

Abdominal pain in the left lower quadrant with sepsis, not always diverticulitis. Case report

Dolor abdominal en el cuadrante inferior izquierdo y sepsis: no siempre es diverticulitis. Presentación de caso

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https://doi.org/10.53903/01212095.237

Key words (MeSH)

Intestinal perforation
Abdominal pain
Foreign body
Pneumoperitoneum

Palabras clave (DeCS)

Perforación intestinal
Dolor abdominal
Cuerpos extraños
Neumoperitoneo

Summary

A 50-year-old male patient, who was admitted to the emergency service due to 7 days of abdominal pain in the left lower quadrant. Laboratory studies documented leukocytosis with elevated acute phase reactants (CRP and ESR), acute kidney injury, fever, and tachycardia. In the initial imaging studies, a chest x-ray and an abdominal x-ray were requested, which showed no alterations. Given the clinical symptoms, the poor x-ray findings, the patient's age, and the high suspicion of diverticulitis, a CT scan of the abdomen and pelvis was requested with gastrointestinal contrast medium only. The tomography revealed a hyperdense, linear image located on the lateral wall of the sigmoid colon, with some small bubbles of local pneumoperitoneum. The patient is re-interrogated and reports recent consumption of chicken "down to the bones." The patient was taken to the operating room due to suspicion of perforation due to a foreign body and the diagnosis is confirmed

Resumen

Paciente masculino de 50 años de edad, quien ingresa al servicio de emergencias por dolor abdominal de 7 días de evolución en el cuadrante inferior izquierdo. En los estudios de laboratorio se documentó leucocitosis con elevación de reactantes de fase aguda (PCR y VES), lesión renal aguda, fiebre cuantificada y taquicardia. En los estudios de imágenes iniciales se realizaron una radiografía de tórax y una de abdomen, las cuales no mostraron alteraciones. Dada la clínica, los pobres hallazgos de las radiografías, la edad del paciente y la alta sospecha de diverticulitis se practicó una tomografía (TAC) de abdomen y pelvis únicamente con medio de contraste gastrointestinal. En la TAC se evidenció una imagen de alta densidad, lineal, ubicada en la pared lateral de colon sigmoides, con algunas pequeñas burbujas de neumoperitoneo local. Se interroga de nuevo al paciente, quien refiere ingesta reciente de pollo "hasta los huesos". El paciente es llevado a sala de operaciones ante la sospecha de perforación por cuerpo extraño y se confirma el diagnóstico.

Introduction

Intestinal perforation is of multicausal etiology and among the causes should be considered tumor lesions, iatrogenic, spontaneous, infectious, diverticulitis, ischemic, foreign body trauma, sternal ulcers and inflammatory bowel diseases. Early diagnosis is extremely important, as is prompt surgical resolution (1).

The clinical manifestations vary according to the site of perforation. In the esophagus it presents with odynophagia, vomiting and acute chest pain. Gastroduodenal perforations are characterized by severe acute abdominal pain. Colonic perforation has an insidious clinical onset with localized peritonitis and intra-abdominal abscesses (2).

Intestinal perforations associated with foreign body ingestion occur in less than 1% of cases; most occur in angled portions or sites of strictures. They are more common accidentally and inadvertently in adult patients with dental prostheses, cognitive impairment and alcoholic patients (3). Voluntary ingestion of foreign bodies is related to attempted self-elimination (4). Intestinal perforation associated with foreign body ingestion is a diagnostic challenge, since it may be associated with other pathologies in which there is a dual mechanism of perforation (5).

Discussion

In the United Kingdom there are 6,000 cases of foreign body ingestion per year, most of which have an unaltered intestinal passage with spontaneous expulsion (5).

In the United States 1,500 people die every year as a consequence of foreign bodies (6).

It must be taken into account that there are underlying pathologies, mainly diverticulosis, which make the intestinal wall more susceptible to perforation (5).

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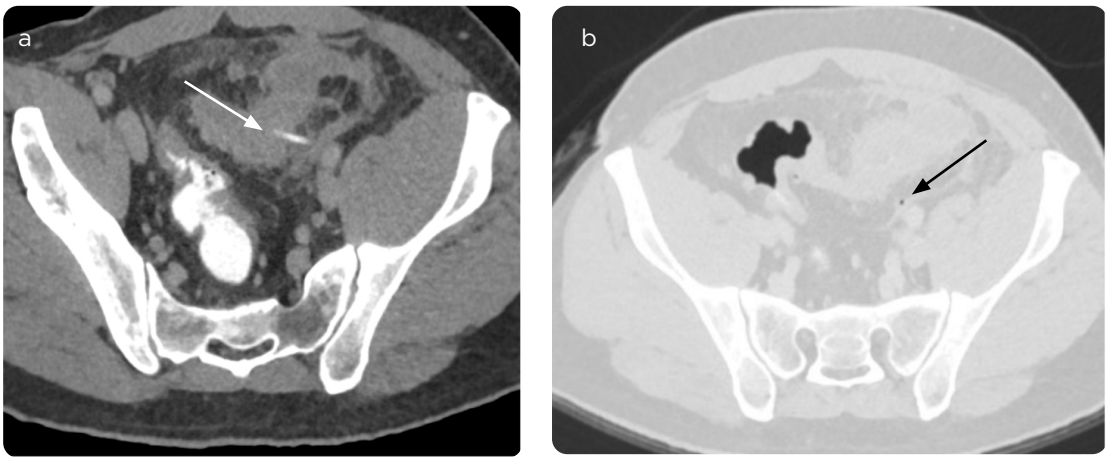


Figure 1. Abdominal CT. Axial slices. a) Abdominal window. b) Lung window. Diffuse thickening of the walls of the sigmoid colon, associated with pericolonic fat striation, scarce free fluid, pneumoperitoneum (arrow in b) and a high density linear image of 2 cm in length corresponding to the sigmoid colon.



Figure 2. CT of abdomen and pelvis. Coronal section. Diffuse thickening of the walls of the sigmoid colon, associated with pericolonic fat striation, scarce free fluid and a high density linear image of 2 cm in length corresponding to the foreign body (arrow in b).



Figure 3. Surgical site with the foreign body in the intestinal wall.

The clinical presentation is variable (4), depending on the time of evolution and the location of the perforation; the most common sites of perforation are terminal ileum, ileocecal valve and rectosigmoid (4).

Foreign bodies, such as chicken bones, can also cause complications in the medium and long term, since they can generate fistulas (5).

Conventional radiology

These studies are used for the initial approach and help to define whether the foreign body is radiopaque, its location, shape and size. The assessment of non-radiolucent objects is limited. Some radiolucent objects are chicken and fish bones, wood, plastic and some thin metals. When a sharp object is documented, it should be checked daily after its passage through the duodenum (6).

Tomography

Computed axial tomography (CT) is of utmost importance, because it can show local inflammatory changes, the site of perforation and the cause (1, 2). The pathognomonic radiological sign of hollow viscus perforation is pneumoperitoneum.

CT is highly sensitive for foreign objects and its sensitivity can be increased with 3D reconstructions. The use of oral or rectal contrast medium limits the evaluation of high density foreign bodies; however,

in the case of suspected complications, such as abscesses, the use of intravenous (IV) contrast increases the diagnostic yield of the study (6).

CT is particularly useful in febrile patients, with abdominal pain in the left lower quadrant, leukocytosis, sepsis and sensation of palpable painful mass. Currently, the use of positive oral contrast media is highly dependent on the protocols of each center and should be individualized for each patient; some centers consider that using this type of contrast is outdated and delays diagnostic time, while others consider that it provides some diagnostic benefits and confidence for the radiologist. In the emergency setting it is indicated in the context of suspected intestinal leaks, gastrointestinal fistulas, interassociated abscesses and non-specific abdominal pain, without other symptoms (7, 8).

The recommended tomographic protocol is to use IV and oral neutral contrast medium with sections that include from the diaphragmatic domes to the ischium. Injection of IV contrast medium is 3-5 mL/s with a delay of 60-70 seconds. It is recommended that the slice thickness be 1 mm with multiplanar reconstructions of 2-3 mm (7).

However, in the present study a protocol exception was made, as the patient had a serum creatinine at 2.2 mg/dL and an estimated clearance rate of 39.77 mL/min, and clinically a high suspicion of perforated diverticulitis. Therefore, a CT scan of the abdomen and pelvis was performed without IV contrast medium, only with gastrointestinal contrast medium, in order to demonstrate contrast medium leakage and not having to wait for the patient's hydration prior to the study. Among the findings were: diffuse thickening of the walls of the sigmoid colon, pericolonic fat striation, free fluid and a linear image of high density, with sharp ends, 2 cm long. These findings were shared with the surgical team and the pre-surgical diagnosis was confirmed during surgery.

Treatment

Colonic perforation associated with foreign bodies is a surgical emergency that can be secondary to ingestion or insertion (5). Five percent of the cases of foreign body ingestion require surgery and the procedure of choice is resection of the affected segment with anastomosis; however, in some cases it is necessary to use ostomies (4) and future anastomosis. In this patient, sigmoidectomy was performed, with colostomy and reconnection one year after the event.

Conclusions

Most foreign bodies, approximately 80-90 %, pass through the gastrointestinal tract without complications (6). CT is extremely useful to identify, characterize and locate foreign bodies accurately, as well as to define their complications (9). The ideal evaluation consists of a biphasic tomographic study: without contrast medium and with IV contrast medium, with neutral oral contrast medium. The management of the differential diagnosis is extremely important (7), since in this case a foreign object could have been ignored thinking of diverticulitis and the diagnosis could have been mistaken due to the use of positive oral contrast media.

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Received for evaluation: April 10, 2023
Accepted for publication: May 25, 2023