

Perforation of transverse colon by a fish bone: a rare reaching

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Section: Abdominal imaging

Area of Interest: Abdomen

Procedure: Contrast agent-intravenous

Imaging Technique: CT

Imaging Technique: Image manipulation / Reconstruction

Special Focus: Abscess Case Type: Clinical Cases

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Patient: 62 years, female

Clinical History:

A 62-years-old female presented to our Emergency and Accident Department with an history of 24-hours severe abdominal pain. No fever, no vomiting or diarrhea. At the physical examination, there was a diffuse abdominal tenderness. Lab results showed leukocytosis (17.000/ml) and elevated CRP (230 mg/ml). Abdominal CT was performed.

Imaging Findings:

At basal scan CT, a high density linear shadow about 30 mm in diameter was shown in a hypodense formation in the center-abdominal region (Figure 1). In the arterious phase scan, the lesion showed an uniform and linear parietal enhancement, to be referred to an abscess cavity, containing the foreign calcified body, immediately below the transverse colon (Figures 2-3); in addition, there were multiple peri-centimetric lymph nodes, most represented at the lumbar-aortic level. The CT-phases with contrast confirmed also the presence of dense streaks in the peri-visceral adipose tissue, in correspondence of the transverse colon (Figure 4); there were no obvious signs of pneumoperitoneum.

CT findings indicated a perforation of transverse colon by a radiopaque foreign body, complicated with abscess. The patient has been subjected to laparotomy with exeresis of the abscess highlighted to the CT, originated by a fish bone that determinated a covered perforation of transverse colon (Figures 5a-b).

Discussion:

The ingestion of a foreign body, especially fish bone, is common. However, bowel perforation by foreign body is a rare reaching (less than 1 %) [1] and it occurs usually at ileum and recto-sigmoid junction [2] Other important complications related to the ingestion of foreign body can include obstruction and bleeding.[3].

Clinically, the perforation of the gastrointestinal tract from ingestion of a foreign body occurs as other causes of acute abdominal pain, in particular, the mode of onset is similar to other pathologies that may require surgical treatment such as appendicitis, diverticulitis or may present with symptomatology that mimics the hepatic abscess [1, 4] The intestinal perforation by a foreign body, unlike other causes, is rarely associated with the presence of pneumoperitoneum, as it is characterized by the progressive intention of the organism to minimize the perforation through the approaching of adjacent intestinal loops and the possible formation of an abscess. [1, 4]

The role of imaging is fundamental for the diagnosis of perforation by foreign body, in particular to identify and to

localize the intestinal perforation, along the identification of the cause (it can be due to trauma, diverticula, obstruction, carcinoma or foreign body). Through the CT examination, it is also possible to provide the surgeon with all the anatomical information and the necessary elements for the type of surgical intervention.

The possible therapeutic options for intestinal perforation by a foreign body are conservative (broad-spectrum antibiotic therapy) or surgical (removal of abscess). [5] The mode of clinical presentation, especially if the onset is acute, together with the findings on CT imaging, determine the therapeutic pathway to be taken. The prognosis of this clinical condition is linked to patient factors (such as performance status), to the foreign body nature (and its related complication), the timeliness of diagnosis and the type of treatment. [6, 7].

Conclusions: despite the rarity of this clinical finding, the possibility of a foreign body ingestion should be considered in diagnosis of colon perforation.

'Written informed patient consent for publication has been obtained'

Differential Diagnosis List: Transverse colon covered perforation, with abscess; diagnosis confirmed on surgery, Neoplasm, Colic intussusception, Enteritis

Final Diagnosis: Transverse colon covered perforation, with abscess; diagnosis confirmed on surgery

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Figure 1

a



Description: The CT basal scan shows a 30 mm-radiopaque linear image in a hypodense formation in the center-abdominal region **Origin:** Saint Paul Hospital, Department of Radiology, Bari, 70132 Italy;

Figure 2

a



Description: After contrast, the walls of the hypodense formation have uniform and linear enhancement, compatible with abscess. **Origin:** Saint Paul Hospital, Department of Radiology, Bari, 70132 Italy

Figure 3

a



Description: MIP reconstruction(in the arterious phase) shows the note formation close to the transverse colon **Origin:** Saint Paul Hospital, Department of Radiology, Bari, 70132 Italy

Figure 4

a



Description: In the axial image, presence of peri-visceral hyperdense striations near the transverse colon. **Origin:** Saint Paul Hospital, Department of Radiology, Bari, 70132 Italy

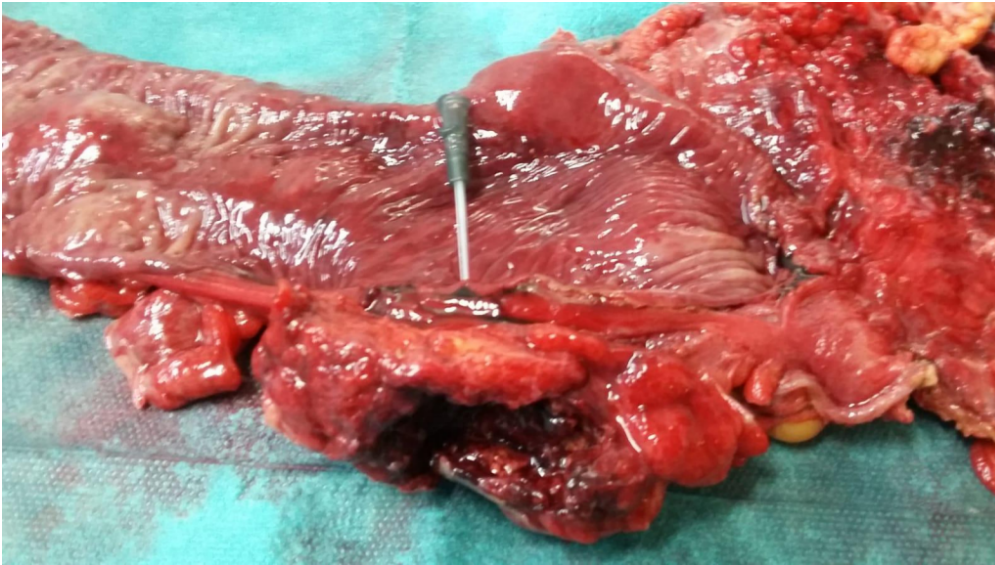
Figure 5

a



Description: The foreign body found by the surgeon in the abscessual cavity: a fish bone **Origin:** Saint Paul Hospital, Department of Surgery, Bari, 70132 Italy

b



Description: In the picture, the probe shows the communication between transverse colon and abscessual cavity **Origin:** Saint Paul Hospital, Department of Surgery, Bari, 70132 Italy