

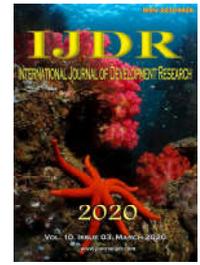


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RESEARCH ARTICLE

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HEPATIC ABSCESS SECONDARY TO PERFORATION OF THE GASTROINTESTINAL TRACT BY TOOTHPICK

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ABSTRACT

The ingestion of a strange body is not a rare clinical condition, but it can be very serious, which can cause an important posterior complication, in which liver abscess stands out, a serious and extremely uncommon condition. Report the case of a patient with a secondary liver abscess to ingestion of a foreign body. This study was observational, descriptive, unparalleled, without funding, with a single sample. The information was obtained through the analysis of the patient's medical record, laboratory and image exams, monitoring of clinical and surgical conducts and literature review. The case reported and the publications raised bring to light the discussion of the diagnosis and treatment of a complex and rare situation, which is the liver abscess caused by a strange body that can lead to death. To understand the diagnosis, the clinical management and the treatment is fundamental for therapeutic success. In this work, an adequate management of the case was observed, despite the complications arising from the complexity of the case.

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INTRODUCTION

The ingestion of a strange body is not a rare clinical condition and, in most cases, the object courses intact throughout the gastrointestinal tract, without causing damage to the individual. However, in about 1% of cases, might occurs an obstruction or perforation of structures, such as the stomach and the duodenum, causing an important posterior complication, in which the liver abscess stands out, a serious and extremely unusual condition (LEGGIERE, et al, 2010; BORBA, et al, 2012). In this context, the first case of liver abscess due to foreign body perforation was published by Lambert in 1898². Only 24 cases have been described since then. Among the etiologies of this disease, pyogenic liver abscess is the most complex, due to a wide infection by gram-negative and anaerobic germs (BANDEIRA-DE-MELO et al, 2018; CARVER, et al, 2018).

This clinical condition generally presents a poor prognosis, with rare spontaneous resolution, due to the difficulty in establishing an early diagnosis and adequate intervention. This is because, in most cases, patients hardly remember the event and the clinical presentation, in general, is diverse and unspecified, with abdominal pain in the epigastric region and right hypochondrium, fever, fatigue, chills, anorexia and weight loss (BORBA, et al, 2012; IGREJA, et al, 2016). In these cases, abdominal computed tomography is the gold standard imaging test to confirm the diagnosis of liver abscess by this etiology. However, the exam is not always enlightening, being confirmed during the surgical procedure. It is noteworthy that for cases requiring operational management, laparoscopy is the surgery of choice for cases with dark prognoses (BANDEIRA-DE-MELO et al; CARVER, et al, 2018; IDIZ, et al, 2016). Therefore, this

study aims to report the case of a patient with a liver abscess secondary to ingestion of a strange body.

METHODS

The study is observational, descriptive, unparalleled, with no funding, the sample being composed of a single individual. The research was initially carried out by analyzing the patient's medical record, as well as his laboratory and imaging exams. Consequently, all of his clinical and surgical conduct were monitored and recorded, through videos and photographs, and later there was an appreciation with the literature. This study was accepted by the Research Ethics Committee, under the opinion: CAAE: 04759118.2.0000.5174.

Case Report

Anamnesis: ACC patient, male, 14 years old, from Bom Jesus do Araguaia, accompanied by his mother, admitted to the Emergency Room of the Hospital Municipal of Marabá, complaining of severe and continuous abdominal pain for approximately 10 days, associated with high fever, chills and vomiting, without improvement factor. He reported not using painkillers, antipyretics or antiemetics. No history of hospitalizations or previous surgeries. Denies allergies. Denies alcoholism and smoking. She reports difficulty in eating in the last 10 days, but reports adequate intestinal and renal functioning. There is no history of chronic diseases (systemic arterial hypertension and diabetes mellitus) in the family, nor cases of peptic ulcers and / or gastric / intestinal neoplasia.

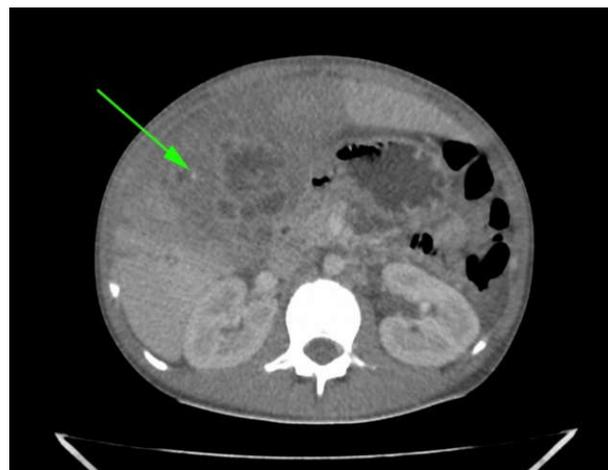
Physical exam: The patient was in regular general condition, conscious and oriented in time and space, feverish to the touch, acyanotic, with conjunctival jaundice (+ / 4 +), pale (++ / 4+), and eupneic. Cardiac auscultation and pulmonary auscultation without changes. The abdomen was distended, with positive hydro-air sounds, painful on palpation, with an enlarged liver (3 cm) of the right costal margin and signs of peritonitis.

Table 1. Laboratory results, requested upon admission of the patient to the Municipal Hospital of Marabá

Exame	Resultados
Hemoglobin	9,2 g/dL
Hematocrit	29,2 %
ACC ¹	82,5 fL
ACH ²	26,0 pg
RDW ³	16,8%
Leukocytes	21.370/mm ³
Segmentedneutrophils	18.485/mm ³
Platelets	409.000/mm ³
AST ⁴	25,2 U/L
ALT ⁵	19,3 U/L
Directbilirulin	0,23 mg/dL
Indirectbilirubin	0,14 mg/dL
Total bilirubin	0,37 mg/dL
Alkalinephosphatase	233,8 U/L
PT ⁶	21,0 seg
PTT ⁷	32,0%
INR ⁸	1,95
aPTT ⁹	58,7 seg
Glucose	99,7 mg/dL
Gama GT	149,2 U/L

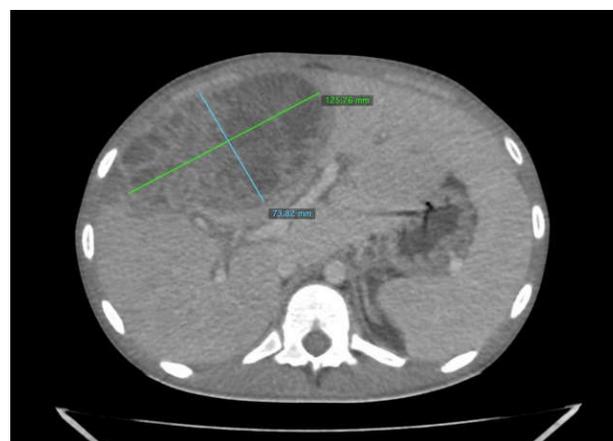
¹ACC = average corpuscular capacity; ²ACH = average corpuscular hemoglobin; ³RDW = red cell distribution width; ⁴AST = aspartate aminotransferase; ⁵ALT = alanine aminotransferase; ⁶PT = prothrombin time; ⁷PTT = prothrombin activation time; ⁸INR = International Normalized Ratio; ⁹aPTT = activated partial thromboplastin time. Source: Researchcollection

Conduct: The patient was requested to be admitted to the ward of the Hospital Municipal of Marabá and, on admission, laboratory tests were requested (Chart 1) which showed high leukocytosis at the expense of segmented neutrophils, and a computed tomography scan of the abdomen (Figure 1-3) which showed image of liver abscess located in the right hepatic lobe and probable strange body. Clinical treatment was started with ceftriaxone (2 g/day) and metronidazole (1500 mg/day) and an evaluation of general surgery was requested. After the evaluation of the hospital's general surgery team, an exploratory laparotomy was recommended for drainage of the abscess and removal of the strange body, due to the clinical findings of the patient associated with the results in the exams.



Source: Researchcollection

Figure 1. Expansive multiseptated lesion, occupying a large part of the right lobe



Source: Researchcollection

Figure 2: Lesion compatible with liver abscess, measuring 12.9 x 9.3 x 12.8 cm, with an approximate capacity of 800 cm³.



Source: Research collection

Figure 3. Presence of spontaneously hyper-attenuating linear formation, about 6 cm

Surgical management

The patient went under exploratory laparotomy, performed a right subcostal incision, under spinal anesthesia. During the surgical procedure, a moderate amount of ascitic fluid was found in the abdominal cavity and wall edema, associated with a bulging of the right hepatic lobe next to the round liver's ligament. After opening the bulging site, approximately 1000 ml of purulent secretion was drained (figure 4), followed by digital exploration of the liver abscess cavity. Subsequently, the strange body, defined as a "toothpick", was palpated and removed. It is a plump wooden toothpick, which measures about 6.2 cm long, 2.0 mm in diameter, with both pointed ends (Figure 5).



Source: ResearchCollection

Figure 4. Intraoperative, showing a large amount of pyogenic secretion from the abscess formed by the strange body



Research source: Research collection

Figure 5. Strange body removed from the patient's liver store

Prognosis and evolution

The patient presented a good clinical evolution after the surgical procedure, showing laboratory and general improvement. Diet was released on the fourth postoperative day and discharged in ten days without complications.

DISCUSSION

At first, the literature suggests the majority of ingested foreign bodies that lodge in the liver are long and sharp objects, such as animal bones, needles and toothpicks (LEGGIERE, et al, 2010; MANDO-FLAG, et al, 2018). This fact corroborates

with the present study, which has a similar etiology. In addition, for unknown reasons, there is a tendency for strange bodies accommodation in the left hepatic store (MELO, et al, 2019). This fact was opposed to the study in question, since there was an involvement of the right hepatic store of the studied individual. Regarding clinical symptoms, there was agreement with the basic literature, since they all refer to abdominal pain, fever, chills, anorexia and fatigue (BORBA, et al, 2012; BANDEIRA-DE-MELLO, et al, 2018; CARVER, et al, 2018; IDIZ, et at, 2016). As for laboratory tests, these are rarely normal, with leukocytosis as the main alteration. There was agreement with this data, since there was an important leukocytosis in the hospital admission of the subject of this research (IDIZ, et at, 2016). It's also observed that aminotransferases can sometimes be altered, a fact not evidenced in this study, despite the moderate elevation of alkaline phosphatase and gamma globulin (IDIZ, et at, 2016). Therefore, it is a consensus that image tests, especially computed tomography, are of fundamental importance for the diagnosis of liver abscess and its etiologies (MELO, et al, 2019). Thus, the request for a CT exam to the subject of this research was correct, since it was able to define the extent of the abscess, characterizing the strange body and its location, providing necessary subsidies for the correct surgical conduct.

With regard to treatment, clinical protocols recommend antibiotic therapy with negative Gram and anaerobic coverage, because the agents that cause pyogenic abscess are, in general, of enteric origin. That being said, the clinical conduct performed on the patient was consistent, since there was the administration of ceftriaxone and metronidazole (BORBA, et al, 2012). Still in this regard, the most recommended and definitive treatment for symptomatic liver abscesses is surgical drainage with removal of the strange body (IGREJA, et al, 2016). In such a way that with the anticipation of computed tomography it is possible to easily identify the foreign body and remove it properly, without major complications (CARVER, et al, 2018). However, complications, such as a large volume of ascitic fluid in the peritoneal cavity and/or an exacerbated amount of pyogenic substance, may be present, inferring difficulty in the process, a reality observed in the case described (BANDEIRA-DE-MELLO, et al, 2018; CARVER, et al, 2018; IGREJA, et al, 2016; MELO, et al, 2019). Finally, it is expected that there will be no complications in the postoperative follow-up of patients undergoing surgery, as noted in the present study (MELO, et al, 2019).

Final Considerations

The reported case and the publications raised bring to light the discussion of the diagnosis and treatment of a complex and rare situation that is the liver abscess caused by a strange body. Thus, the first step towards the correct diagnosis is to increase awareness and promote more scientific studies focused on this pathology, in order to provide an effective treatment and avoid complications, improving the assistance to these patients.

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