

Two Cases of Intraabdominal and Anterior Abdominal Wall Abscesses from Fish Bone Bowel Perforations

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1. Abstract

Fish bone bowel perforation has been shown as a major cause of presentation in the emergency room, even though most dietary foreign bodies are passed unnoticed. This a case report of a couple of patients who presented at the emergency room with acute abdominal pain. Both patients had no memory of recently swallowing any fish bone. Case 1 showed moderate right upper quadrant tenderness and hepatomegaly, while case 2 had paraumbilical tenderness and guarding. On CT imaging both patients demonstrated intraabdominal abscesses: in the liver for case 1, and intraperitoneal and anterior abdominal wall for case 2. Linear hyperdense structure of calcific density (HU 93-151) was seen in each intraabdominal abscess collection, and an abutting adjacent bowel loop. These imaging findings were confirmed during surgical intervention: laparoscopic hepatic abscess drainage and laparotomy/anterior abdominal wall repair respectively for case 1 and case 2.

2. Clinical Presentation

2.1. Case 1

The patient is a 40year old male who presented with acute abdominal pain of two days duration and a prior melaena of one month. Patient had previous Bariatric surgery and cholecystectomy. Clinical examination revealed right upper quadrant tenderness and hepatomegaly. No jaundice was observed. Initial laboratory assays

showed anaemia and thrombocytosis. Computed tomography (CT)- precontrast, arterial phase, portal venous phase and delayed series- were acquired. The precontrast series show a hypodense area in the left hepatic lobe with a hyperdense linear structure of calcific density (HU 93-131) centrally, touching the adjacent small bowel (jejunum) which abuts the liver (Figure 1). On contrast (arterial, portal venous and delayed) series this lesion demonstrated double target sign: central hypodense area, enhancing thick capsule and peripheral hypodense ring. All these are in keeping with a liver abscess from a fish bone intestinal perforation. No free intraperitoneal fluid or gas is however seen (Figure 2).

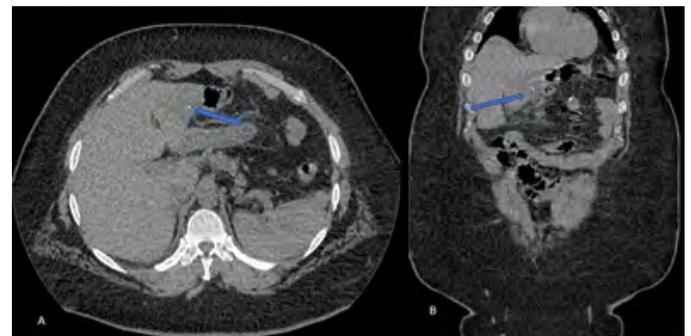


Figure 1: Images A and B are respectively axial and coronal non contrast CT images showing a hypodense collection in the left hepatic lobe with a hyperdense punctate/linear structure (fish bone FB) within it. A small bowel loop abuts the left liver lobe.

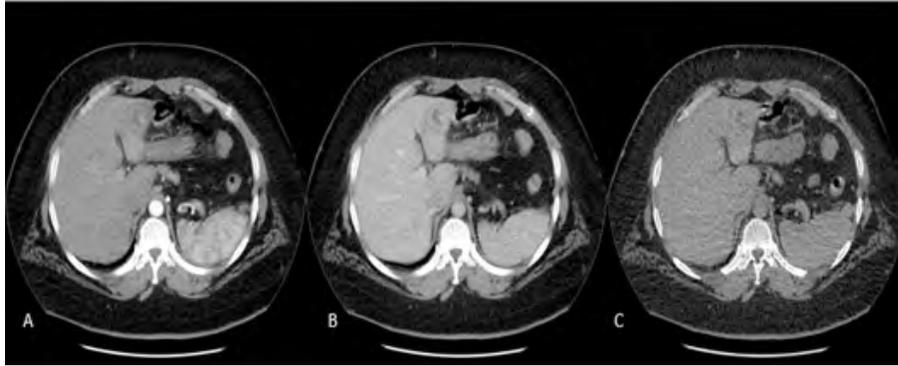


Figure 2: This shows axial arterial (A), portal venous (B) and delayed (c) phases images. Each demonstrates a double target sign of the liver abscess, with early enhancement of the abscess and peripheral hypodense ring. The foreign body is seen centrally in each image.

2.2. Case 2

A 66year old known hypertensive and diabetic female who presented at the emergency room with moderate abdominal pain of about 12hours duration. Clinical examination demonstrated paraumbilical tenderness and guarding. Positive irreducible paraumbilical hernia was also noted. An initial assessment of strangulated paraumbilical hernia was made. She later had precontrast and contrast (portal venous) computed tomography (CT). These showed

a peripherally enhancing hypodense collection in the left anterior paramedian intraperitoneal cavity anteroinferior to the transverse colon, in keeping with an abscess collection. There is stranding of the surrounding mesentery. An oblique vertically oriented hyperdense linear structure (HU 107-151), measuring about 2.5cm is noted within it, pointing toward the aforementioned colon (Figure 3). The abscess is abutting and extending into left rectus sheath, which also shows ring enhancing hypodense collections (abscess) (Figure 4). No free intraperitoneal gas is seen.

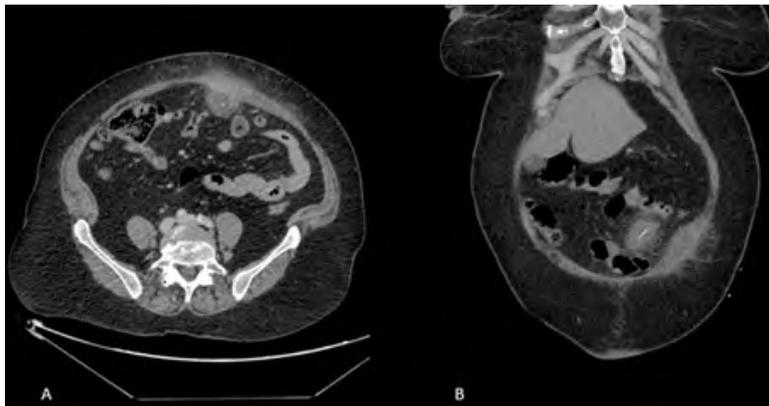


Figure 3: Image A is an axial contrast CT showing a left paramedian anterior intraperitoneal abscess with an internal fish bone FB seen as a dot-like calcific structure. The abscess shows minimal peripheral enhancement and abutting/involving the rectus sheath. Image B is a coronal precontrast CT showing the first bone FB as a linear hyperdense structure within the abscess and relative expansion and irregularity of the left rectus sheath. Stranding of the mesenteric and anterior abdominal fat is seen in both images.

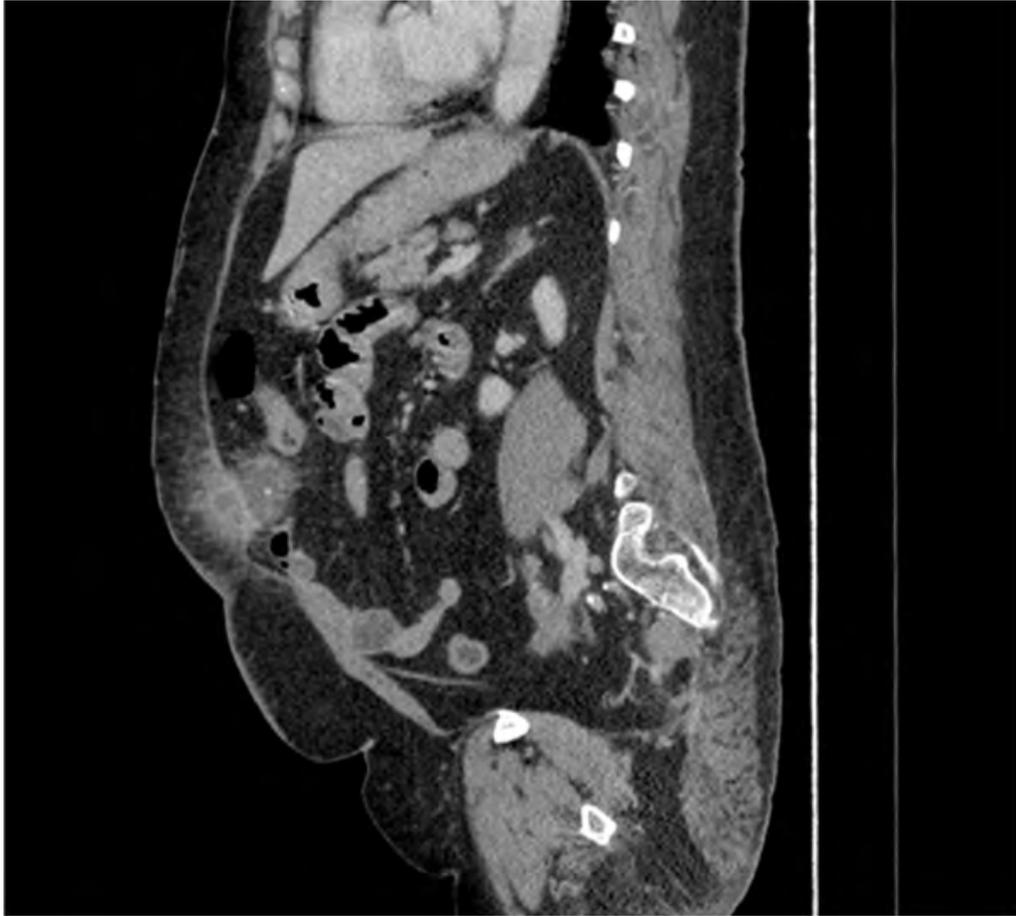


Figure 4: A sagittal contrast CT image showing ring-enhancing hypodense collections in the rectus sheath with stranding of its surrounding subcutaneous fat.

2.3. Surgical Management

Case 1: the patient had laparoscopic drainage of about 10ml of the hepatic frank pus collection and extraction of two fish bones. Adhesiolysis was performed for the stomach and small bowel which were adherent to the liver. There was no demonstrable bowel perforation at surgery. Samples were sent for pathological analysis.

Case 2: an open laparotomy was done. The intraperitoneal and anterior abdominal wall abscesses were drained. The omental abscess cavity measured about 4x4cm in dimension. The necrotic anterior abdominal wall muscle and fascia were repaired. Partial omentectomy was done. A 3.0cm fish bone were seen within the omental abscess collection (Figure 5). The herniating small bowel through the paraumbilical anterior abdominal wall was reduced. No bowel perforation was seen at the time of surgery.

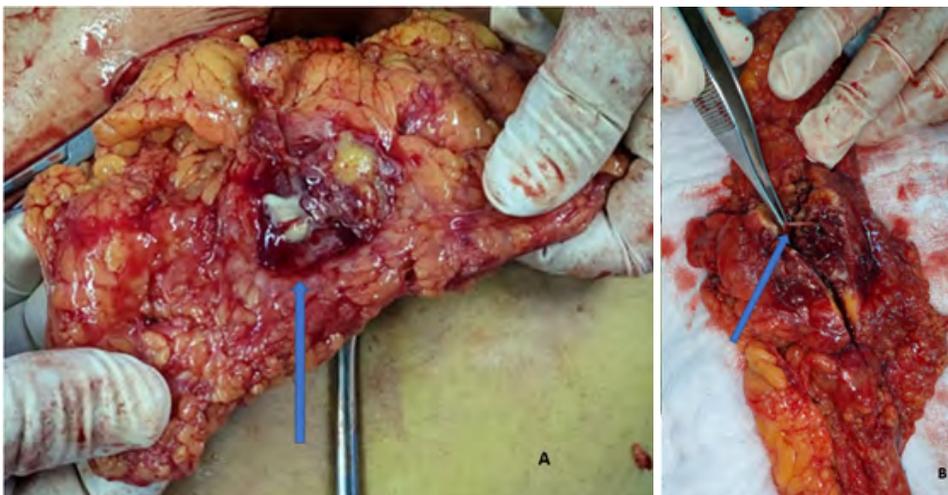


Figure 5: Image A showed the abscess bed on the omentum, while image B showed the partially excised omentum with fish bone picked by the forceps in the abscess bed.

3. Discussion

Despite the fact that most ingested foreign bodies (FB) are passed uneventfully, the commonest forms of foreign bodies are food-related, especially toothpicks and fish bones [1]. Swallowed tooth brush had also been reported as an aetiology of bowel perforation [2]. Patients with bowel perforation due to dietary FB often have no memory of inadvertently swallowing the material [1, 3, 4]. Even though the ileum is the most prevalent location for intestinal perforation by fish bone [4-7], the jejunum appears to be the next susceptible site for perforation [1]. The closest bowel loops in the index cases are jejunum and transverse colon, respectively for case 1 and case 2. A jejunal fish bone perforation similar to our case 1 had been reported by Choi et al [8].

The index cases presented with acute abdominal pain which is a usual but non-specific presentation, as also documented in previous studies. Other usual GI symptoms such as nausea, vomiting and diarrhoea were however not seen in the cases under study [1, 3-7, 9].

Unlike some previous reports by Pulat et al, Goh et al and Hsu et al in which the site of bowel perforation was seen intraoperatively as direct visualisation of the fish bone through the bowel wall or a perforated intestinal wall, there was no evidence of intraperitoneal free gas or obvious bowel perforation in these cases [1, 5, 7]. Shahid et al reported a similar lack of pneumoperitoneum, but in contrast demonstrated no abscess formation in all their studied patients [6].

Unpopular anterior abdominal wall abscess formation was documented in very few cases by Goh et al, just as in the case 2. This is likely dependent on the proximity of the primary collection or foreign body to the abdominal wall [1].

Similar to the culprit (fish bone FB) of the liver abscess in case 1, Santos et al was able to review several literature which had previously reported hepatic abscess as a result of FB, predominantly fish bone, tooth pick and chicken bone [10].

4. Conclusion

Because of the usual 'no-memory' of ingestion of dietary foreign body, the Radiologist must have a high index of suspicion when an unusual linear hyperdense structure is sighted adjacent to a bowel loop- in an unusual location (such as liver or other viscera), with a surrounding mesenteric fat stranding or within an abscess collection.

References

1. Goh BKP, Chow PKH, Quah HM, Ong HS, Eu KW, Ooi LLPJ, et al. Perforation of the gastrointestinal tract secondary to ingestion of foreign bodies. *World J Surg.* 2006; 30(3):372-7.
2. Chao HH, Chao TC. Perforation of the duodenum by an ingested toothbrush. *World J Gastroenterol.* 2008; 14(27): 4410-2.

3. Su F-J, Lin IL, Yan YH, Huang CL. Fishbone perforation of the gastrointestinal tract in patients with acute abdominal pain: diagnosis using plain film radiography Images. *BMJ Case Rep.* 2014
4. Song J, Yang W, Zhu Y, Fang Y, Qiu J, Qiu J, et al. Ingested a fish bone-induced ileal perforation: A case report. *Medicine.* 2020; 99(15): e19508.
5. Pulat H, Karakose O, Benzin MF, Benzin S, Cetin R. Small bowel perforation due to fish bone: A case report. *Turk J Emerg Med.* 2015; 15(3):136-8.
6. Shahid F, Abdalla SO, Elbakary T, Elfaki A, Ali SM. Fish Bone Causing Perforation of the Intestine and Meckel's Diverticulum. *Case Rep Surg.* 2020; 2020:1-6.
7. Hsu SD, Chan DC, Liu YC. Small-bowel perforation caused by fish bone. *World J Gastroenterol [Internet].* 2005; 11(12):1884-5.
8. Choi Y, Kim G, Shim C, Kim D, Kim D. Peritonitis with small bowel perforation caused by a fish bone in a healthy patient. *World J Gastroenterol.* 2014; 20(6):1626-9.
9. Dung LT, Duc NM, Tra My TT, Linh LT, Dang Luu V, Thong PM. Cecum perforation due to a fish bone. *Oxf Med Case Reports.* 2021; 5:174-6.
10. Santos SA, Alberto SC, Cruz E, Pires E, Figueira T, Coimbra É, et al. Hepatic abscess induced by foreign body: Case report and literature review. *World J Gastroenterol.* 2007; 13(9):1466-70.