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Case Report: Liver Abscess Secondary to Gastric Perforation by A Fish Spine

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1. Abstract

The ingestion of foreign bodies during feeding is frequent, the most common being fish bones and chicken bones. It usually happens accidentally in older people, with cognitive impairment, mental illness, or use of dental prosthetic. They usually pass through the digestive tract without causing damage and are expelled after several days, but in some patients they cause perforation of the digestive tract. We present the case of a 65-year-old woman with gastric perforation and secondary liver abscess due to fishbone ingested in the previous two weeks. During that time, it presented feverish peaks of up to 39ºC and non-specific general malaise.

2. Introduction

Digestive perforations by foreign body are infrequent because most of them pass satisfactorily through the esophagus and the entire gastrointestinal tract without producing any complications, resulting in their expulsion in about a week [1]. However, there are certain locations that, due to their narrowness, are points of impact: pylorus, Treitz angle, ileocecal valve or recto sigmoid junction [2].

Mental illness, alcoholism and the use of dentures are risk factors for ingestion of foreign bodies [3]. Normally the most common is the intake of fish bones, pieces of meat, animal bones and dental prostheses. When stranded, it produces a local inflammatory reaction with disruption of the mucosal barrier, which facilitates the translocation of bacteria from the intestinal tract, producing a focus of infection at that level that, as it progresses, causes perforation of the wall [4]. The average time from foreign body ingestion to development of perforation was noted at 10.4 days in previous reports [5].

The most affected areas are the terminal ileum, followed by the colorectal region [2]. For its correct diagnosis, imaging techniques are considered indispensable, including ultrasound and computed tomography (CT), which allow not only to identify the region affected by the inflammation that surrounds it but also the possibility of visualizing the origin of the disease [6].

Although in most cases, the treatment is surgical (from simple suture to intestinal resections) endoscopy can be performed initially to identify and remove, if possible, the object, in addition to assessing the condition of the underlying mucosa [7], as it was the case of this patient.

3. Case Report

We present the case of a 65-year-old woman with hypertension, with no other clinical history of interest, who began two weeks ago with low-grade fever and non-specific malaise. In the following days, persistence of symptoms associating abdominal pain and nausea, so she consulted. Laboratory exams revealed an increase of liver enzymes, leukocytosis (14,000 leukocytes/ml) with 80% neutrophils and 7 leukocytes per field in urine sediment. Home treatment with phosphomycin was indicated.

Despite the treatment, in the following days she evolved unfavorably with fever peaks of up to 39ºC, so she consulted in the Hospital Emergency Department. On arrival, she presented fever of 39.1ºC, blood pressure 80/50 mmHg, and heart rate of 103 bpm. Abdominal examination revealed generalized pain with muscular defense.

In the Emergency Department, treatment with fluidotherapy, ceftriaxone and azithromycin was started, raising the blood pressure to 100/58. When hypotension persisted and acute-phase reactants were increased in laboratory tests, treatment with piperacillin/tazobactam was started and an abdominal CT without contrast was done, which revealed a multiloculated liver abscess in the left hepatic lobe with hydroaerial levels measuring 5x5x4,2cm, secondary to foreign body (possibly a fish bone about 4cm in length) in the stomach that pierced the anterior wall of the antrum-pyloric region and entered the left hepatic lobe (Figure 1A). The patient confirmed the ingestion of fish two weeks before the intervention, without knowing the species.

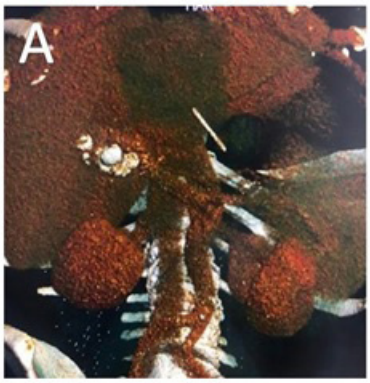

Figure1 A: Abdominal CT, 3D reconstruction, confirming the presence of a 4 cm long foreign body that perforates the anterior wall of the antrum-pyloric region and introduces 1cm into the left hepatic lobe, corresponding to the origin of the infection.

She was transferred to the operating room and induction was performed under general anesthesia. A digestive endoscopy was performed in the first place in which the fistulous tract was observed, without the possibility of removing the foreign body by not showing the end to the gastric wall, so open surgery was performed.

Through midline laparotomy, the abdominal cavity was accessed and the foreign body was observed between the liver and stomach with abundant drainage of smelly pus from the hepatic orifice (Figure 2). Samples were taken for culture and the gastric orifice was sutured. After extraction of the foreign body (Figure 1 B) the abscess cavity was explored and drained to a large extent, although an area remained without draining, due to its morphology "in hourglass". Therefore, we let a two Penrose drainage exteriorized by right and left hypochondrial and the radiologist verified the incomplete drainage of the abscess with intraoperative ultrasound deciding radiological control in 48 hours and subsequent extraction of residual collection percutaneously. The patient evolved satisfactorily and was discharged within a week of the intervention. The culture of the extracted liquid isolated polymicrobial flora (Streptococcus Anginosus, Actinomyces Odontolyticus, Prevotella Denticola and Atopovium Parvulum).

Figure1 B: Foreign body (fish bone)

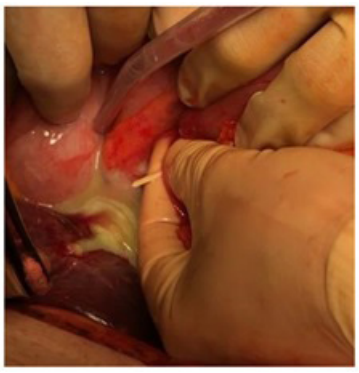

Figure 2: Pus draining from the hepatic orifice

4. Discussion

Perforation of the digestive system due to ingestion of spines or bones during feeding, despite being uncommon given that these usually pass without damage through the digestive tract until their expulsion [1] constitutes a diagnostic problem since, as stated by Goh [4], in most cases the food history is not referred by the patient in the anamnesis. In our case, the etiology of the disease was also initially unnoticed, being diagnosed as a urinary tract infection, until finally the diagnosis by CT with cuts at different levels that allowed the entire foreign body to be objectified. Guillén [5] emphasized the importance of CT in the preoperative diagnosis of this entity. From the point of view of the anesthesiologist and the management of a patient with ingestion of a foreign body, the prevention of Broncho aspiration and the possibility of hemodynamic alterations must be highlighted [3].

Regarding the treatment, laparotomy is usually required8. In our case, the hemodynamic situation of the patient was optimal and we initially try to solve the case non-invasively in the operating room, by endoscopy, a percutaneous drainage performed by radiologist in a second time after the extraction of the foreign body was also performed.

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