current gold standard) or surgical as well as the control of comorbidities prevent these patients from developing severe sepsis and having better results. Haider SJ, et al., [11] found that percutaneous drainage is the treatment of choice in these abscesses with a 95% success, obtaining the resolution of the abscess on average of 223 days either with one or several

drainages according to the number of abscesses. Lin AC, et al., [12] found that ultrasound and tomography in the emergency department are good diagnostic methods for this pathology. In 268 cases, 38 were false positives for ultrasound and in 230 their results were true positive, in the same way with this method the location of the abscess in segments IV and V increases the sensitivity of ultrasound, while those located in segment VIII it was more difficult to diagnose, in any way, the painful percussion in the costal flank right is suggestive of a pyogenic liver abscess even with negative ultrasound. It is known that the neutrophilia-leukocyte ratio is an effective predictor of mortality in various pathological entities and Kwang Soon P, et al., [13] studied a group of patients with pyogenic liver abscess where they found that this relationship is an independent factor for prediction of mortality in these patients, admission to the ICU or in the development of septic shock which makes it useful to provide aggressive management especially in patients with NLR > 16.9. For the comparison of this disease between young and old patients, no difference has been found regarding the results obtained when treating these patients and their management must be the same [14].

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