Letters to the Editor

Value of laparoscopy in the treatment of cecal perforation by a foreign body; differential diagnosis of appendicitis

Key words: Cecal perforation. Foreign body. Acute abdomen. Laparoscopy.

Dear Editor,

A 24-year-old male, with no medical history of interest, who was admitted into emergency care for acute abdomen. The patient complained of pain in the right lower quadrant (RLQ) persisting for the last 48 hours, unrelated to any trigger. Initially, the pain was of moderate intensity, followed by associated fever, anorexia, and malaise. Initial analysis revealed a C-reactive protein of 2.4 mg/dL and a leukocyte count in the upper normal limit. Physical examination revealed Blumberg sign in the RLQ. Abdominal ultrasound resulted inconclusive, so the test was complemented with CT scan which revealed a foreign body piercing the cecum, with no pneumoperitoneum or peritonitis (Fig. 1). An emergency exploratory laparoscopy was performed which identified the foreign body to be a toothpick (wooden) traversing the cecum with minimal purulent material (Fig. 2A). The foreign body was removed and the incision was sealed with three silk sutures (Fig. 2B). Patient was discharged uneventfully.

Discussion

The ingestion of foreign bodies is common, usually as nourishment and accounts for up to 93 % of the cases, within a patient's diet (1). In our case, the ingestion of toothpick has rarely been mentioned in medical literature as a cause of gastrointestinal perforation. The majority of patients, up to 88 %, do not remem-

ber the ingestion of toothpicks (2) and present fever and abdominal pain, making preoperative diagnosis difficult (3,4). The risk factors which most frequently influence the ingestion of foreign bodies are simple oversight, fast food intake, the use of dentures, alcoholism, and drug abuse (5). The perforation of the gastrointestinal tract occurs in less than 1 % of cases, particularly in areas of angulation, such as in the ileocecal region or the sigma-rectum (6). In some cases, it has been reported that foreign bodies have been retained in a Meckel's diverticulum, the appendix, or in a hernia (3). Foreign body impaction may be favored by adhesions, areas with diverticular processes or surgical anastomosis (5,7). The mortality rate of toothpick ingestion is up to 18%, according to several studies (2), occurring predominantly in unstable patients in those with vascular fistulas. The ileocecal perforation clinic enforces a differential diagnosis, especially when acute

Fig. 1. Abdominal CT without contrast showing the presence of a linear hyperdense image of 6 cm localized in the cecum. It corresponds with the toothpick

Fig. 2. Laparoscopy image with the toothpick traversing the cecal wall. A. Extraction of foreign body. B. Closure of the cecal defect.

appendicitis is present (8). In these cases, where physical examination and ultrasound are inconclusive, imaging techniques such as CT scans, can guide the diagnosis, making CT scans the primary imaging test (4). Sometimes, the segmentectomy of the appendix is necessary if it has been affected by the foreign body. In our case, despite the proximity, no appendectomy was required. Traditionally, the management of foreign body perforations is done by laparotomy. Currently the laparoscopic approach can be used as a minimally invasive alternative, although it has rarely been reported as a diagnostic and therapeutic approach to perforations produced by the ingestion of foreign bodies (3). It is a safe technique which reduces morbidity and postoperative pain, providing early reemployment, and better cosmetic results. When perforation occurs in the colon, many authors recommend a temporary colostomy (9), in our case the absence of peritonitis allowed a more conservative approach, requiring only simple suture.

Sira Ocaña, Jorge Arredondo, Patricia Martínez, Pablo Martí
and José Luis Hernández-Lizoain

*Department of General and Gastrointestinal Surgery.
Clínica Universitaria de Navarra. Pamplona. Navarra, Spain*

References

- Guillén-Paredes MP, Lirón-Ruiz R, Torralba-Martínez JA, Martín-Lorenzo JG, Aguayo-Albasini JL. Perforación intestinal por ingesta de espina de pescado. Importancia del diagnóstico por imagen. *Rev Esp Enferm Dig* 2010;102:561-70.
- Patel VG, Gonzales JJ, Forston Jk, Weaver WL. Laparoscopic management of cecal perforation by an ingested foreign body. *Am Surg* 2008; 74:778-80.
- Lunsford KE, Sudan R. Small bowel perforation by a clinically unsuspected fish bone: laparoscopic treatment and review of literature. *J Gastrointest Surg* 2012;16:218-22.
- Owen HA, Srikandarajah N, Aurangabadkar A, Downy K, Melville D. Laparoscopic management of foreign body perforation in diverticular disease. *Ann R Coll Surg Engl* 2010;92:1-2.
- Rodríguez-Hermosa JJ, Cañete N, Artigau E, Gironès J, Planellas P, Codina-Cazador A. Small bowel perforation by an unusual foreign body. *Rev Esp Enferm Dig* 2009;101:639-41.
- Goh BK, Chow PK, Quah HM, Ong HS, Eu KW, Ooi LL, Wong WK. Perforation of the gastrointestinal tract secondary to ingestion of foreign bodies. *World J Surg* 2006;30:372-7.
- Martín Gil J, Serralta de Colosa D, García Marín A. Diverticulitis yeyunal por cuerpo extraño. *Rev Esp Enferm Dig* 2010;102:144-8.
- Robinson AJ, Bingham J, Thompson RL. Magnet induced perforated appendicitis and ileo-caecal fistula formation. *Ulster Med J* 2009;78:4-6.
- Alonso Gómez S, Rubio González E, Donat Garrido M, Lomas Espadas M, Solís-Herruzo JA, Moreno González E. Perforación de colon sigmoide por ingestión de cuerpo extraño. *Rev Esp Enferm Dig* 2012; 104:90-1.