

C A S E R E P O R T

Jejunal diverticulitis: things to know to prevent diagnostic mistake

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Abstract. The jejunal diverticula are relatively rare. A female patient was admitted at our emergency department with acute abdominal pain and vomiting. CT-scan of the abdomen showed multiple diverticula in the colon and multiple intra-abdominal fluid collections, also in the left quadrants of the abdomen. Free intraperitoneal extraluminal air was also observed, suggesting bowel perforation. Surgical exploration showed multiple diverticula of the jejunum with a perforated jejunal diverticulum extending approximately 10 cm from ligament of Treitz. Jejunal resection was performed. Jejunal diverticulitis is rare, but it can lead to an acute abdomen increasing mortality especially in elderly patients. Jejunal diverticulitis usually starts with features that mimic colonic diverticulitis. In patients with personal history of colonic diverticulosis and suspected diverticulitis, jejunal or ileal diverticulitis must be excluded occurring with a frequency of 2.3% in patients with known diverticulosis. In absence of pathognomonic colonic diverticulitis CT findings, small intestine acute complicated diverticulitis should be always suspected. In complicated jejunal diverticulitis surgical treatment is mandatory and a laparotomy can be needed for a better management. (www.actabiomedica.it)

Key words: Diverticulitis, Small Bowel, Jejunal, Diagnosis, Management

Introduction

The diverticula of the small intestine, as well as those of the large intestine, are usually acquired and consist in the herniation of mucosa and submucosa through the muscular layers (1). The stasis of the intestinal content and the edema of the collar, which favors the growth of bacteria, are the main pathogenetic mechanisms for the diverticula's formation. (1) First described by Soemmering and Baille in 1794, (2) jejunal diverticula are relatively rare and their prevalence ranging from 0.3 to 6% (3, 4) with a peak in incidence generally occurring after the age of 60. (3, 5, 6) They rarely occur in patients under 40 years of age (7). Diverticula of the small bowel are more frequent in the duodenum while the rarest are those in the ileum (8).

Often small bowel diverticula may remain asymptomatic or may manifest with nonspecific symptoms such as abdominal pain, vomit, malabsorption, which make diagnosis difficult. Complications are reported in 10 to 30% of patients and are mainly represented by bleeding and perforation. (1, 9, 10)

Case Presentation

A 54-year-old woman, without any underlying comorbidity, was admitted to our department with acute abdominal pain and vomiting. At presentation, physical exam showed normal vital signs and left quadrants abdominal tenderness, without peritoneal signs. Laboratory tests revealed mild leukopenia

(white blood cell count $2.93 \times 10^9/L$ - normal range $4.0-10.0 \times 10^9/L$) and elevated INR (INR 1.30; INR ratio 1.32 - normal range 0.86-1.14). Ultrasound of the abdomen revealed multiple fluid collections with free abdominal fluid, a bigger fluid collection in the Douglas pouch (60 x 100 mm) and a fluid collection in Morrison's one. CT-scan of the abdomen showed multiple diverticula in descending and sigmoid colon with distension. It confirmed the presence of multiple intra-abdominal fluid collections, in particular one with air bubbles (67 x 102 mm) in the left quadrants of the abdomen, close to splenic flexure and descending colon, and another in the Douglas (60 mm). Free intraperitoneal extraluminal air was also observed, suggesting bowel perforation. (Fig. 1-2) This clinical and radiological presentation was suggesting for perforated diverticulitis. Exploratory laparoscopy was performed and generalized purulent peritonitis was found. Peritoneal toilette, pus aspiration and washing of any abdominal cavity with a low-flow irrigation were performed but no signs of colonic diverticulitis were found. Laparotomy was required and during exploration, multiple diverticula on the mesenteric border of the jejunum were discovered. A perforated jejunal diverticulum extending approximately 10 cm from ligament of Treitz was found (Fig. 3). Isolation and resection of the single diverticulum was difficult and dangerous due to the onset of jejunal edema and venous stasis and we were forced to perform a jejunal resection including all di-

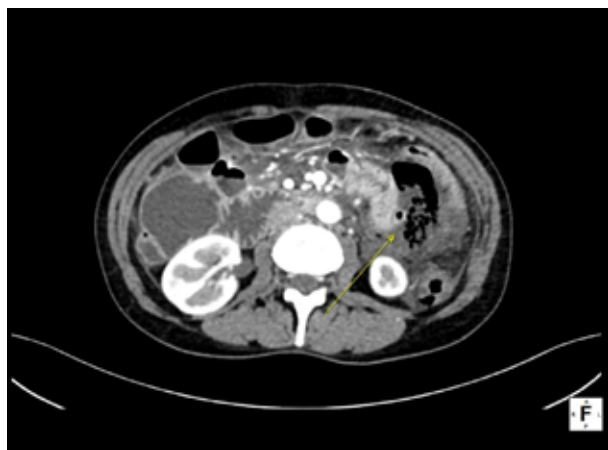


Figure 1. CT-scan of the abdomen revealed abdominal fluid collection with air bubbles (67 x 102 mm) in the left quadrants of the abdomen, close to splenic flexure and descending colon.



Figure 2. CT-scan of the abdomen coronal reconstitution revealed the abdominal fluid collection with air bubbles (67 x 102 mm) in the left quadrants of the abdomen.

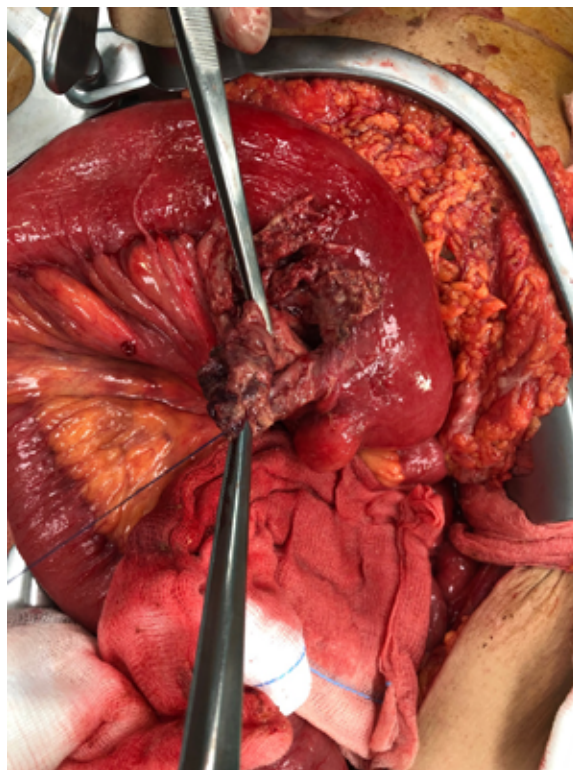


Figure 3. Perforated jejunal diverticulum extending approximately 10 cm from ligament of Treitz.



Figure 4. Jejunal resection including all diverticula.

verticula (80 cm) with a 2-layer functional side-to-side jejuno-jejunal anastomosis (Fig. 4). The postoperative course was uneventful.

Discussion

In patients with personal history of colonic diverticulosis and suspected diverticulitis, jejunal or ileal diverticulitis must be excluded. It occurs with a frequency of 2.3% in patients with known diverticulosis. Jejunal diverticulitis often does not show pathognomonic signs or specific symptoms and it usually starts with features that mimic colonic diverticulitis. In the diagnosis, the abdominal ultrasound and radiography are generally used as the first line. US is very non-specific and operator dependent while abdomen x- is more useful in identifying perforation or occlusive patterns. Ct-Scan is the gold standard, and it can be useful in differential diagnosis and can show the presence of out-pouching lesions with thickened walls, more prominent on the mesenteric side of the bowel. CT findings may include inflammation, abscess and edema of the surrounding fat or fascial planes. The presence of a diverticulum associated to a nearby gas-containing mass is suggestive of small-bowel diverticulitis (8, 11). CT scan is helpful for jejunal diverticulitis diagnosis, evaluating its extent and complications. It provides to exclude perforated neoplasms, IBD and mostly complicated colonic diverticulitis (5, 9). Clinical presentation, with abdominal pain that mimics acute colonic

diverticulitis, in absence of pathognomonic CT findings, should be carefully evaluated and small intestine acute complicated diverticulitis should be always suspected in case of non-diriment CT findings. The treatment of choice for perforated jejunal diverticulitis is the resection of the involved area, with primary jejunojunal anastomosis (6). Exploratory laparoscopy can be especially useful in those patients with complicated symptoms without a conclusive diagnosis but in the presence of a certain diagnosis of perforation, an exploratory laparotomy could guarantee a better management of the complications and a better washing of the peritoneal cavity. In the case of isolated collections in stable patients, CT-guided drainage can be useful. In these case, collection's suction plus antibiotic treatment can avoid surgery. (12) Sometimes an unstable patient or a diffuse peritonitis can force the surgeon to perform a jejunostomy. (1)

Conclusion

While jejunal diverticulosis can remain asymptomatic, Jejunal diverticulitis is rare, but it can lead to an acute abdomen increasing mortality especially in elderly patients. CT-scan is the gold standard and is a very useful in the diagnosis, in the evaluation of extent and complications and can help in differential diagnosis with colonic diverticulitis. Although for smaller collections and in stable patients there are some non-surgical alternatives, in complicated jejunal diverticulitis, surgical treatment is mandatory, and a laparotomy can be needed for a better management.

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