

## A fish bone-related hepatic abscess

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### Abstract

We report an unusual case of pyogenic, hepatic abscess caused by fish bone penetration of the duodenum in a 68-year-old woman. The fish bone had migrated into the liver through the duodenal wall. The patient was initially admitted to our emergency room with abdominal pain, fever, and asthenia. A contrast-enhanced abdominal computed tomography (CT) scan showed a hepatic abscess in relation with a straight, foreign body, which had entered through the duodenal wall. Surgery was necessary to remove the foreign body, which was identified as a fish bone. The patient's recovery was uneventful and she was discharged on postoperative day 10. This case is discussed together with the data collected by a medline-based extensive review of the literature.

### Case Report

A 68-year-old woman was admitted to our emergency room with abdominal pain. She had a history of hypertension and depression and was treated with Celiprolol and paroxetine. She had undergone a sigmoidectomy two years prior for a sigmoid diverticulosis. Over the previous two weeks, she had complained of intermittent pain that progressively worsened and was located in the upper-right, abdominal quadrant. The pain was associated with asthenia, anorexia, and mild fever. The patient reported no history of chills, nausea, vomiting, thoracic pain, jaundice, respiratory or urinary complaints. Physical examination revealed stable vital signs. An abdominal palpation revealed a Murphy's sign with tenderness in the epigastrium and right hypochondrium. Laboratory investigations revealed a haemoglobin level of 11.4 g/dL, leukocytosis at 145,000/ $\mu$ L, ( $14.5 \times 10^9$ /L), and C-reactive protein of 52 mg/dL. Hepatic laboratory tests revealed slightly elevated levels of aspartate aminotransferase (41 U/L), alanine aminotransferase (37 U/L), and  $\gamma$ -glutamyl transferase (87 U/L), and normal levels of bilirubin and alkaline phosphatase. Standard x-rays of the chest and abdomen were normal. An abdominal ultrasound revealed a hypoechoic

lesion in the left lobe with an acoustic shadow, and no gallstones in the gallbladder. The abdominal CT scan showed a large, liquid mass, measuring approximately 2 cm in diameter, containing air bubbles, located in the S4b hepatic segment. The mass appeared to contain a straight, hyperdense image of about 3.5 cm in length, which was in contact with thickened duodenal wall (Figures 1 and 2). An upper, gastrointestinal endoscopy revealed no abnormalities in the duodenal lumen. An exploratory laparoscopy was performed, but had to be shifted to a right subcostal laparotomy in order to evacuate a hepatic abscess and remove a fish bone (Figure 3) in the S4b hepatic segment. No perforations were discovered in the duodenal wall. The patient's recovery was uneventful and she was discharged on postoperative day 10.

### Discussion

The first case of hepatic abscess as a result of gastrointestinal tract perforation caused by a foreign body was published by Lambert in 1898.<sup>1</sup> The reported incidence of foreign bodies perforation the gastrointestinal tract is <1%, and the vast majority of those that do are pointed or sharp objects, such as sewing needles, tooth picks, chicken or fish bones, pens, etc.<sup>2</sup> The most common sites of perforation of the gastrointestinal tract are the stomach and the duodenum.<sup>3</sup> The ingestion of a foreign body that penetrates the gastrointestinal tract wall and migrates to the liver (causing an abscess) is uncommon. Abscess formation resulting to perforation of the duodenal wall by foreign bodies occurs more often on the left hemi-liver.<sup>4</sup> Only 46 previous cases have been reported in medical literature. The classic indicators of hepatic abscess, such as fever with

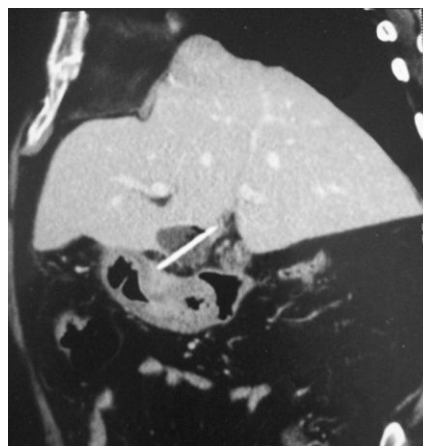


Figure 1. Abdominal computed tomography scan revealing the hepatic mass and the straight, hyperdense image, in contact with the thickened duodenal wall.

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chills, abdominal pain, and jaundice are present in only a small number of patients.<sup>5</sup> Most patients have non-specific symptoms such as anorexia, vomiting or weight loss with leucocytosis, or increased transaminases, bilirubin or  $\gamma$ -glutamyl transferase levels. The migrating

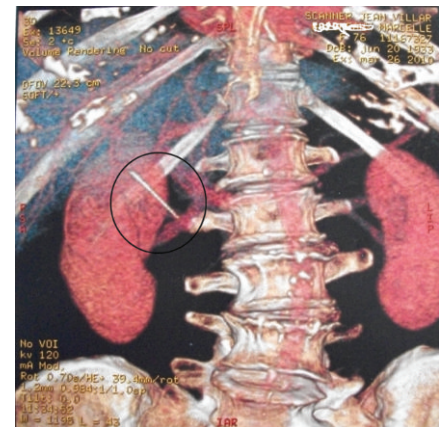


Figure 2. 3D abdominal computed tomography scan reconstruction showing the straight, hyperdense image of about 3.5 cm in length in the right hypochondrium (encircled).



Figure 3. Operative view of the removed, foreign body (fish bone).

foreign body may thus remain unnoticed for a long time. The overall long duration of the problem, the patient's lack of a history of ingesting foreign objects, and the relatively non-specific symptoms may all result in delayed diagnosis of this possibly fatal accident.<sup>6</sup> The recommended treatment is exploratory laparotomy to evacuate the hepatic abscess, remove the foreign body, and if necessary, repair the perforation site in the gastrointestinal tract. Endoscopic removal of the foreign body can sometimes be used to reduce the need for surgery. The successful treatment of hepatic abscess and foreign body removal by the percutaneous trans-hepatic approach has also been reported.<sup>7</sup>

In summary, we reported an unusual presentation of fish bone penetration of the duodenum with migration into the liver resulting in

pyogenic hepatic abscess. The possibility of this unusual event should be considered if a patient presents with a liver abscess of unknown origin.

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## References

1. Chintamani C, Singhal V, Lubhana P, et al. Liver abscess secondary to a broken needle migration--a case report. *BMC Surg* 2003;3:8.
2. McCanse DE, Kurchin A, Hinshaw JR. Gastrointestinal foreign bodies. *Am J Surg* 1981;142:335-7.
3. 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.
4. Santos SA, Alberto SC, Cruz E, et al. Hepatic abscess induced by foreign body: case report and literature review. *World J Gastroenterol* 2007;13:1466-70
5. Starakis I, Karavias D, Marangos M, et al. A rooster's revenge: hepatic abscess caused by a chicken bone. *Eur J Emerg Med* 2005;12:41-2.
6. Theodoropoulou A, Roussomoustakaki M, Michalodimitrakis MN, et al. Fatal hepatic abscess caused by a fish bone. *Lancet* 2002; 359:977.
7. Horii K, Yamazaki O, Matsuyama M, et al. 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. *Surg Today* 1999;29:922-6.