



Foreign Body Liver Abscess: Case Report and Literature Review

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Abstract

Liver abscess is an intra-abdominal infection, generally bacterial, which presents a decrease in mortality rates in the last years due to the systematic use of broad-spectrum antibiotics and advances in diagnostic medicine. However, there are rare cases, such as in biliary abscesses caused by foreign bodies, in which the suspicion comes after refractivity to conservative treatment, and the definitive diagnosis is obtained only during surgery. This report describes a clinical case based on a middle-aged male patient with pyogenic liver abscess, who had, during the surgical procedure, a finding of a foreign body firmly adhered to the liver. Consistent with the literature, the beginning of clinical improvement occurred from the identification of the foreign body and its removal during exploratory laparotomy.

Keywords: Pyogenic Liver Abscess; Foreign Body; Sepsis with Abdominal Focus

Introduction

Liver abscess is an intra-abdominal infection, generally bacterial, sometimes, parasitic, or, very rarely, fungal, with a greater incidence between the fifth and sixth decades of life, presenting decreasing mortality in last year's due to the systematic use of antibiotics of broad spectrum and advances in diagnostic medicine. The main symptoms are fever, pain on palpation of the right hypochondrium, hepatomegaly and, rarely, jaundice [1,2]. The diagnosis can be defined by ultrasonography or computerized tomography of the abdomen, for the morphological characterization of the lesion, which may be single or multiple, depending on the causal agent. Laboratory tests may evidence leukocytosis with neutrophilia, discrete to moderate alterations in aminotransferases, gamma-glutamyl transferase, alkaline phosphatase and acute inflammatory evidences [2]. Abscesses in general can be included in 3 subgroups,

type i abscess (small <3cm), type ii abscess (large >3cm, unilocular) and type iii abscess (large >3 cm, multilocular complex). According to the classification, antibiotic therapy exclusive or associated with cutaneous or surgical drainage is opted [3]. Most liver abscesses can be classified as pyogenic or amoebial. Among amoebial abscesses, the main etiological agent is entamoeba histolytic, while pyogenic abscesses are more commonly polymicrobial, with a higher incidence of E. coli, klebsiella, streptococcus, staphylococcus and anaerobic bacteria [4]. Biliary abscesses caused by foreign bodies configure rare cases, often suspected only in view of refractory to conservative treatment of pyogenic liver abscess [1,2,5,6]. Since patients do not commonly remember the ingestion of the foreign body, these elements are commonly found only during surgery. This report describes a clinical case based on a middle-aged male patient

with pyogenic liver abscess, refractory to antibiotic therapy, along with acute inflammatory abdomen, who had as a finding, during the surgical procedure; a foreign body firmly adhered to the liver.

Case Report

53-year-old male patient admitted with a history of nausea, twisting abdominal pain in the upper quadrants, high daily fever, jaundice and coluria. There was a history of drinking with large

quantities of fermented beverages, without other combi ties. On physical examination, he presented in regular general condition, tachycardia, hypo colored, jaundred, hypo hydrated, with flaccid abdomen, with pain on deep palpation of upper quadrants, without peritoneal defense, masses or visceromegalies. In laboratory examinations, there was anemia, signal elevation of transaminases, hyperbilirubinemia and no leukocytosis, as seen in Table 1.

Table 1: Admission Laboratory Examinations.

Hemoglobin	6.8 Mg/Dl
Hematocrit	21.1
Leucometry	10500/Mm ³
Platelets	431000
Inr	1.16
Tap	79%
Aptt	37.5 Sec
Serum Urea	33 Mg/Dl
Serum Creatinine	0.9 Mg/Dl
Ast	62 U/L
Asl	52 U/L
Total Bilirubin	3.58 Mg/Dl
Direct Bilirubin	2.21 Mg/Dl
C-Reactive Protein	24.5 Mg/Dl

In view of the clinical and laboratory framework, diagnostic hypotheses corresponding to abdominal pain syndrome, such as cholangitis, cholecystitis and liver abscess have been advised. At first, the antimicrobial scheme was maintained with ceftriaxone 2g/day and metronidazole 500 mg 8/8h, which was started three days before the transfer to this institution. On the day following the admission, he evolved with tachypnea, hypotension, drowsness and peritoneal defense on the physical examination of the abdomen, being opened a protocol for sepsis, staging antibiotics

for piperacillin with tazobactam and metronidazole. A place in an intensive care unit was requested and assessment by the general surgical team was required. On the same day, the patient underwent ultrasonography of the whole abdomen, evidenciating a liver of preserved dimensions, with homogeneous echotexture, without signs of dilations of intra or extrahepatic biliary tract, with a nodule in the left hepatic lobe with hypoechoic septations with gross septations measuring 10 x 9.0 x 9.0 cm, suggestive of a liver abscess, as shown in Figure 1.

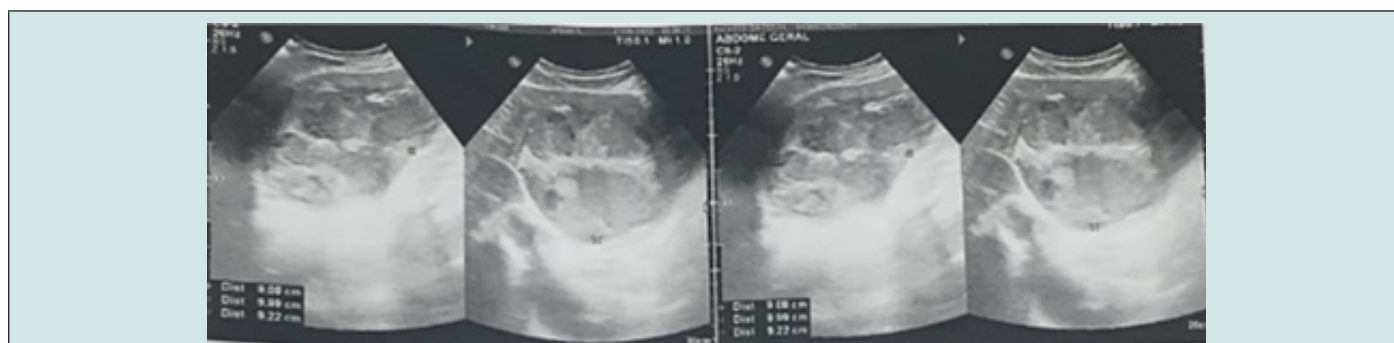


Figure 1: Ultrasonography of the whole abdomen evidence of a hypoechoic nodule in the left hepatic lobe with coarse septations measuring 10 x 9.0 x 9.0 cm, suggestive of a liver abscess.

Quickly, exploratory laparotomy was prompt, having the intraoperative findings:

- a. Large amount of free abdominal fluid, non-purulent.
- b. Integrated purulent liver collections in segments ivb and

iii.

- c. Gastric background firmly adhered to the liver near the abscess region and presence of a foreign body (fish her berry) approximately 5cm in length, as observed in Figure 2.

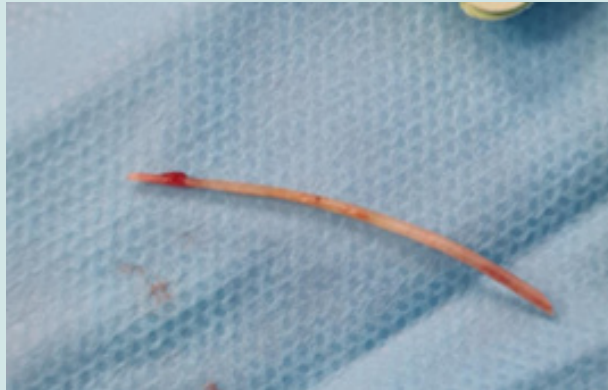


Figure 2: Foreign body (fish her berry) of 5 cm found intra-operatively.

Abdominal cavity wash and methylene blue tests were done via nasogastric tube, without evidence of extravasation through the gastric wall. Two weeks later, tomography of the total abdomen with contrast showed evidence of residual collection in the left

hepatic lobe, evidenced in Figure 3. Due to the good postoperative clinical evolution, the patient was discharged from hospital with prescription of ciprofloxacin and metronidazole oral and indication outpatient via at the hospital.



Figure 3: Upper abdomen CT scan with contrast portal phase, ten days after laparotomy and removal of the foreign body.

Discussion

Most foreign bodies in the gastrointestinal tract are impacted in the cricopharyngeal region and more than 90% pass through the digestive tract without causing any type of injury [1,7]. The presence of a foreign body in the liver as a cause of pyogenic liver abscess is one of the less considered etiologies in studies regarding the disease [1,5,6]. The consequences of a hepatic foreign body vary from small injuries to acute abdomen. The combination of findings from clinical history, physical examination and image are of fundamental importance in the formation of the hypothesis of pyogenic liver abscess by foreign body. Ultrasonography of the abdomen helps to identify collections in the liver parenchyma, defining focus, septation and measurements [1]. However, computerized tomography of the abdomen proves to be more sensitive in the sense of greater

precision in delimiting the extent and locating the focus, as well as the identification of the foreign body; however, many foreign bodies can be interpreted as surgical clips or even imaging artifacts. In this context, the exploration of the cavity via laparoscopic or laparotomy allows the direct detection of the intruding corpus [6]. As to the nature of the hepatic foreign body, the literature records a greater prevalence of fish backbone (44%), chicken bones (8%) and toothpicks (7%) [6,7]. In these studies, the main comorbidities of patients with the condition were diabetes, cancer, cirrhosis and diverse forms of immunosuppression [6], which, at principle, would not have correlation with this etiology. In the reviewed case series, in the absence of identification of the hepatic foreign body, all attempts at conservative treatment with antibiotic therapy were failed. On the other hand, once the elements were found and the

surgical treatment has been proceeded, the patients evolved with improvement in the clinical condition. The patient of this report was admitted in failure of conservative therapy for abdominal infection, having liver abscess as one of the diagnostic hypotheses. He progressed rapidly with systemic complications and was submitted to total abdomen ultrasonography examination, more readily available compared to computerized tomography at the time of evolution to instability. Consistent with the literature, the beginning of clinical improvement occurred from the identification of the foreign body and its removal during exploratory laparotomy. After the surgery, the antibiotic therapy, initiated at the opening of the sepsis protocol, was maintained. The patient evolved satisfactorily, with hospital discharge and outpatient follow-up.

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