

**Hepatic Abscess Induced by Foreign Body: Case Report**

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**Abstract:** Few cases of Hepatic abscess induced by foreign body have been reported in the adult population. The symptomatology is often nonspecific with usually atypical pains of the upper abdominal quadrant. Its treatment includes appropriate antibiotic therapy, drainage of the abscess and extraction of the foreign body. This article will describe the case of a 66-year-old patient with hepatic abscess secondary to a foreign body accidentally ingested. A Laparoscopy allowed precisely locating and safely removing the foreign body (a sewing needle) in the liver parenchyma. The presence of the foreign body (CE) in the caudate lobe can only be explained by its migration due to the intimate anatomical relationship between the gastric antrum and the segment IVb. Any liver abscess must have an abdominal doorway. The scanner is the most appropriate examination to establish the diagnosis and guide the management; multiplanar reconstructions facilitate the diagnosis of foreign bodies.

**Keywords:** liver; abscess; foreign body.

**INTRODUCTION**

The liver abscess can cause febrile abdominal pain. The three classic origins of pyogenic liver abscess are the bile ducts (40%); the Portal system, including appendicitis or colitis (15% -20%); and hematological dissemination (5% -15%). On the other hand, local causes of liver abscesses are very rare.

Few cases of liver abscess secondary to a foreign body have been reported in the adult population. The symptomatology is often nonspecific with usually atypical pains of the right hypochondrium. Its treatment includes appropriate antibiotic therapy, drainage of the abscess and extraction of the foreign body. We hereby report the observation of a patient with hepatic abscess secondary to a foreign body accidentally ingested.

**CASE REPORT**

Our Subject is 66 years, ASA 2, WHO 1, hypertensive under calcium inhibitors, presenting since 1 month an Epigastralgia without fever nor other related digestive signs. An Esophagogastroduodenoscopy (EGD) showed an antral gastritis that proved without abnormalities after performing a Biopsy. Abdominal

ultrasound revealed heterogeneous hypoechoic hepatic formation of 27x30mm (Figure 1). The standard liver and hepatic blood test as well as the Tumor Markers were normal except WBC 13,000 e / mm<sup>3</sup>. An angio-CT showed a heterogeneous hypodense formation at IVb segment centered by a calcium density artifact (Figure 2). Complementary liver MRI showed no signal in the vicinity of the aforementioned artifact revealing its ferromagnetic nature (Figure 3).Diagnostic/therapeutic laparoscopy showed an inflammatory contact between the antrum and the caudate lobe of the liver. At the adhesiolysis there is pus. An intraoperative radiography allowed to precisely locate the foreign body (a sewing needle) in the liver parenchyma, which allowed an uncomplicated extraction (Figure 4).

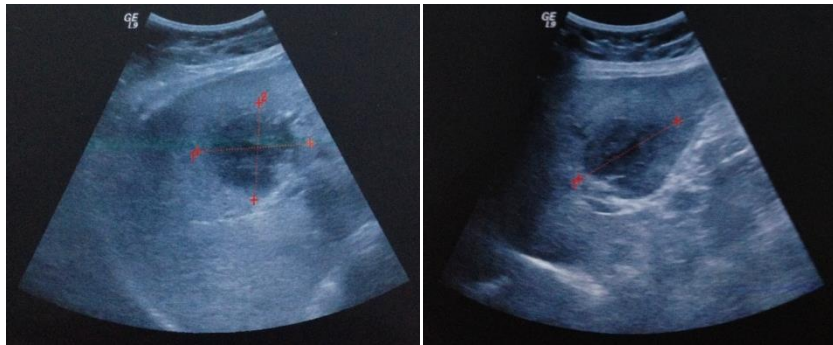


Fig-1: image of the abdominal ultrasound showing heterogeneous hypoechoic hepatic formation

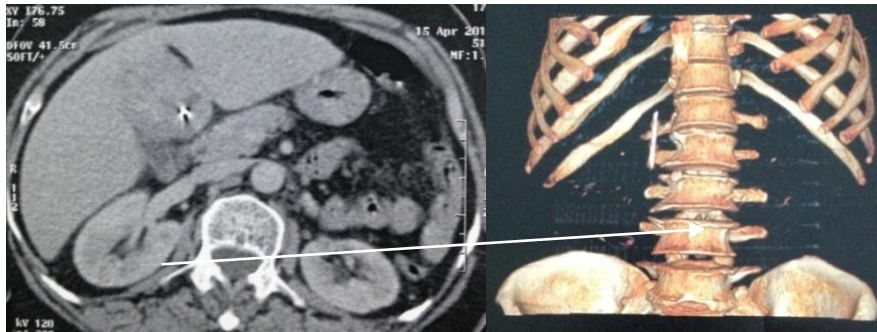


Fig-2: CT angiography which objectified a heterogeneous hypodense formation at IVb segment centered by a calcium density artefact, the reconstruction image shows the foreign body (arrow).

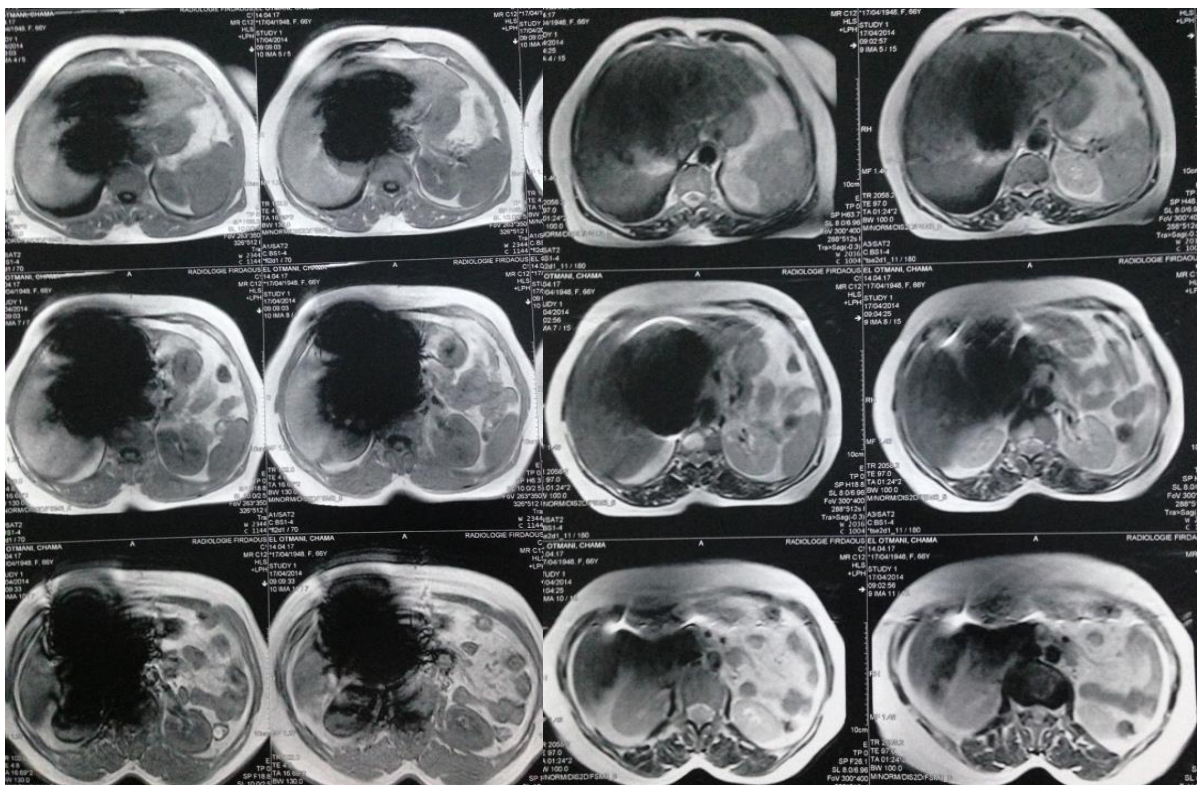
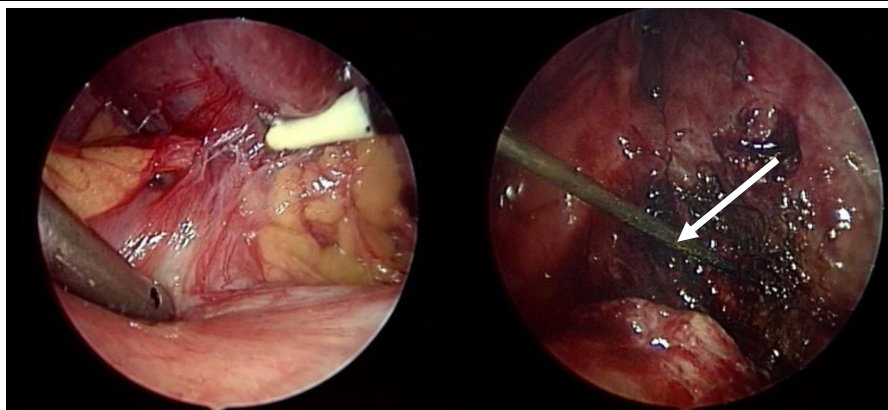


Fig-3: Hepatic MRI which showed no signal around the artifact revealing its ferromagnetic nature



**Fig-4: Laparoscopic image showing abscess under hepatic and foreign body (arrow)**

A later interview with the patient revealed an accidental ingestion of a sewing needle without alarming symptoms in the following days, thus judging unnecessary a medical check.

#### **DISCUSSION**

In about 90% of cases, ingested foreign bodies pass through the digestive tract without incident after one week [1-3]. Gastrointestinal perforations have been reported in less than 1% cases [4, 5] and the most frequently affected areas are: ileocecum, rectosigmoid and duodenum [2, 3, 5]. The development of a hepatic abscess due to a foreign body is even more infrequent [6]. Foreign bodies can be of various kinds: hairpin, fishbone, toothpick, fragment of bone [1].

Lambert reported the first case of a liver abscess secondary to the migration of a foreign body through the gastrointestinal wall in 1898 [7].

The classic symptoms of a hepatic abscess - a combination of fever with chills, abdominal pain and jaundice - appears only in a small number of patients [5, 6] Most patients have non-specific symptoms such as abdominal pain, anorexia, vomiting or weight loss with leukocytosis or increased transaminases, bilirubin or alkaline phosphatase [8, 9]. The migrating foreign body may remain for a long time silent and can only be discovered if it shows signs of infection or abscess formation.

Diagnosis with X-rays is effective only if the foreign body is radiopaque. Ultrasound is not efficient for locating the foreign body, the later can be seen in only in 27% of cases [10]. Computed tomography (CT) shows the foreign body, in the center or in contact with the abscess, only in half the cases [10]; it is nevertheless very efficient for the diagnosis of the abscess which appears as a hypodense mass, uni or multi-localized, showing a peripheral enhancement after injection of contrast agent and may contain areal bubbles [11]. Indeed, it makes it possible to positively and etiologically diagnose and rule out the differential diagnoses (hydatid cyst and hepatobiliary tumor) [1, 3].

The presence of the foreign body in the caudate lobe is explained only by the migration of the latter due to the intimate anatomical relationship between the gastric antrum and the IVb segment. Foreign bodies pass through the gastrointestinal wall within 7 days [12, 13] but gastrointestinal perforation is rare, occurring in less than 1% of cases [14, 15]. The abscess encircling the EC can only be a reaction of the liver parenchyma.

Additionally, *Streptococcus* sp., which is the commensal human micro biota of the mouth was found in the abscess and probably acquired during passage through the oral cavity [16].

The treatment of liver abscess caused by a foreign body consists of drainage of the abscess, removal of the foreign body and antibiotic treatment. Antibiotic treatment alone may be attempted for hepatic abscesses less than 5 cm; beyond 5cm a drainage is recommended. Extraction of the foreign body is the best way to prevent recurrence of the abscess. Theoretically, the best time to extract it is when the abscess has accumulated. In our case, the surgery allowed not only to make a diagnosis but also to treat it [17].

#### **CONCLUSION**

Hepatic abscess secondary to accidental ingestion of a foreign body is rarely reported for adults. There is no specific symptomatology although usually associated with signs of infection. The cornerstone of its management is drainage of the abscess associated with adequate antibiotic therapy. Surgical extraction of the foreign body is mandatory to eradicate the source of infection.

#### **Footnote**

Conflicts of Interest: The authors have no conflicts of interest to declare.

Informed Consent: Written informed consent was obtained from the patient for publication of this Case Report and any accompanying images.



RÉFÉRENCES

1. Kanazawa S, Ishigaki K, Miyake T, Ishida A, Tabuchi A, Tanemoto K, Tsunoda T. A granulomatous liver abscess which developed after a toothpick penetrated the gastrointestinal tract: report of a case. *Surgery today*. 2003 Apr 1;33(4):312-4.
2. Cheung YC, Ng SH, Tan CF, Ng KK, Wan YL. Hepatic inflammatory mass secondary to toothpick perforation of the stomach: triphasic CT appearances. *Clinical imaging*. 2000 Mar 1;24(2):93-5.
3. Horii K, Yamazaki O, Matsuyama M, Higaki I, Kawai S, Sakaue Y. Successful treatment of a hepatic abscess that formed secondary to fish bone penetration by percutaneous transhepatic removal of the foreign body: report of a case. *Surgery today*. 1999 Sep 1;29(9):922-6.
4. Broome CJ, Peck RJ. Hepatic abscess complicating foreign body perforation of the gastric antrum: an ultrasound diagnosis. *ClinRadiol*. 2000; 55: 242-243
5. Singhal V, Lubhana P, Durkhere R, Bhandari S. Liver abscess secondary to a broken needle migration-A case report. *BMC surgery*. 2003 Dec;3(1):8.
6. Starakis I, Karavias D, Marangos M, Psoni E, Bassaris H. A rooster's revenge: hepatic abscess caused by a chicken bone. *European Journal of Emergency Medicine*. 2005 Feb 1;12(1):41-2.
7. Lambert A. Abscess of the liver of unusual origin. *NY Med J*. 1898.
8. Tsui BC, Mossey J. Occult liver abscess following clinically unsuspected ingestion of foreign bodies. *Canadian Journal of Gastroenterology and Hepatology*. 1997;11(5):445-8.
9. Chen SM, Shen MT, Lo GH. Duodenal perforation with liver abscess caused by ingestion of a chicken bone. *Chin J Gastroenterol*. 1993;10:312-319.
10. Leggieri N, Marques-Vidal P, Cerwenka H, Denys A, Dorta G, Moutardier V, Raoult D. Migrated foreign body liver abscess: illustrative case report, systematic review, and proposed diagnostic algorithm. *Medicine*. 2010 Mar 1;89(2):85-95.
11. Tasu JP, Moumouh A, Delval O, Hennequin J. Liver bacterial radiologist view point on bacterial liver abscess: from diagnosis to treatment. *Gastroenterologie clinique et biologique*. 2004 May;28(5):477.
12. Strauss JE, Balthazar EJ, Naidich DP. Jejunal perforation by a toothpick: CT demonstration. *J Comput Assist Tomogr*. 1985;9:812-4.
13. McCanse DE, Kurchin A, Hinshaw JR. Gastrointestinal foreign bodies. *Am J Surg*. 1981;142:335-7.
14. Shaw PJ, Feeman JG. The antemortem diagnosis of pyogenic liver abscess due to perforation of the gut by a foreign body. *Postgrad Med J*. 1983;59:455-6.
15. Maleki M, Evans WE. Foreign-body perforation of the intestinal tract. Report of 12 cases and review of the literature. *Arch Surg*. 1970;101:474-7.
16. Kumar S, Gupta NM. Foreign bodies migrating from gut to liver. *Indian J Gastroenterol*. 2000;19:42.
17. Frédéric C, Paul L. Recurrent liver abscess secondary to ingested fish bone migration: Report of a case *Surgery Today*. 2008, 38, 6, 572.