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**A rare cause of acute abdomen after a Good Friday**

Pante L *et al.* Acute abdomen after a Good Friday

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**Abstract**

Small bowel perforation caused by an ingested fish bone is rare but can involve the appendix or Meckel's diverticulum. We report the case of a 25-year-old man who presented to the emergency department with acute abdomen caused by perforation of a Meckel's diverticulum with a fish bone ingested in a Good Friday.

**Key Words:** Fish bone; Foreign body; Small bowel perforation; Meckel Diverticulum.

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**Core Tip:** We report the case of a 25-year-old man who presented to the emergency department with acute abdomen caused by perforation of a Meckel's diverticulum with a fish bone ingested in a Good Friday.

**TO THE EDITOR**

In our hospital in Brazil, after the Good Friday of 2020, we admitted a 25-year-old male patient who presented with severe abdominal pain in the right lower quadrant. He had signs of peritoneal irritation on physical examination. A computed tomography (CT)

scan showed pneumoperitoneum and a hyperdense structure in the ileal wall (Figure 1). This imaging finding went unnoticed until the patient underwent exploratory laparotomy, which revealed a Meckel's diverticulum perforated by a fish bone 30 cm above the ileocecal valve (Figure 2). Diverticulectomy was performed and the patient was discharged after a few days. He later reported having eaten fish on Good Friday, a Christian holiday in which Brazilians generally eat fish instead of poultry or red meat.

Meckel's diverticulum is often an asymptomatic condition. Nevertheless, 4.2% to 16.9% of patients are likely to become symptomatic<sup>[1-3]</sup>. There is a wide range of complications associated with this disease, such as acute or chronic abdominal pain, anemia, gastrointestinal bleeding, obstruction, and perforation<sup>[1,3]</sup>. Although most of these complications are not rare, small bowel perforation caused by an ingested fish bone is a rare finding, occurring in less than 1% of patients<sup>[2]</sup>, because, in most cases of ingested foreign bodies, the object will pass through the gastrointestinal tract without any complications<sup>[4]</sup>.

Perforation may occur in any part of the gastrointestinal tract, but cases involving the appendix or Meckel's diverticulum are rare. In this setting, approximately 300 cases of a Meckel's diverticulum perforated by a swallowed foreign body have been reported<sup>[3]</sup>. Surprisingly, we found one case similar to ours published in the World Journal of Gastroenterology in 2014<sup>[1]</sup>.

The preoperative diagnosis of perforation of the Meckel's diverticulum by foreign body can be challenging given the broad spectrum of differential diagnoses. In addition, patients do not always recall ingesting the foreign body, and fish bones are not easily detected on radiographs or CT scans<sup>[2,3]</sup>. The perforated Meckel's diverticulum may also mimic acute appendicitis, acute diverticulitis, and colitis<sup>[4]</sup>. In the case presented here, the patient complained of severe abdominal pain in the right lower quadrant, similar to that of acute appendicitis.

Imaging is essential to determine the correct diagnosis prior to surgery. Radiography is not a reliable means to detect a fish bone, because it lacks sensitivity for the aerodigestive tract<sup>[4]</sup>. Although abdominal ultrasound is useful in identifying a

foreign body based on high reflectivity and variable posterior shadowing, CT is the imaging modality of choice for the detection of foreign bodies and other acute abdomen conditions<sup>[4]</sup>.

In a similar context, other radiological features of fish bone perforation were described in a case report published in 2022, such as <sup>1</sup>thickening of the intestinal wall, fatty deposits, intestinal ileus, ascites, localized pneumoperitoneum, intra-abdominal abscess, and a linear hyperdense structure in the abdominal cavity within the gastrointestinal tract or a parenchymal organ, often surrounded by inflammation<sup>[4]</sup>. Therefore, the combination of a detailed medical history with imaging and ancillary testing (ultrasound and abdominal CT) is crucial in cases of acute abdomen that may require surgery<sup>[6,7]</sup>.

Treatment includes exploratory laparotomy when the diagnosis of acute abdomen has been made. In addition, diverticulectomy and colectomy may be necessary to minimize complications. It is of paramount importance to explore the entire abdominal cavity intraoperatively, especially in the absence of an explanation for the clinical findings<sup>[1,5,6,8]</sup>.

Therefore, bone-induced perforation should be suspected when the CT scan shows a hyperdense structure in the bowel wall, whether with signs of perforation or not.

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PRIMARY SOURCES

1	<a href="http://www.ncbi.nlm.nih.gov">www.ncbi.nlm.nih.gov</a> Internet	34 words — 4%
2	Woon Kyung Jeong, Seong Kyu Baek. "Colon cancer incidentally diagnosed after intestinal obstruction caused by ingested beef bones", Korean Journal of Clinical Oncology, 2014 Crossref	13 words — 2%

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