EMBJ.ORG FOR YOUNG DOCTORS

EUROMEDITERRANEAN BIOMEDICAL JOURNAL
2021,16 (37) 162-164
(*FORMERLY: CAPSULA EBURNEA*)

Case report

A RARE CASE OF PERFORATED ILEAL DIVERTICULITIS IN A YOUNG MAN: A CASE REPORT AND LITERATURE REVIEW

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ARTICLE INFO

Article history:
Accepted 27 Oct 2021
Revised 19 Nov 2021
Published 01 Dec 2021

Keywords:
perforated ileal diverticulitis, young man, intestinal resection, case report, emergency surgery.

ABSTRACT

Jejunoileal diverticulosis is a rare, often asymptomatic condition, consisting of acquired false diverticula. Diagnosis of ileal perforation is usually made incidentally or after complications, including obstruction, haemorrhage, and diverticulitis. A previously healthy 17-year-old man presented to the Emergency Department with diffuse abdominal pain and fever. CT scan showed air-fluid level in the RLQ and free intraperitoneal air and fluid. The patient underwent an urgent exploratory laparotomy with an intestinal resection and primary anastomosis. We report a rare case of ileal perforation, due to diverticular disease in a healthy young man, treated with an urgent surgery. Such an event requires immediate surgical intervention, especially if it presents as an acute abdomen. Although it can become a surgical emergency, Jejunoileal diverticulosis remains underdiagnosed.

1. Introduction

Jejuno-ileal diverticulosis is an uncommon disease. Somerling described it in 1794, and today we know that this pathology is rarer than duodenal diverticulosis. It is more common in males and usually in patients over the age of 40. The causes of ileal perforation are many. The commonest cause is spontaneous ileal perforation [1] followed by trauma, bowel obstruction, and lymphoma [21-22]. However, the incidence is very rare [1,2].

The Authors describe an uncommon ileal perforation in a young healthy man.

Written informed consent was obtained from the patient for publication of this case report and accompanying images.

A copy of the written consent is available for review by the editor-in-chief of this journal on request. The work has been reported in line with the SCARE criteria (20).

2. Case report

A 17-year-old man, without any pathology, presented to the Emergency Department with sudden onset generalized abdominal pain more pronounced in the right lower quadrant and hypogastric region. He also had associated nausea and vomiting. His blood pressure was 175/75, his pulse 112 beats per minute and his temperature 38.5°C.

The physical examination revealed tenderness in the right lower quadrant with rebound tenderness.

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DOI: 10.3269/1970-5492.2021.16.37
 ISSN: 2279-7165 - Available on-line at www.embj.org

Laboratory data showed inflammation, with a white blood cell (WBC) count of 21,000/μL and C-reactive protein (CRP) of 250 mg/dL. In addition, decreased levels of bicarbonate, potassium, sodium, albuminemia, calcium and elevated serum creatinine level, azotaemia. The provisional working clinical diagnosis was suspected of him having a perforated appendix. However, ultrasound scan of the abdomen did not show any evidence of inflamed appendix, except pelvic gutter fluid collection.

Post contrast abdominal CT revealed the presence of single ileal diverticula with focal wall thickening of the distal ileum and surrounding fat stranding and air loculi along the wall of the distal ileum suggestive of ileal diverticulitis with localized perforation.

The first therapy planned was the administration of resuscitation intravenous fluid. Subsequently, the surgical team set an antibiotic therapy based on Piperacillin/tazobactam [22]. The patient was taken to the surgical room approximately four hours after access to the Emergency Department. Surgical exploration, with a lower midline laparotomy, confirmed the presence of abscess due to ileal diverticulum perforation at 30 cm from the ileocecal valve (Figure 1).

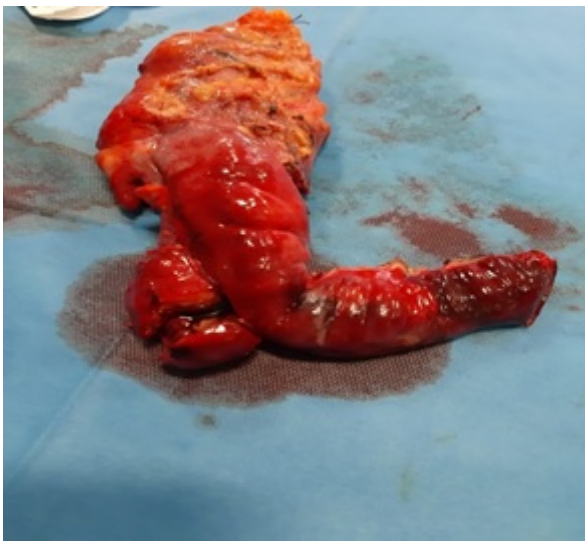

Figure 1. Ileal diverticulum perforation.

Appendix did not appear inflamed macroscopically. We perform peritoneal washing and ileocecal resection with primary latero-lateral anastomosis using 60GIA Boston Scientific Stapler (Echelon Flex™ Endopath).

Histology confirmed ileal diverticulum with mucosal ulceration and inflammatory lesions suggestive of perforated diverticulitis (Figure 2). His recovery was uneventful, with a prompt resumption of oral nutrition and normal alvus. He was discharged on postoperative day 7 and presently in the surgical clinic follow up. The patient made a full recovery.

Figure 2. Histological confirmed ileal diverticulum with mucosal ulceration and inflammatory lesions suggestive of perforated diverticulitis

3. Discussion

OSAS Small bowel diverticulosis is mostly an asymptomatic rare disease with an unknown etiology [18]. Its incidence varies from 0.3% to 2.3% in the general population [6-20]. Diverticulitis disease is more common in the proximal jejunum (75%), followed by the distal jejunum (20%), and the ileum (5%). Some studies show a male preponderance [3].

This condition is believed to develop from a combination of intestinal motility disorders, focal weakness of the muscularis and high segmental intra-luminal pressures [3,4]. Other authors ascribe this pathology to larger vessel entry increasing intestinal wall weakness [5]. The acquired diverticula arise on the mesenteric border, and they can vary in size and number, usually diminishing in both number and size caudally [7,8]. This contrasts with a Meckel's diverticulum, that develops from the anti-mesenteric border, as a true congenital malformation [9]. Up to 60% of patients with small bowel diverticular disease may have concomitant colonic diverticulae [10]. Most small bowel diverticulae produce no symptoms unless complicated by perforation, bleeding, inflammation, malabsorption or obstruction [11]. With non-pathognomonic symptoms of fever, bloating, pain, diarrhoea and leucocytosis, it is often clinically missed due to conditions that are more common. Differentials include appendicitis, coeliac disease, chronic pancreatitis, Crohn's, terminal ileitis and neoplasm [12]. In rare circumstances, patients may present with subcutaneous emphysema air causing rupture of the anterior abdominal wall [13].

Authors recommend abdominal CT with intravenous contrast as the modality of choice [10], but it can miss diverticula hidden by mesenteric fat [14]. Bowel gas may compromise US, while the use of oral contrast is debated [10]. However, the diagnosis is often made only when complications occur [23].

Unlike the management of colonic diverticulitis, there is no grading system to stratify disease severity.

The decision is debatable [19]. If the perforation of a Jejunoileal causes only localized peritonitis and the patient remains stable, medical management with intravenous antibiotics, bowel rest and percutaneous CT-guided collection aspiration may be suitable and avoids the need for surgery [15]. For patients with peritonitis not responsive to non-surgical treatment, and for those with generalized peritonitis, the treatment of choice is prompt laparotomy with intestinal resection and primary anastomosis [16]. Resection may have to be limited to include only the segment containing the perforated diverticulum in order to prevent recurrences and short bowel syndrome [3]. Diagnostic laparoscopy can result in avoiding unnecessary laparotomies.

In the end, the period between clinical presentation and diagnosis seems to be the biggest determinant of prognosis [17].

4. Conclusions

Non-Meckel's small intestinal diverticulitis is a rare pathology and usually is a disease of the elderly. The case report describes an even rarer case of perforated ileal diverticulum in a young healthy man. Due to the evidence of generalized peritonitis and quickly deteriorating clinical parameters, the treatment of choice was intestinal resection of the segment containing only the perforated diverticulum, and primary anastomosis by open access. A laparoscopic surgery was possible, but the operator chose open surgery because of its skill, safety, and long-life expectancy of the young patient.

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