

Unusual Etiology of Liver Abscess

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Abstract	Case Report
<p>Intrahepatic migration of ingested foreign body is an unusual etiology of liver abscess. Early diagnosis and treatment can avoid the serious complications often associated with this pathology. The reference treatment is extraction of the foreign body and drainage of the abscess. We report the management of a patient with a large hepatic abscess secondary to accidental ingestion of a chicken bone fragment.</p> <p>Keywords: Hepatic abscess, foreign body, chicken bone, digestive perforation, surgical drainage, case report.</p> <p>Copyright © 2021 The Author(s): This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CC BY-NC 4.0) which permits unrestricted use, distribution, and reproduction in any medium for non-commercial use provided the original author and source are credited.</p>	

INTRODUCTION

Hepatic abscesses can have several etiologies. The most common are intra-abdominal infections disseminating through the portal vein or bile ducts, and systemic sepsis through the hepatic artery. Direct Intrahepatic migration of a foreign body (FB) after perforation of digestive tract is a very rare cause. We present a case of a large hepatic abscess secondary to accidental ingestion of a chicken bone fragment.

OBSERVATION

A 63-year-old man, with no previous history, was admitted to the emergency room for abdominal pain and fever evolving for 7 days. Clinically, temperature was 40 °C, correct blood pressure with a tachycardia of 122 beats/min. The abdominal examination observes a right hypochondrium defense. Biological examinations show a hyperleukocytosis at 16540/μl, a C - reactive protein at 280 mg/l, with a normal hepatic tests and lipase level. An abdominal CT scan without and with injection of contrast, showed a large liver collection, multiloculated, with blurred limits, located at segments 2-3-4-5 and 8 of liver, measuring 153x141x128mm. This collection contains hydro-aerial levels and at its inferior pole a linear hyperdense material measuring 4cm. Patient was questioned postoperatively if he recalled ingestion of a foreign body with a negative response.

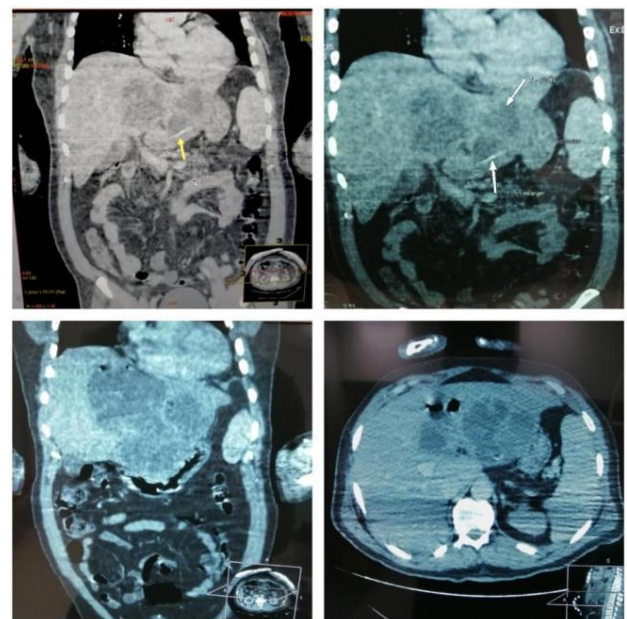


Figure 1: CT images showing the FB within the liver abscess

Antibiotics were started because of the sepsis signs before admitting the patient to the operating room for drainage of the abscess and extraction of the foreign body (chicken bone fragment measuring 4 cm) by laparotomy. No digestive perforation was found intraoperatively, adhesions between the distal portion of the stomach and segment 3 of the liver suggested a small perforation already obstructed at this site.

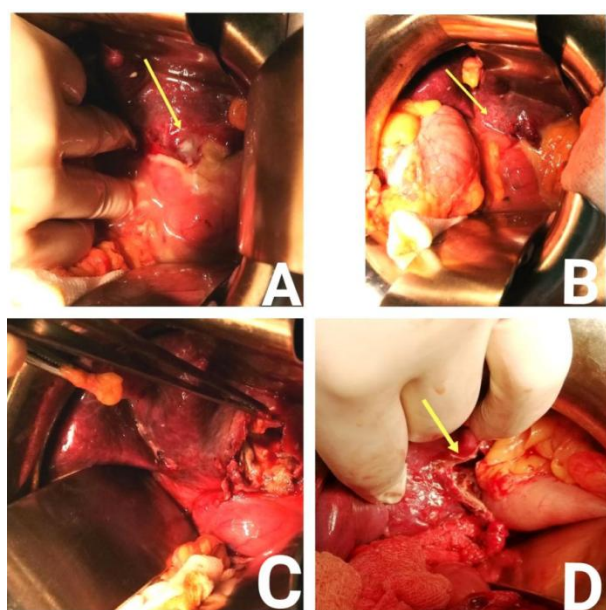


Figure 2: Intraoperative images. A-B: Hepatic abscess adherent to the stomach with pus discharge. C-D: After the liberation of the stomach and drainage of the abscess

The postoperative course was simple, antibiotic therapy was continued for 14 days, and an abdominal CT scan before removal of the drains was normal. The patient was discharged on day 4 of the operation. Follow-up consultations at 15 days and then at 1 month after surgery noted a good clinical-biological evolution.



Figure 3: The FB after extraction

DISCUSSION

Hepatic abscess secondary to migration of an ingested foreign body is a very rare entity. The mechanism is a perforation of the digestive tract with direct migration of the FB into the liver. Accidentally affected subjects are most often elderly over 60 years of age, while voluntary ingestions are encountered in psychiatric and incarceration settings. The most common site of perforation is the stomach (40.9%) with abscess formation in the left liver by contiguity, duodenal and colonic perforations have also been reported [1]. The most frequent foreign bodies reported are fish bones (33%), toothpicks (27.3%), chicken bone fragments (12.5%) and needles (9.1%) [2, 3].

Diagnosis is most often mislabeled at the beginning because of the forgetfulness of ingestion of the FB by the patients (only 5% of the patients remember to have ingested a FB) [2]; and of the atypical clinical symptomatology, including most often just signs of systemic infection (abdominal pain 77.3% and fever 58%) [4, 1]. The diagnosis is confirmed by ultrasound, which detects the FB in only 27% of cases, complemented by CT scan, which shows the FB in 50% of cases [2]. In the absence of individualization of the FB on imaging, diagnosis is evoked by two arguments: The left hepatic location of a single abscess without any etiology found, especially in case of failure of antibiotic therapy, and the presence intraoperatively of adhesions between the left liver and a segment of the digestive tract [2]. Sometimes, an upper gastrointestinal endoscopy can visualize the FB directly in the stomach or duodenum, or indirect signs such as mucosal inflammation or a fistulous path [2]. In 35% of cases, failure to detect FB by complementary examinations requires laparoscopy or exploratory laparotomy [5]. The most common organisms isolated are *Streptococcus*, *Escherichia coli*, and *Klebsiella pneumonia* [1].

There is few therapeutic consensuses of liver abscesses caused by ingested FB, but the reference treatment remains extraction of the FB and drainage of the abscess. Several options are proposed depending on the location of the FB, the size of the abscess and the response to medical treatment; Antibiotic therapy alone is recommended for abscesses less than 5 cm in size, endoscopic extraction is reserved for foreign bodies located in the stomach or duodenum, radiological drainage of the abscess in case of small FB left in place with strict surveillance, surgical drainage either by laparoscopy or laparotomy for multi-loculated abscesses and large FB or after the failure of medical treatment [6, 7]. It is important to note that in 35% of cases a laparotomy is necessary [8].

The migration of a foreign body into the liver can have serious complications that can be life-threatening for the patient in case of large vessel injury, which can make the surgery difficult [9]. Indeed, the surgeon should not underestimate these complications

and not hesitate to refer them to a tertiary activity hospital without delay [8].

Evolution after treatment depends on the precocity and the type of therapeutic strategy selected. A healing was noted in 9.5% of cases of drainage without extraction of the FB [1, 4, 10]. Successful treatment with antibiotic therapy alone was noted in 6.8% of cases [1, 4, 11, 12]. In our case, the patient presented to emergency room of our hospital in a sepsis condition with a large multiloculated liver abscess measuring 15cm caused by migration of chicken bone fragment measuring 4cm, an emergency laparotomy was necessary for drainage of the abscess and extraction of the FB, with excellent clinical-biological and radiological evolution. The germ isolated was *Klebsiella Pneumoniae*.

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