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Codfish may cause acute abdomen☆

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ABSTRACT

INTRODUCTION: Foreign bodies ingestion is frequent and can cause several complications. Perforation is rare but can occur in any segment of the gastrointestinal tract. Fish bones are one of the most frequent objects responsible.
PRESENTATION OF CASE: A 77-year-old patient resorted to emergency room for severe abdominal pain with 5 days of evolution. A CT scan showed an undefined liquid collection involving a linear image with 25 mm, suggestive of a foreign body. On laparotomy an abscess was resected with a fish bone inside.
DISCUSSION: Bowel perforation by foreign bodies can mimic other abdominal emergency conditions. Since fish bone ingestion is usually not remembered, diagnosis can be late. Surgery is the treatment of choice and is most commonly performed by laparotomy.
CONCLUSION: A low threshold of suspicion along with a good clinical history and radiological studies is extremely important in order to make a correct diagnosis.

1. Introduction

Foreign bodies ingestion is frequent and can cause several complications being perforation the most frequent.[1–3] However gastrointestinal perforation is rare[2] since foreign bodies usually go through all gastrointestinal tract without any problem once beyond the oesophagus.[3,4] Perforation occurs in about 1% of all foreign bodies ingestion usually because of long and sharp objects like toothpicks, fish bones, chicken bones and needles.[3,4]

2. Case presentation

A 77-year-old female patient resorted to emergency room for severe abdominal pain, mostly in right quadrants, with 5 days of evolution, without nausea or vomiting. Gastrointestinal transit was normal, without bleeding per rectum. There was no history of anorexia or weight loss. Respiratory and urinary symptoms were absent. On physical examination had generalised tenderness of the abdomen but maximal in right lower quadrant, signs of peritoneal inflammation with guarding, rebound, and tap tenderness, neither with Rovsing's nor Murphy's signs, and peristaltic sounds were not audible. She was tachicardic and with fever (38.7 °C). Blood samples revealed a WBC of $5.96 \times 10^3/\mu L$, no anaemia, PCR 164.0 mg/dL (<10.0), and normal hepatic and pancreatic tests.

Abdominal X-ray was not taken and chest X-ray was normal (Fig. 1). Abdominal ultrasound showed a peritoneal effusion, a normal gallbladder, and the ileo-cecal appendix was not visualised. An abdominal CT scan was performed, and aside a moderate peritoneal effusion it was evident an undefined liquid collection involving a linear image with 25 mm adjacent to the transverse colon, suggestive of a foreign body (Fig. 2).

When asked about what she had eaten, she told that some days before she had dined codfish, but foreign body ingestion was not remembered. With all these data a diagnosis of bowel perforation by a foreign body (codfish bone) was made.

Systemic antibiotic (meropenem) was initiated, and a median laparotomy was performed revealing a purulent peritoneal effusion and an abscess of the great omentum adjacent to the transverse colon. A fibrotic closed fistula between the colon and the abscess was found, sectioned, and the abscess was resected in-bloc. No colon defect was evident, and we did a purse-string suture in the colonic side of the fibrotic fistula and an omental patch was used to cover it. Peritoneal lavage was done with saline solution and a drain was placed in the right parietocolic space. When opening the abscess a fish bone of about 30 mm was found (Fig. 3).

No complications occurred in the pos-op period, drain was removed on the fourth pos-op day (drainage was always serous), and patient was discharged asymptomatic 7 days after surgery. During follow-up period of 1 month there were no sequels.

3. Discussion

Perforation can occur in any segment of the gastrointestinal tract,[2–4] but the pylorus, Treitz, terminal ileum and recto-sigmoid junction are the most affected segments because of their great

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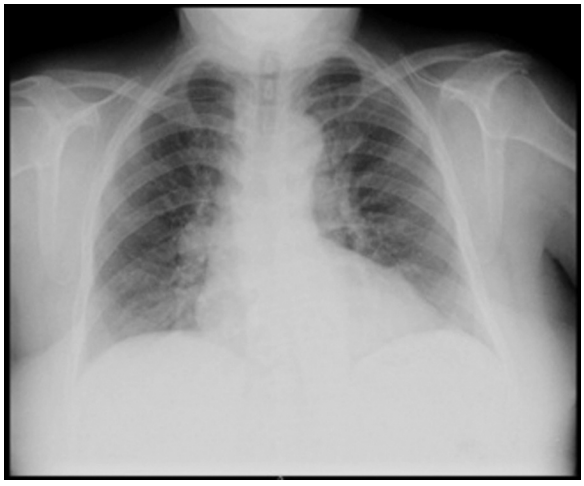

Fig. 1. No pneumoperitoneum is visible is thorax X-ray.

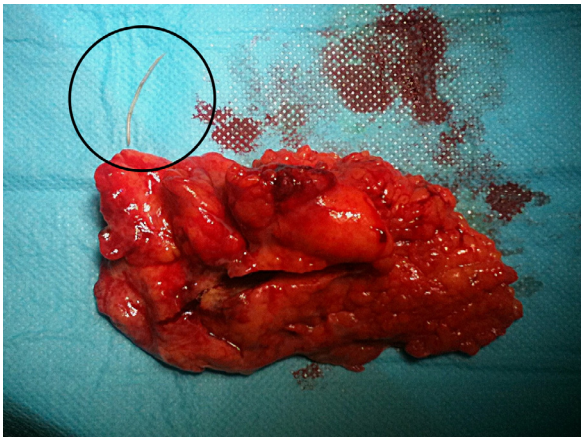

Fig. 3. Resected abscess and codfish bone (circle).

angulation.[3,4] Alcoholism, psychiatric illness, age extremes and use of dentures (which eliminate tactile sense of the palate) are risk factors for foreign bodies ingestion.[3,4] Intestinal perforation by fish bones is rare but their ingestion is common. Clinical presentation can be varied with acute or chronic symptoms.[2,3] Bowel perforation by foreign bodies can mimic other abdominal emergency conditions such as acute appendicitis, acute diverticulitis, and perforated peptic ulcer. There are cases with fulminant clinical courses due to a fatal hepatic abscess.[4] Since the patient usually does not remember fish bone ingestion, diagnosis can be late, with months separating ingestion from perforation.[1,3,4] Fish bones are locked in a narrow segment of the bowel and erode the mucosa, causing bacterial dissemination. As this pathological process continues, there is perforation and extramural abscess, which leads to an acute abdomen.[3] In the case presented the patient had dined codfish some days before and fish bone ingestion was not remembered, however since there was a fibrotic closed fistula the ingestion causing perforation was probably earlier. The transverse colon was the perforated segment, not matching the most frequent affected segments referred in the literature, with an extramural abscess causing an acute abdomen.

Abdominal X-ray has limited utility and it depends on fish bone density, which depends on the species.[3] Codfish and salmon have a high-density skeleton, and the dorsal decubitus X-ray can make it easier to see foreign bodies.[3] Since the perforation hole is too small and normally covered with fibrin and omentum, pneumoperitoneum is rare, being present in only 20% of patients.[3,4] CT scan is the most accurate exam with fish bones appearing like linear images with calcic density inside an inflammatory area.[3] However CT scan has some weaknesses: lack of awareness by the radiologist if there is no clinical suspicion; the use of oral and/or intravenous contrast can make it difficult to visualise fish bones.[3] Colon perforation can have radiologic and pathologic characteristics of intestinal inflammatory disease.[5] In the case reported abdominal X-ray was not taken but in chest X-ray pneumoperitoneum was not present. Ultrasound was not helpful in making the diagnosis. The CT scan was the exam that helped in the diagnosis by showing a linear image inside a liquid collection suggestive of a foreign body, even if there was no pneumoperitoneum.

Surgery is the treatment of choice for bowel perforation, and is most commonly performed by laparotomy due to its advantages to localise the perforation, closure or repair of the defect, and peritoneal lavage.[6] However, laparoscopy has been reported in some studies to be as good as laparotomy.[6,7] Procedures that can be used for treating bowel perforation are suturing the perforation with or without a colostomy, Hartmann like procedure, and bowel resection with primary anastomosis,[4,6] depending on local conditions. In our case laparotomy was chosen, and the abscess adjacent to the transverse colon was resected in-bloc to avoid spreading the pus into the abdominal cavity, and peritoneal lavage was done to clean all the purulent effusion. No defect was found in the colon, as the fistula was fibrotic and occluded maybe because a long time will have passed between perforation and surgery, with the great omentum tapering the defect. For this reason the closed fistula was sectioned and a purse-string suture was performed and covered

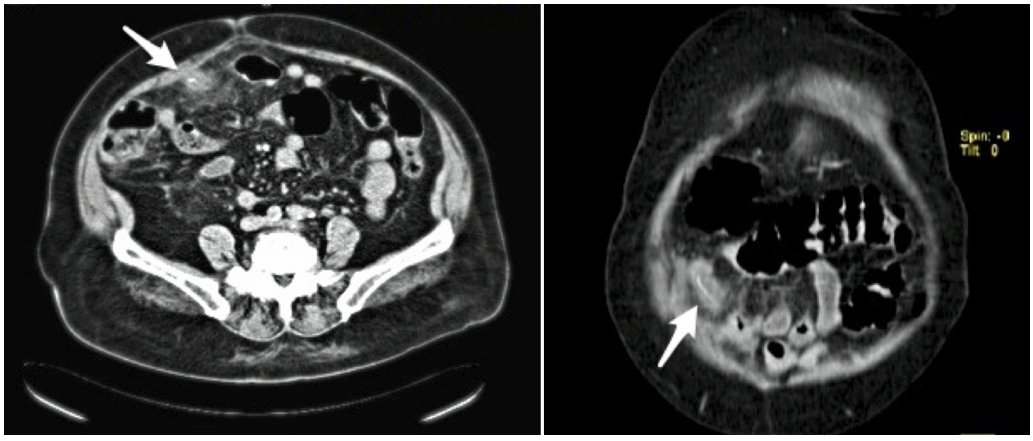

Fig. 2. Axial and sagittal slides of abdominal CT scan. It is visible an undefined liquid collection involving a linear image suggestive of foreign body (arrows).

with an omental patch for safety. No colostomy was needed. The patient was discharged free of symptoms in the 7th pos-op day, matching other case reports data.

4. Conclusion

Fish bones perforations are rare and with nonspecific symptoms, mimicking other abdominal emergency conditions. A low threshold of suspicion along with a good clinical history and appropriate radiological studies is extremely important in order to make a correct diagnosis. Laparotomy is the most frequent approach, but laparoscopy can be a valid option.

Conflict of interest

CECA, RR, AG declare no conflict of interest.

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None.

Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Author contributions

CECA: data collection, manuscript writing and manuscript review; RR: manuscript review; AG: manuscript review.

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