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Spontaneous Rupture of a Pyogenic Liver Abscess in the Abdominal Wall: a Case Report

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ABSTRACT

Background: Pyogenic liver abscess is defined as a supplicated cavity caused by the invasion and multiplication of bacterial microorganisms in the liver parenchyma. Pyogenic liver abscess rupture in the abdominal wall is rare.

Case Report: We describe a case of spontaneous rupture of a pyogenic liver abscess in the abdominal wall. The computed tomography found a liver abscess of the segment II ruptured in the abdominal wall with an epigastric parietal collection 2.5 cm below the skin. Percutaneous drainage combined with anti-biotherapy was performed favorably.

Conclusion: Rupture in the abdominal wall is a very rare complication of liver abscess. Its prognosis is improved with an early diagnosis by imaging. The best treatment is percutaneous drainage combined with appropriate anti-biotherapy.

KEYWORDS: Liver, Abscess, Pyogenic, Abdominal wall

INTRODUCTION

Pyogenic liver abscess is defined as a supplicated cavity caused by the invasion and multiplication of bacterial microorganisms in the liver parenchyma [1]. Advances in imaging have improved the diagnosis, the treatment and the prognosis [2]. The most common complication is a spontaneous rupture in the abdominal cavity or in the adjacent organs. Rupture in the abdominal wall is rare [3]. We describe a case of spontaneous rupture of a pyogenic liver abscess in the abdominal wall with favorable results after percutaneous drainage and antibiotherapy.

CASE PRESENTATION

A 40-year-old woman, with uncontrolled diabetes was admitted with a 3-week history of pain at the right hypochondrium. These symptoms were associated with swelling of the abdominal wall and a fever; without weight loss, jaundice, or transit disorders. Physical examination showed the following results: a blood pressure of 130/80 mmHg, a body temperature of 38°, a pulse rate of 98/min, a respiratory rate of 22 c/min. On examination an inflammatory epigastric mass was found under shiny skin and was painful to the touch. There were no signs of peritoneal irritation. The rest of the examination was normal. The ultrasound showed the liver abscess content which extends into the abdominal wall, this is shown as a hypoechoic parietal collection. The bile ducts were normal.

The abdominal computed tomography found a 70 x 46 x 38 mm abscess of the segment II of the liver that has ruptured in the abdominal wall and caused an epigastric parietal collection of 84 x 76 x 46 mm 2, 5 cm below the skin (Figure 1 and Figure 2). The blood count showed leukocytosis at 12500/mm³ and anemia at 10.2 g/dL. TP was 88.5% and there was no cholestasis or hepatic cytolysis. There was hypoalbuminemia at 27.4 g/L. This led to the diagnosis of a ruptured liver abscess in the abdominal wall. A percutaneous drainage under local anesthesia was performed which produced 350 cc of pus. A probabilistic antibiotherapy with metronidazole and amoxicillin-clavulanic acid was initiated. The bacteriology found a streptococcus but was not able to determine its group. Over the following 5 days the quantity of pus decreased and the drain dried up on day 5. The follow up abdominal ultrasound performed on day 7 showed a residual hepatic collection estimated at 30 cc. The patient was discharged on day 8. At the 2 month follow-up, the patient had no symptoms.

DISCUSSION

Liver abscess is a serious condition that varies in frequency from country to country [4]. Rupture, which is the main complication, has an estimated frequency between 3.8% and 6.1% [5,6]. It is associated with higher mortality and morbidity [6].

Rupture is most often localized in pleural, peritoneal cavity or septate in the subphrenic right or peripheal regions [7]. The rupture in the pericardial cavity, the mediastinum or the bowel is rare [6]. Rupture in the abdominal wall is rare with few cases reported in the literature [8-10].

Ultrasound and computed tomography play a key role in diagnosis and treatment. They allow the determination of the site of rupture, its size, but also provide guidance for the drainage [11].

Several risk factors of rupture are described in the literature [6]. In our patient, these factors were the diabetes, the bacterial origin, the greater diameter (more than 6 cm) and the localization at the left lobe of the liver.

The unusual localization of the rupture to the abdominal wall can be explained by anatomical factors. The site of the abscess at the left lobe suggests progression to the abdominal wall by the falciform ligament which have with a large lymphatic and arterial network [10,12].

In our case, localization in the anterior portion of segment II near the origin of the falciform ligament could reinforce this hypothesis. Especially since there was no sign of primary cutaneous infection that could lead to purulent parietal collection.

Generally, the rupture of a liver abscess requires a surgical intervention [1]. However, this depends more on the site of rupture. When localized in the pleura, pericardium or abdominal wall, percutaneous drainage with appropriate antibiotherapy may be sufficient [10].

The treatment must be early to avoid the evolution to a secondary rupture in the peritoneal cavity which is a surgical indication. In other situations, fertilization to the skin is possible and have better prognosis [9].



Figure 1: Hypodense collection of the left lobe of the liver in continuity with the abdominal wall (1)



Figure 2: Hypodense collection of the left lobe of the liver in continuity with the abdominal wall (2)

CONCLUSION

Rupture in the abdominal wall is a very rare complication of liver abscess. Its prognosis is improved with an early diagnosis by imaging. The best treatment is percutaneous drainage combined with appropriate antibiotherapy.

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CONFLICT OF INTEREST STATEMENT

I confirm that none of the authors have any conflict of interest.

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