

PELVIC ABSCESS AFTER SIGMOID PERFORATION THROUGH FOREIGN BODY (FISH BONE)

DORU MOGA¹, ALEXANDRU ILIESCU²

^{1,2}“Alexandru Augustin” Military Emergency Hospital, Sibiu

Keywords: sigmoid perforation, foreign body, fish bone, pelvic abscess

Abstract: Perforation of the digestive tract through foreign bodies is extremely rare in patients without pre-existing intestinal disease. We report the case of a 70-year-old patient who came at the emergency room with high fever, chills, lower abdominal pain, accelerated intestinal transit and without a personal history of intestinal disease or abdominal surgery. Laboratory data showed leukocytosis with neutrophilia. Computerized tomography highlights a mixed, hydroaeric pelvic collection and the presence in the vicinity of a hyperdense filiform tract of uncertain cause. Laparoscopic surgery was performed and a pelvic abscess, respectively a sigmoid micro-perforation was observed by the presence of a fish bone. Foreign body extraction, lavage and drainage of the peritoneal cavity were practiced with favourable later evolution.

INTRODUCTION

The perforation of the gastrointestinal tract by ingestion of foreign bodies is extremely rare in healthy patients (less than 1%).(1) Approximately 75% of ingested foreign bodies affect the esophagus, over 90% cross the entire intestine and only a few of them cause severe complications that require surgery. Accidental ingestion can cause the perforation of the small intestine (terminal ileon, duodenum, hernial sac or Meckel diverticulum) or large intestine (appendix, ileocecal valve, or rectosigmoid junction). Fish bones swallowed by accident are the most common foreign bodies that cause perforation of the gastrointestinal tract. Despite the long and sharp shape of the fish bone, perforation is rarely reported in patients without pre-existing intestinal disease.(2) The preoperative diagnosis of a perforation through a foreign body is extremely difficult. Rarely, these perforations can spontaneously heal.(3)

CASE REPORT

We present the case of a 70-year-old patient who came to the emergency room in our hospital on 10 November, 2017 with high fever (40° C), chills, lower abdominal pain with a 3-day onset associated with an accelerated intestinal transit (approximately 3-5 diarrhea per day). He was hospitalized in the infectious disease compartment with the suspicion of enterocolitis. Physical examination showed a slightly distended abdomen, sensitive to deep palpation in the hypogastric area, with no signs of peritoneal irritation. Laboratory data showed leukocytosis 25.060/mm³ with 88.3% neutrophils and 192 mg/l PCR. Abdominal radiography revealed several hydroaeric levels in the lower abdomen without pneumoperitoneum. An abdominal CT scan was performed which described a sinuous sigmoid, diffuse thickened sigmoid wall and diverticula on the profile as well as a hyperdense filiform tract with the distal end adjacent to a sigmoid diverticulum and the proximal end adjacent to an extraluminal hydroaeric mixed accumulation with sizes of 4x5 cm (figure no. 1). We have interpreted the case as an acute surgical abdomen. The surgery was done on November 15, 2017 by exploratory laparoscopy. A pelvic inflammatory bloc has been revealed. After adheziolysis, a pelvic abscess with

false membranes was evacuated (figure no. 2). During exploration, we noticed a foreign body that perforates the sigmoid wall (figure no. 3). Laparoscopic surgery was limited to the foreign body extraction (figure no. 4), abundant lavage and drainage of the peritoneal cavity.

Figure no. 1. Abdominal CT scan

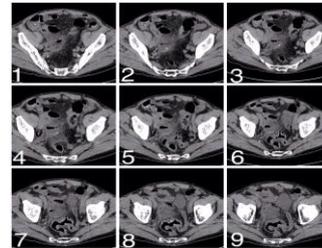


Figure no. 2. Pelvic abscess



Figure no. 3. A fish bone that perforates the sigmoid wall



In the postoperative, the patient reports that he had consumed fish (Wels catfish) a few days before admission into hospital (figure no. 5). The patient's subsequent evolution was favourable. The drain tubes were suppressed on the second day

¹Corresponding author: Doru Moga, B-dul Victoriei, Nr. 46, Sibiu, România, E-mail: mogadoru@yahoo.com, Phone: +4 0749 267 221
Article received on 12.05.2018 and accepted for publication on 31.08.2018
ACTA MEDICA TRANSILVANICA September 2018;23(3):56-57

CLINICAL ASPECTS

and the fourth day after surgery. The patient was discharged on the eighth postoperative day.

Control at one month after surgery, as well as 6-month colonoscopy showed a patient in good overall condition without symptoms.

Figure no. 4. Fish bone extraction

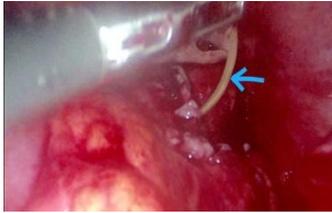


Figure no. 5. Fish bone (3 cm)



DISCUSSIONS

The intestinal perforation has a wide spectrum of clinical manifestations such as acute or chronic abdominal pain, fever, gastrointestinal hemorrhage (melena, hematochezia), intestinal occlusion (nausea and vomiting) (4) but also atypical manifestations such as ureteral colic. Diagnosis of perforation by foreign bodies is rarely established preoperatively.(5)

Without clear evidence of etiology, we assessed the case as a pelvic abscess and decided to do a laparoscopic approach. Although postoperative reinterpretation of CT images seems to describe a bone aspect perforating the sigmoid, identifying it during surgery was a surprise.

Non-metallic foreign bodies (fish bones or other bone fragments) are a problem for diagnosis. The degree of radiopacity of the bone depends on the size of the bone and the species of fish.(6) Large muscle masses, fluids and obesity can obscure the calcium contained by the bone.(7) Ultrasound can be useful in detecting hyperechogenic foreign bodies. The contribution and accuracy of CT in preoperative diagnosis is limited. The perforation site is covered with fibrin, omentum or other adjacent intestinal loops, and moreover, the presence of air under the diaphragm is rarely visible. The suspicion of the presence of fish bones only through symptomatology or radiographies is limited and often misleading. Using oral or intravenous CT contrast may cause difficulty in identifying fish bones.(8) However, CT is useful in establishing the surgical indication.(9) Computerized 3D reconstruction is feasible and is an effective method of detecting the presence of fish bone. It can also show the relationship between the bone and the surrounding tissues.(10) Early diagnosis and treatment is the key to good prognosis. If there are no signs of peritoneal irritation, an intraoperative colonoscopy can be performed to assess bone localization in the digestive tract and improve localization of lesions.(10)

Based on the existing data in the literature (11) and the experience accumulated in the purulent peritonitis by the perforated sigmoid diverticulitis, we summed up to a laparoscopic intervention represented by the lavage and drainage of the peritoneal cavity. Classically, such cases are addressed by laparotomy, sigmoid colectomy and terminal stoma. Gradually, in cases without fecal contamination or purulent peritonitis,

laparoscopic lavage and drainage becomes more and more frequently used. In such patients, this attitude offers minimal invasive intervention with a faster recovery (12) and a low rate of postoperative parietal suppuration. We chose not to perform resection with anastomosis due to the existing peritonitis with a high risk of postoperative fistula, or resection with stoma due to temporary disability and discomfort for the patient.

CONCLUSIONS

Diagnosis of intestinal perforation caused by ingested fish bone should be reconsidered and suspected in cases of acute surgical abdomen with uncertain etiology. A more detailed history is needed when there are signs or symptoms suggestive of peritonitis even when the CT is negative and there are no predisposing factors or personal history of pre-existing intestinal disease. Delayed diagnosis and inappropriate treatment can lead to postoperative complications and increased mortality. In the case of an uncertain preoperative diagnosis, it is useful to perform an exploratory laparoscopy. In selected cases of purulent peritonitis by sigmoid perforation, in order to avoid a resection with/without stoma, laparoscopic lavage and drainage of the peritoneal cavity is sufficient.

REFERENCES

1. Yoshiki W, Wataru S, Tadashi O. Gastric perforation due to Fish Bone Ingestion: a case report. *Journal of General and Family Medicine*. 2016;17(4):315-318.
2. 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 Journal of Gastroenterology*. 2014;20(6):1626-1629.
3. Hassani K, Toughrai I. Peritonite par perforation grelique secondaire a une arete de poisson. *The Pan African Medical Journal*. 2013;15:107.
4. Emir S, Ozkan Z, Altinsoy HB, Yazar FM, Sozen S, Bali I. Ingested bone fragment in the bowel: Two cases and a review of the literature. *World Journal of Clinical Cases*. 2013;1(7):212-216.
5. Webb WA. Management of foreign bodies of the upper gastrointestinal tract: update. *Gastrointestinal endoscopy*. 1995;4:39-51.
6. Courlier B. Diagnostic ultrasonography of perforating foreign bodies of the digestive tract. *Belge Radiology*. 1997;80:1-5.
7. Goh BK, Tan YM, Lin SE, Chow PK, Cheak FK, Ooi LL, Wong WK. CT in the preoperative diagnosis of fish bone perforation of the gastrointestinal tract. *AJR Am Roentgenol*. 2006;187:710-714.
8. Ngan JK, Fok PJ, Lai EC, Branicki FJ, Wong J. A prospective study of fish bone ingestion. Experience of 358 patients. *Ann Surg*. 1990;211:459-462.
9. Beecher S, O Leary D, McLaughlin R. Diagnostic dilemmas due to fish bone ingestion: case report & literature review. *International Journal of Surgery reports*. 2015;13:112-115.
10. Jian-Hao H, Wei-Yan Y, Qi-Hui J. A rare case of ascending colon perforation caused by a large fish bone. *Chinese Medical Journal*. 2017;130(3):377-378.
11. Bretagnol F, Panis Y. Place du lavage laparoscopique dans la peritonite diverticulaire. *Colon&rectum*. 2009;3(1):23-26.
12. Harriet AO, Nisaharan S, Amey A, Katherine D, David M. Laparoscopic management of foreign body perforation in diverticular disease. *Annals of the Royal College of Surgeons of England*. 2010;92(7):24-25.