

Strangulated Pericaecal Hernia Causing Small Bowel Obstruction: Rare Case Report

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Abstract

Case Report

Pericaecal hernia is a very uncommon type of internal hernia. It is a rare cause of intestinal obstruction. Early diagnosis and treatment are essential to avoid strangulation and necrosis of the incarcerated small bowel. We herein report the case of a 91-year-old patient, with no history of prior surgery, who presented to the emergency department of our hospital for an obstruction of the small bowel caused by a pericaecal hernia. An emergency surgery permitted a successful reduction and cure of the hernia.

Keywords: Pericaecal hernia, diagnosis and treatment, surgery, patient.

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INTRODUCTION

Internal hernias are defined by the protrusion of abdominal viscera through a normal or abnormal peritoneal or mesenteric aperture within the confines of the peritoneal cavity [1]. Pericaecal hernias, also known as paracaecal hernias, are an exceptionally rare type of internal hernia [2]. They are an unusual cause of small bowel obstruction with an incidence of 0.5 to 5.8% [3]. Only few cases have been reported in literature due to its uncommon presentation and non-specific symptoms [4]. Abdominal computed tomography (CT) plays an important role by informing if the obstruction is partial or complete, its location and helps determine surgical management [5].

Once the diagnosis is retained, treatment consists of immediate surgery to prevent severe complications such as intestinal constriction and necrosis [6]. We present the case of a pericaecal hernia causing intestinal obstruction in a 91-year-old patient, which was successfully resolved with an urgent surgical approach.

CASE REPORT

A 91 years old patient, with a medical history of ischemic cardiopathy under treatment and without any prior abdominal surgery, presented to the emergency department after 2 days of abdominal pain and vomiting. Clinical examination found a conscious patient, his vital signs were within normal limits: normal body temperature at 37.4°C, a pulse rate of 92 beats per minute, blood pressure of 110/ 60 mmHg and normal respiration. The abdomen was slightly distended and tympanic with a tenderness in the right lower abdomen, no abdominal mass or wall hernias were visible or palpable.

Laboratory test showed a mild functional renal failure (blood urea 0.89 g/ L; creatinemia: 16 mg/ dL). The radiography of the abdomen without preparation showed the presence of hydro aeric grelic levels. The abdomino-pelvic CT scan with injection of the contrast product revealed the presence of a closed loop grelic occlusion at the right iliac fossa, the small bowel handles embedded latero-cecally displacing the caecum inwards in favor of a pericaecal hernia. No signs of arteriovenous mesenteric ischemia were found.

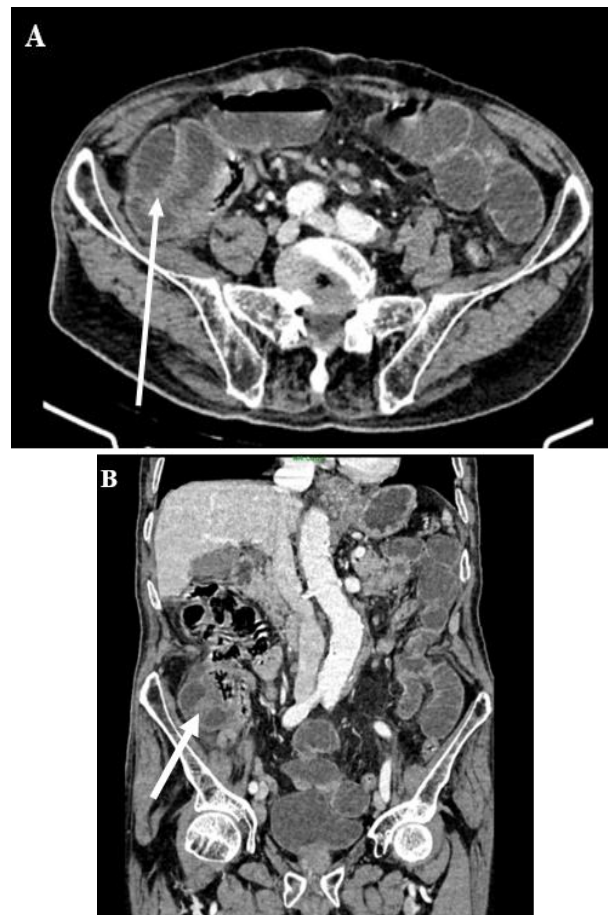


Figure 1 (A + B): Axial (A) and coronal (B) CT scans after injection of contrast product showing: a significant distension of ileal loops upstream of a zone of caliber disparity at the level of the right iliac fossa, the caecum being displaced inwards by these distended small bowel loops

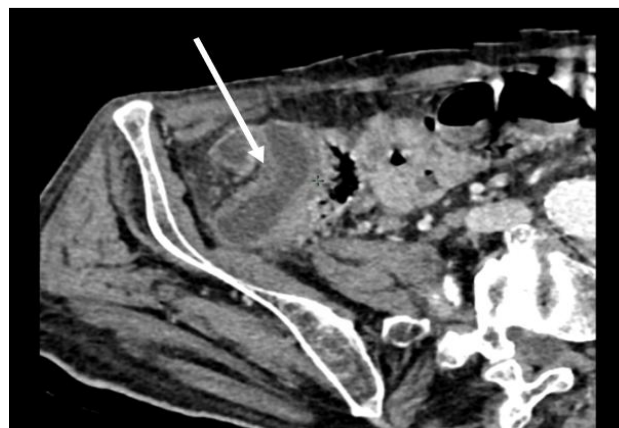


Figure 2: Oblique CT reconstruction of the right iliac fossa showing clearly the small bowel handles embedded latero-cecally displacing the caecum inwards

The diagnosis of a mechanical small bowel obstruction with a transition point in the distal ileum in the right iliac fossa being retained, the patient was admitted to the emergency operating room. At the surgical exploration, the small intestine was dilated with presence at the pericaecal area of two ileum loops sitting next to each other, one was dilated and ischemic while the other was collapsed in favor of a small loop obstruction by strangulation through an internal

pericaecal hernia (Figure 1), the neck of the hernia measuring approximately 3 cm (Figure 2). The reduction of the hernia was easily achieved by gently pulling on the collapsed loop, showing a congested but viable grelic loop and so, no resection was performed. We proceeded with a cure of the hernia by collapsing the hernial sac with a coloepiploic detachment thus enlarging the paracaecal sulcus to avoid recurrence.

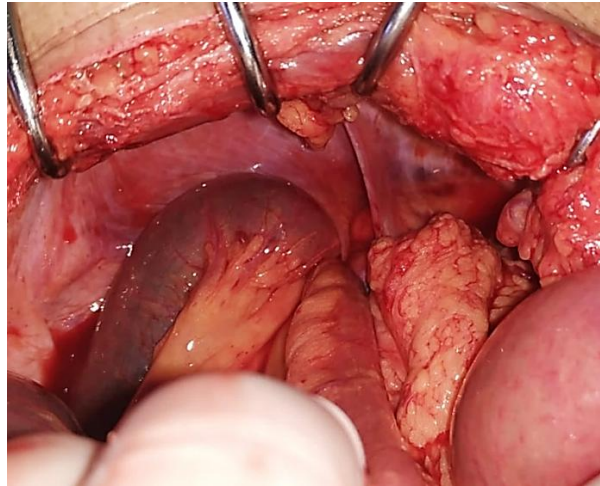


Figure 1: Intraoperative image showing the transition point between the distended and collapsed loops of ileum. Before reducing it, the transition point occupied the lateral paracaecal space through a peritoneal defect

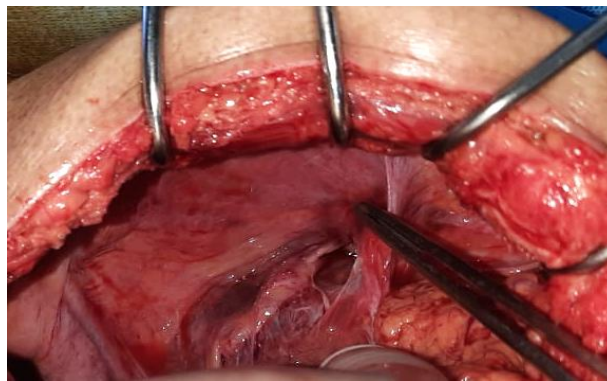


Figure 2: Intraoperative image showing a peritoneal defect through the parietocaecal fold

DISCUSSION

Internal hernias are protrusions of a viscus through a peritoneal or mesenteric aperture within the peritoneal cavity [1]. Pericaecal hernia being a type of internal hernias (13%) [1] with a reported incidence of 5.8% of all small bowel obstructions [7]. It is produced by a defect in the peritoneum next to the caecum resulting from alterations in the normal process of intestinal rotation during embryonic development. This includes budding, exteriorization into the umbilicus and subsequent retraction on the posterior abdominal wall, which usually predisposes the pericaecal fossa to the formation of a number of pockets or recesses [8]. Although internal hernias may have a congenital etiology, most of the reported cases have occurred in adulthood and presentation in childhood is uncommon [9]. The most common types of internal hernias in children are paraduodenal and transmesenteric hernias [10]. Anatomically, pericaecal hernias can occur in one of the following spaces: the superior ileocaecal recess, inferior ileocaecal recess, retrocaecal recess and paracolic sulci (Figure 3) [11]. The most common site for pericaecal hernias is the retrocaecal fossa, with a reported incidence of 74% of all pericaecal hernias [12]. In our patient, the pericaecal hernia was due to herniation of the ileum through a congenital defect in the paracaecal sulcus (D).

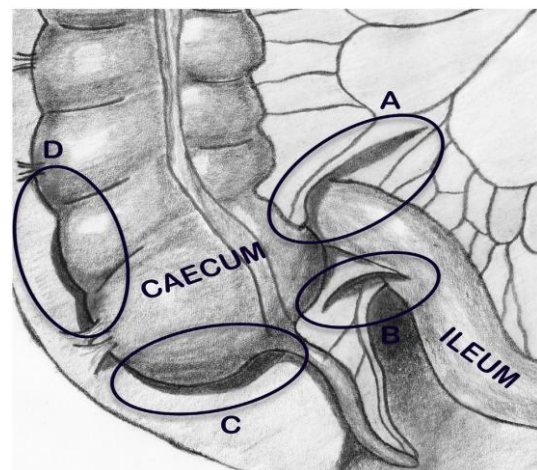


Figure 3: Location of the four types of pericaecal hernias: the superior ileocaecal recess (A), inferior ileocaecal recess (B), retrocaecal recess (C) and paracaecal sulcus (D) [11]

Clinically, internal hernias can be either asymptomatic, or cause significant discomfort ranging from constant vague epigastric pain to intermittent colicky periumbilical pain [13, 14]. Additional symptoms include: nausea, vomiting and recurrent intestinal obstruction [13, 15, 14, 16]. The severity of symptoms is related to the duration and reducibility of

the hernia and whether or not incarceration or strangulation is present [17].

Patients with pericaecal hernia typically present with the usual features of bowel obstruction (pain, vomiting, distension) and the diagnosis is usually made with CT [18].

CT plays an important role for the assessment of intestinal obstruction and acute abdominal diseases [19] and has become the first-line imaging technique in patients with suspected internal hernia. The CT findings in pericaecal hernia include an encapsulated cluster of dilated small bowel loops interposed between the caecum, the abdominal wall, and mesenteric vessels converging toward the entrance of the hernia [20]. CT also gives the information to diagnose the types of pericaecal hernia: a lateral shift of the ascending colon in internal type and an anterior shift in retrocecal recess type [21].

While operative management has traditionally been with open procedures (as was the case presented here), successful laparoscopic management has also been described with reduced morbidity [12, 22].

Radical treatment for internal hernia is urgent surgery. Reducing the constriction is the first step when intestinal ischemia is suspected. Secondly, opening or closing the hernial orifice is mandatory to prevent recurrence, although it is controversial whether the orifice should be left open or closed [23]. In our case, we opted for the opening technique, so we enlarged the paracaecal sulcus to avoid recurrence.

More recent systematic reviews comparing laparotomy and laparoscopy for small bowel obstruction revealed that laparoscopy has a lower morbidity, a shorter postoperative hospital stay and a faster return of bowel function. They concluded that laparoscopy is a feasible alternative to laparotomy for acute small bowel obstruction when performed by experienced surgeons [24].

CONCLUSION

Although pericaecal hernia is a rare cause of intestinal obstruction. This condition should be considered in any occlusion that occurs in the absence of a history of surgery because of its rapid progression to strangulation and necrosis.

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