

Paracaecal hernia: a case report on the evolving role of laparoscopy



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ABSTRACT

A paracaecal hernia, a type of pericaecal hernias, is a rare cause of small intestinal obstruction. Failure of early recognition and reduction of this type of internal hernia may lead to strangulation of the herniated intestine. There has been a number of case reports in the literature about the different types of pericaecal hernias, however the anatomy of these hernias is still poorly understood and the management is still evolving.

We are presenting a 75 year old woman, who presented clinically and radiologically with distal small intestinal obstruction. Her past medical history was unremarkable and she had no prior abdominal surgery. After resuscitation, she was taken to the operating theatre for a diagnostic laparoscope, which showed a herniated loop of ileum through a congenital defect in the parietocaecal fold. Reduction of that loop and closure of the peritoneal defect were achieved laparoscopically. Following the procedure, the patient recovered very quickly and she was discharged home within 48 h of her initial admission.

Patients with pericaecal hernias tend to present with symptoms of distal small intestinal obstruction. The presence of localised peritonism in the right iliac fossa usually indicate strangulation and that should prompt an urgent surgical intervention.

In summary, based on our case, excellent results were achieved from early laparoscopic intervention. Therefore, we recommend early laparoscopy for patients presenting with small intestinal obstruction with no history of abdominal surgery.

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A 75 year old woman presented to the Emergency Department with a 3 day history of abdominal distention, colicky abdominal pain and obstipation. These symptoms were associated with nausea, but no vomiting. Her past medical history was unremarkable and she had no prior abdominal surgery. On examination, her vital signs were within normal limits and the abdomen was distended with mild generalised tenderness. Her blood tests were unremarkable. She underwent computed tomography (CT) scans of the abdomen and pelvis which showed multiple dilated small intestine loops with air fluid levels that measured up to 3.5 centimetres in diameter. Additionally, collapsed loops of distal ileum were noted (Fig. 1). These clinical and radiological findings were consistent with mechanical small bowel obstruction with a transition point in the distal ileum in the right iliac fossa.

The patient was commenced on intravenous fluids (IVF) and the gut was decompressed proximally via a nasogastric tube (NGT). She was taken to the operating theatre shortly afterwards for operative management. Under general anaesthesia, a 12 mm port was inserted in the infraumbilical region via open Hasson technique and two extra 5 mm ports were inserted into the left upper and lower quadrants. The small intestine was found to be dilated. On

examining the pericaecal area, two loops of ileum were identified sitting next to each other, one was dilated and the other was collapsed. Reduction was achieved by gently pulling on the collapsed loop. Undoubtedly, a loop of ileum had been in the lateral paracaecal sulcus through a 3 centimetres defect in the parietocaecal fold (Fig. 2). The incarcerated small intestine loop was congested but was otherwise viable and as a result, no resection was performed. The peritoneal defect was closed using a continuous 3/0 Polydioxanone (PDS) suture (Fig. 3).

On day 0, the patient remained nil per mouth. Her nasogastric tube (NGT) was kept on free drainage and she was kept on IVF. On day 1, the NGT was removed and the patient was started on free fluids and on day 2 the patient's diet was upgraded to diet as tolerated and she was discharged from the hospital. She was reviewed in the outpatient clinic 4 weeks after surgery and was found to have made a full recovery.

Internal hernias are defined as the protrusion of a viscus through a normal or abnormal peritoneal or mesenteric aperture within the peritoneal cavity. Pericaecal hernias form about 13% of all internal hernias [1]. They are a rare cause of small intestinal obstruction [2].

Anatomically, pericaecal hernias can occur in one of the following spaces: the superior ileocaecal recess, inferior ileocaecal recess, retrocaecal recess and paracolic sulci (Fig. 4) [3]. The paracaecal hernia that we are describing was due to herniation of the ileum through a congenital defect in the parietocaecal fold.

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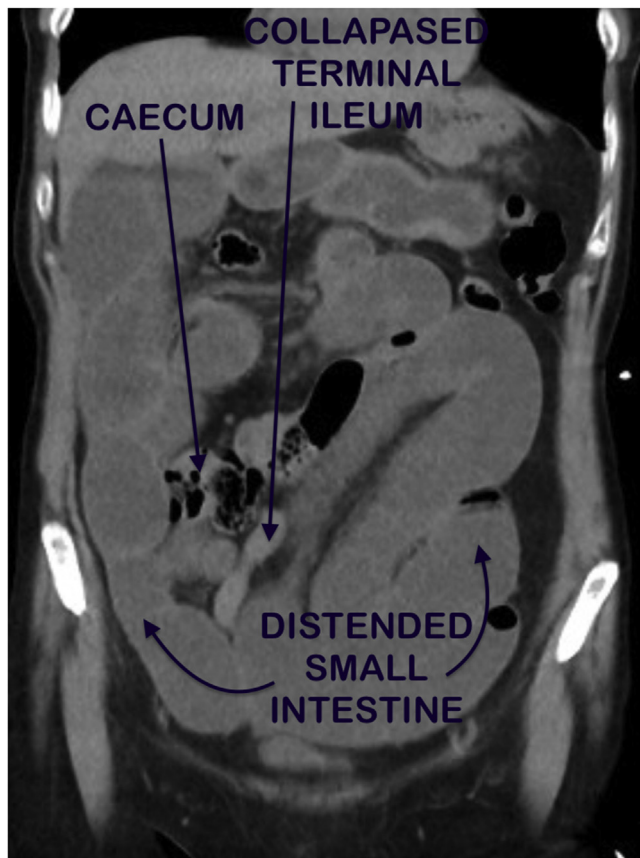


Fig. 1. A coronal section of CT scan of the abdomen and pelvis showing multiple dilated small intestine loops in association with collapsed terminal ileum.

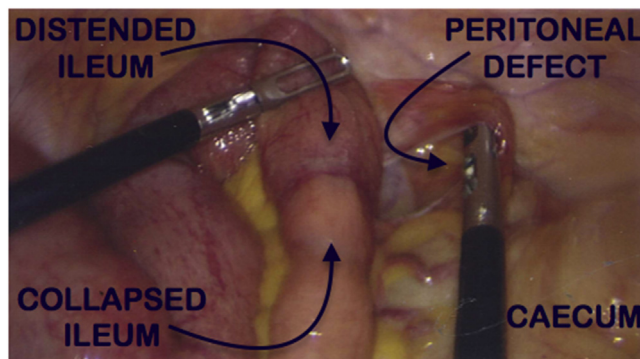


Fig. 2. A laparoscopic image showing the transition point between the distended and collapsed loops of ileum. Before reducing it, the transition point occupied the lateral paracaecal space through the peritoneal defect.

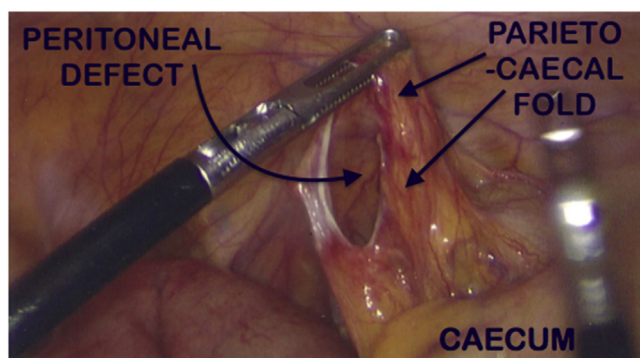


Fig. 3. A laparoscopic image showing a peritoneal defect through the parietocaecal fold.

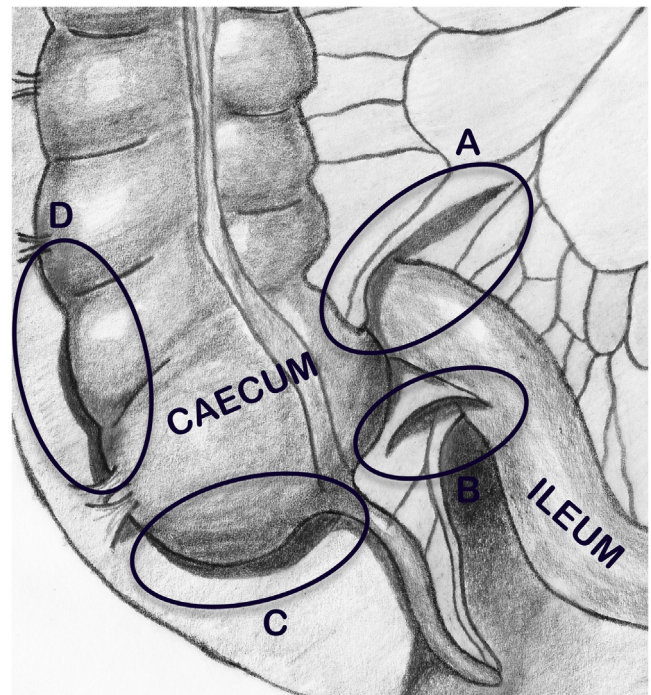


Fig. 4. A diagram showing the locations of the four types of pericaecal hernias: the superior ileocaecal recess (A), inferior ileocaecal recess (B), retrocaecal recess (C) and paracaecal sulcus (D).

Patients with pericaecal hernias tend to present with symptoms of distal small intestinal obstruction. The presence of localised peritonism in the right iliac fossa usually indicate strangulation, a condition that requires an urgent surgical intervention. In CT examination, pericaecal hernia can be diagnosed with high certainty if there is dilatation of small intestine loops with transitional zone adjacent to the cecum or oedematous small bowel located lateral to the cecum [4].

The principles of surgical approach for internal hernias includes reduction of the herniated intestinal contents, resection of any necrotic segments and closure of the hernia defect [5]. There is a move towards laparoscopic diagnosis and management of paracaecal hernias. Laparoscopic treatment for paracaecal hernia was reported 13 years ago [6], but has since been reported more frequently in recent years, especially in Japan. [7,8].

In summary, paracaecal hernias are rare, yet they can rapidly lead to strangulation and a high index of suspicion is essential to avoid this complication. Based on our case, excellent results were achieved from early laparoscopic surgery, which served both as a diagnostic and therapeutic intervention. Therefore, we recommend early laparoscopy for patients presenting with small intestinal obstruction with no history of abdominal surgery.

PS: We, the authors, declare not conflict of interest.

PS: 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.

PS: This work has been reported in line with the SCARE criteria [9].

Conflicts of interest

The authors declare no conflict of interest.

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None.

Ethical approval

Patient consent has been obtained.

Author contribution

Ammar Tayaran: writing the case.
Haider Abdulrasool: literature review.
Hai Bui: supervising consultant.

Consent

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

Registration of research studies

The case was registered with the hospital.

Guarantor

Dr Ammar Tayaran and Mr Hai Bui.

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