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Case Report

Giant colonic diverticulum: atypical manifestation of diverticular disease

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ABSTRACT

Giant Colonic Diverticulum (GCD) is a rare complication of a common disease, in which the symptomatology is nonspecific and whose diagnosis is essentially made by CT scan. A surgical ressection is the recommended treatment in order to avoid perforation or other complications. We present a case of a 74-year-old woman who went to the emergency department with complaints of intestinal obstruction and acute abdomen. An abdominal computed tomography (CT) revealed a mesenteric collection with 60 mm and air-fluid level compatible with an abscess, adjacent to a small bowel loop. An emergency laparotomy was performed, which revealed a cystic formation of 6 cm in the antimesentery border, dependant of the sigmoid colon, which was resected en bloc with the adjacent colon. The specimen classified it as type 2 diverticulum. The patient was discharged after a normal postoperative period.

Keywords: Giant colonic diverticulum, Diverticular disease, Computed tomographic

INTRODUCTION

GCD is defined as na atypical manifestation of diverticular disease, which can reach diameters greater than 4 cm and mostly involve the sigmoid colon.[1,2] The clinical presentation can range from asymptomatic forms to acute forms with severe complications. Surgical resection is recommended given its propensity for intra-abdominal complications.

We report a case of a 74-year-old woman, who was admitted in the emergency department with acute abdominal pain, nausea and constipation, with an acute abdomen. The patient underwent urgent surgery, where a cystic formation was detected in the antimesentery border, depending on the sigmoid colon. Segmental colectomy with primary anastomosis was performed and no complications were reported.

CASE REPORT

A 74-year-old woman presented to the emergency department with a 2-day history of diffuse abdominal pain (with greater intensity in the epigastrium) associated with nausea and constipation, without fever or any other complains. She had a medical history of arterial hypertension, dyslipidemia, rheumatica polymyalgia and she had had a hysterectomy 35 years ago. Physical examination showed a distended abdomen, diffusely painful on palpation, with a positive Blumberg sign, no hernias. Digital rectal examination presented no changes. She was hemodynamically stable. Blood tests revelead leukocytosis of 15x109/l and C reative protein of 15mg/dl. Abdominal X-ray with loop of central small bowel with air-fluid level (AFL) (Figure 1). Due to persisting complaints, CT was performed, which revealed a mesenteric collection with 60mm and AFL compatible with an abscess, adjacent to a small bowel loop (Figure

2). The patient, after informed consent, was submitted an urgent surgery. A laparotomy was performed and a cystic lesion, at the antimesenteric border of the sigmoid colon, was found. It was associated with an extensive diverticulosis of the sigmoid colon. A segmental colectomy with primary anastomosis was performed (Figure 3 (A and B)). The anatomopathological report revealed diverticulitis of the sigmoid colon, with associated diverticulosis. DGC was classified as type 2 in the McNutt Classification. The postoperative period was normal, no incidents to report. At the reassessment consultation, the patient remained asymptomatic, without evidence of recurrence.

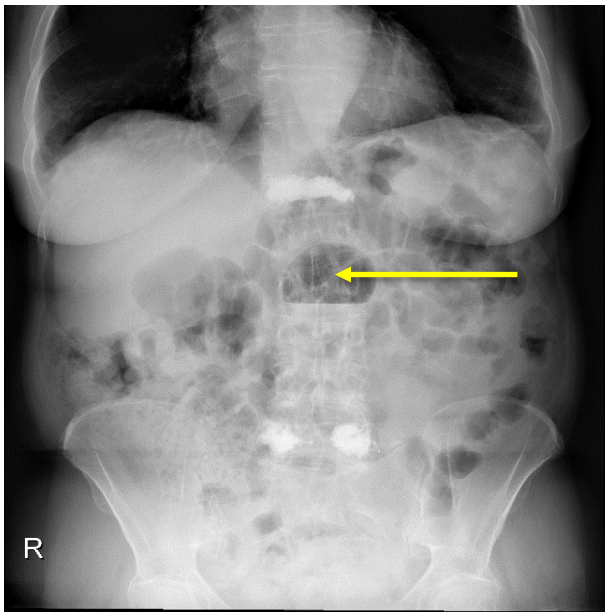

Figure 1: abdominal x-ray showed loop of central small bowel with air-fluid level (yellow arrow) (anteroposterior view)

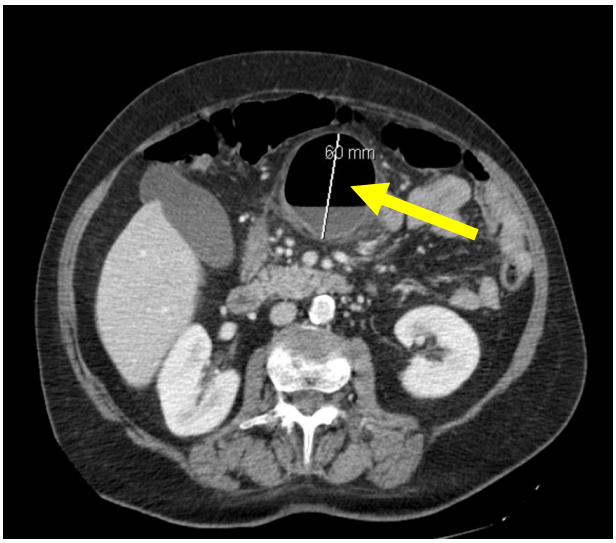

Figure 2: CT revealing abscess with 6cm adjacent to the small bowel loop (axial view)

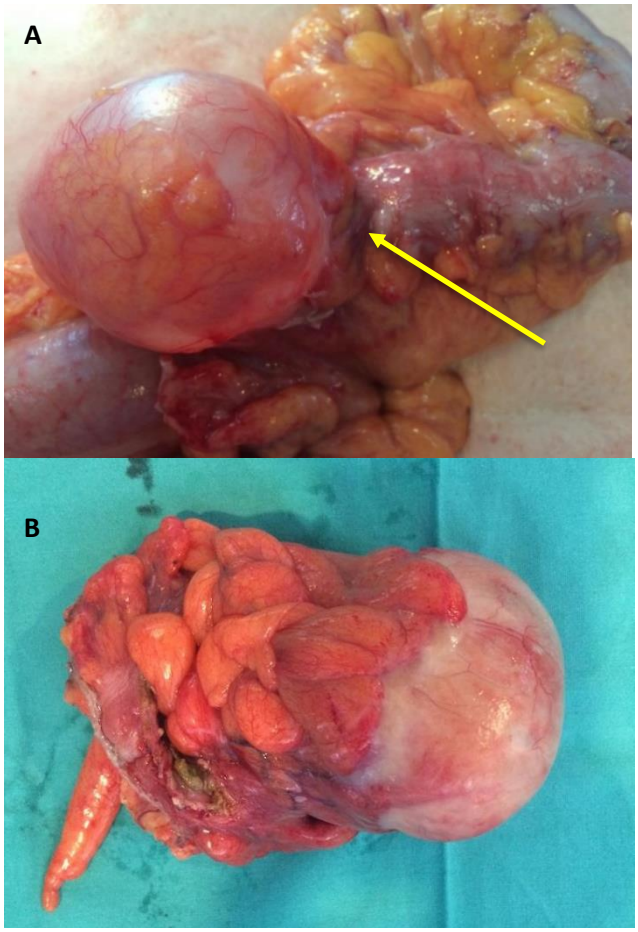

Figure 3 (A and B): Surgical resection specimen showing the giant diverticulum at the antimesenteric border (yellow arrow)

DISCUSSION

GCD is a rare form of colonic diverticulosis. It´s defined as a diverticulum larger than 4 cm and usually full of stool and gases, which communicate with the colonic lumen.[1,2] It arises mainly in the antimesenteric border, involving the sigmoid colon in about 90% of cases and is frequently associated with colonic diverticulosis.[3] GCD equally affect both genders and usually presents during the 7th and 8th decades of life.[2,4]

According to McNutt, GCD can be histologically classified into three types of diverticula, which exist since 1988.[5] Type I accounts for about 22% of diverticula and is a pseudodiverticulum with an out-pouching of mucosa and submucosa that protrudes through a defect in the colonic wall. Type 2, which is the most common (about two-thirds of cases), is secondary to subserosal perforation, with subsequent formation of a walled-off abscess that gradually increases in size, where the wall only contains scar-tissue.[4,6] Type 3, is the rarest of all (only found in 12% of cases) and is a true diverticulum that contains all four bowel layers and is most likely to have a congenital origin.[7]

The clinical presentation can be very variable and the symptomatology is nonspecific. Some are asymptomatic (about 10%), others discover DGC accidentally, others have mild symptoms, and others have exuberant acute symptoms, which may be associated with complications. Abdominal pain is the most common symptom, present in 70% of patients, however, they may also experience constipation, abdominal mass, vomiting, diarrhea, and rectal bleeding.[3,4]

The most common complications of CGD are perforation and abscess formation. On the other hand, the less common are peritonitis (secondary to perforation), intestinal volvulus, intestinal obstruction, lower gastrointestinal bleeding, lymphoma or adenocarcinoma arising in the diverticulum.[8,9]

Given the rarity of this entity and its clinical presentation being very variable and nonspecific, the diagnosis of GCD essentially depends on imaging findings. It is essential to know the imaging characteristics (namely CT) so that there are no misdiagnosis and thus avoid potential complications. CT is the best method for making the diagnosis, however, abdominal X-Ray remains useful as first-line exam. Colonoscopy is rarely used because of the risk of perforation. CT reveals a diverticulum as a cavity filled with gas, fluid or stool and sometimes calcifications in chronic conditions. Usually there is no contrast enhancement unless active inflammation is present.[10]

The differential diagnosis (in terms of imaging tests) should include: intestinal volvulus, abdominal duplication cyst abscess, Meckel's diverticulum, duodenal diverticula, infected pancreatic pseudocyst and pneumatosis cystoides intestinalis.[11]

The preferred and definitive treatment of GCD is a segmental colectomy with en-bloc diverticular resection and primary anastomosis. Hartmann's operation may be required in high-risk patients, severe sigmoid diverticulitis or urgent surgery. Medical treatment is not recommended due to the high risk of perforation or risk of developing carcinoma. Diverticulectomy is another treatment option, although it is little used.[4]

In this case, the patient presented with clinical intestinal obstruction and abdomen with signs of peritoneal irritation, with CT showing a 6cm abscess adjacent to a small bowel loop. Taking into account the clinical picture, it was decided to perform an urgent surgical intervention–segmental colectomy with en-bloc diverticular resection with primary anastomosis. GCD was classified as type 2 in the McNutt Classification.

CONCLUSION

Giant colonic diverticulum are rare entities that can cause significant abdominal complications as perfuration, abscess formation, intestinal obstruction. When they are identified, they should be resected, as soon as possible, to avoid these complications. As demonstrated in this case, en-bloc resection of the diverticulum with the adjacent colon is the recommended treatment, with good results.

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