Dear Editor,

We present the case of a 67-year-old male with medical history of umbilical hernial surgery, who was admitted to the emergency department with a one-day history of intense epigastric pain.

Preliminary exploration showed abdominal distension painful in upper quadrants, which was severe and associated to tenderness in epigastric region. Early blood tests showed a white blood cell count of 14,700x10⁹/L and neutrophilia.

An abdominal computed tomography (CT) was requested, which showed a not-enhanced intestinal loop with thickened walls in supramesocolic region. The adjacent mesentery vessels were twisted (Fig. 1A). With the suspicion of intestinal ischemia secondary to internal hernia, the patient was transferred to the operating room.

Surgical exploration revealed an axially torsioned gangrenous Meckel’s diverticulum (MD). This saccular structure had 17-cm length (Fig. 1B). The MD was resected including the 5 cm surrounding intestinal loop, also ischemic, and an end-to end manual anastomosis was performed. The exploration of the abdominal cavity revealed no other relevant findings. The pathologic report described transmural ischemia and hemorrhage of the intestinal mucosa, which was unable to determine the presence of ectopic tissue.

Discussion

MD is the most common congenital abnormality of the gastrointestinal tract (1) having a prevalence of 1-4% (2). It results from incomplete involution of the most proximal portion of the omphalomesenteric duct during the week 5-7 of fetal development (3). In 50-60% of cases, the mucosa contains ectopic gastric epithelium (4). MD is found on the anti-mesenteric border of the ileum, located within 90 cm of the ileocecal valve. The size is variable, but is defined as a giant when it exceeds 5 cm in length (5).

Due to diverticulum’s symptoms arise usually in complication’s development, carriers usually remained asymptomatic throughout their lives. The estimated incidence is around 16%, and is more frequent in males (2:1) (6). The most common complication is lower gastrointestinal bleeding (25-50%), which preferentially occurs in childhood. Second in frequency is the intestinal obstruction (25-40%), which is the most common presentation in adults. Other complications are: Diverticulitis, diverticular perforation or enteroliths in diverticular lumen (7).

Fig. 1. A. Abdominal computed tomography (CT): A not-enhanced intestinal loop with thickened walls in supramesocolic region (white arrow). B. Axially torsioned gangrenous MD, 17-cm of length. Intestinal bowel near the MD (dashed line).
Axial torsion of a MD is a rare complication. Preoperative diagnosis is difficult because the clinical presentation may be indistinguishable from other causes of abdominal pain, like appendicitis or pancreatitis. In our patient, length of the diverticulum produced the pain’s atypical location in the epigastrium.

The optimal surgical approach is on debate. Some authors preferred the resection of intestinal loop containing the MD, although other performed a simple diverticulectomy. This last has less complication rates in relation to wound infection, mechanical ileus or stenosis (8). In this case, we carry out a small bowel resection including the diverticulum, because the intestinal bowel near the MD was also ischemic.

MD torsion can produce severe vascular obstruction and secondary diverticular gangrene (9), and despite being a rare entity, this should be considered in the differential diagnosis of patients with clinical symptoms of acute abdomen. Although this complication has been reported, to the best of our knowledge this extreme size of MD has not been described previously, and that caused the atypical presentation. Early diagnosis and surgical treatment lead to the successful outcome.

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References