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Internal Hernia through an Ovarian Cyst: Another Anatomical Particularity

Sawadogo Yamba Elie[1*], Maïga Check Abdoul Fatao[2], Sam Aristide[2], Kambou Ollo[2], Ouédraogo Ida[2], Sanou Yves[2], Savadogo Julien[2], Kafando Roch[2], Ouangré Edgar[2]

[1]CHRU Fada N'Gourma, Fada N'Gourma, Burkina Faso
[2]CHU Yalgado OUEDRAOGO, Ouagadougou, Burkina Faso
Email: *elicomfr@yahoo.fr

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Abstract

The authors describe a rare case of small-bowel obstruction caused by an internal hernia through a right ovarian cyst in a 52-year-old woman. Pre-operative CT suggested obstruction with a co-existing ovarian cyst, and laparotomy confirmed an incarcerated, perforated ileal loop that required wedge resection and cystectomy. The patient recovered uneventfully and was discharged on postoperative day 4. The report highlights an exceptional anatomical route for internal herniation and underscores the value of imaging for early suspicion.

Keywords

Internal Hernia, Ovarian Cyst, Intestinal Obstruction

1. Introduction

Acute intestinal obstructions caused by internal hernias are rare [1]. They are most often diagnosed intraoperatively [2]. There are many anatomical forms of internal hernias, some of which are very rarely reported. However, knowledge of the different types of internal hernias is essential for making a preoperative diagnosis [3]. An internal hernia through the opening of an ovarian cyst is an exceptional form of internal hernia. We report a case of internal hernia through an ovarian cyst treated in the general and digestive surgery department of the Yalgado Ouédraogo University Hospital Center (CHU-YO) in Burkina Faso in order to contribute to the knowledge of the clinical characteristics of this entity.

2. Observation

A 52-year-old female patient was admitted to the visceral emergency department

of the general and digestive surgery unit at the Yalgado Ouédraogo University Hospital Center in Burkina Faso on September 25, 2023, at around 4 pm, with moderate abdominal pain of the torsion type that had been developing for eight days. Initially localized in the hypogastric region, the pain spread throughout the abdomen. It was accompanied by constipation, gas retention, and vomiting. The patient had no history of surgery, no abdominal or pelvic trauma, and no gynecological or obstetric disorders. The physical examination on admission revealed an occlusive syndrome consisting of diffuse abdominal distension, elastic resistance to palpation, diffuse tympanism, and auscultatory silence. The parietal hernial orifices were free. A rectal examination revealed a smooth, painless anterior mass. A vaginal examination revealed a firm, painful mass on the right side of the uterus, separated from the uterus by a groove.

An abdominal X-ray without preparation showed hydroaerial levels of the small intestine type with no aeration of the rectum (Figure 1). Abdominal and pelvic CT scans revealed distension of the small bowel loops, hydro-air levels that were wider than they were high, consistent with acute mechanical small bowel obstruction, and a 31 × 29 mm cyst on the right ovary (Figure 2). Laboratory tests were normal.

Figure 1. X-ray of ASP in a patient with an internal hernia through an ovarian cyst showing hydro-air levels of the small intestine.

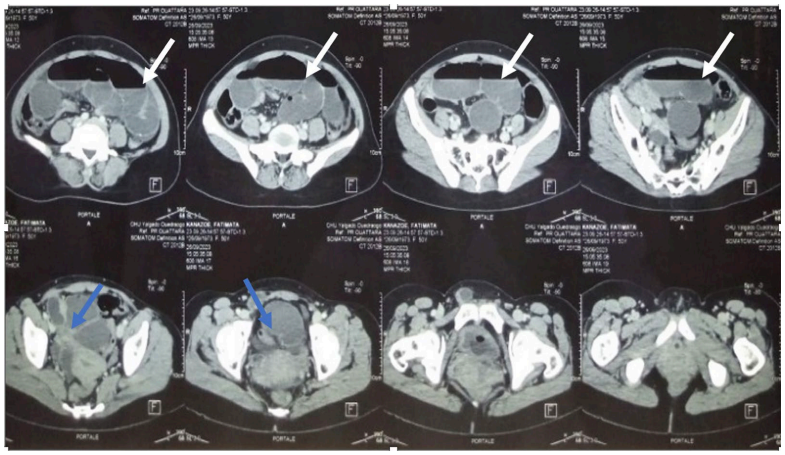

Figure 2. Abdominal-pelvic scan showing air-fluid levels (white arrows) and an ovarian cyst (blue arrow).

Surgery was indicated. General anesthesia was administered. Due to significant abdominal distension, the skin incision was a midline laparotomy above and below the umbilicus, bypassing the umbilicus on the left. Exploration revealed lateral pinching of an ileal loop within a right ovarian cyst (Figure 3). A section of the cyst neck was removed to free the incarcerated loop, which was located 105 cm from the ileocecal junction and was ecchymotic and perforated in the center (Figure 4). This was an acute intestinal obstruction caused by an internal hernia through a right ovarian cyst. Treatment consisted of a wedge resection of the ileum, removing the ecchymotic and perforated area, followed by ileal suturing and cure of the ovarian cyst by cystectomy (Figure 5). Peritoneal lavage was performed with 1.5 liters of saline solution, followed by drainage of the peritoneal cavity using a tubular drain inserted into the right flank and parietal closure.

Figure 3. Loop incarcerated in the ovarian cyst (tip of the forceps).

Figure 4. Condition of the small intestine incarcerated through the ovarian cyst with a 1 cm perforation within it.

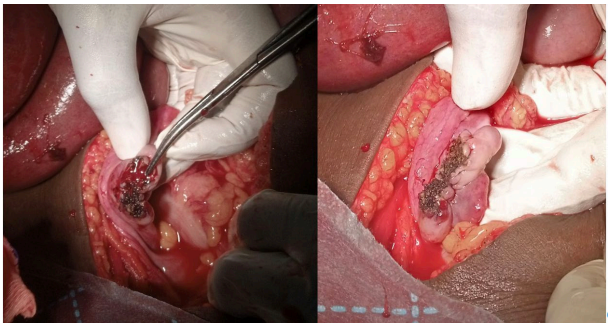

Figure 5. Treatment of ovarian cyst by cystectomy on the right and after treatment on the left.

Postoperative care consisted of administering analgesics, antibiotics, anticoagulants, and saline solutions. The postoperative course was uneventful, with bowel function returning on the third day after surgery and a clean, dry dressing. The patient was discharged from hospital on the fourth postoperative day. The postoperative visit on the 21st day showed wound healing and a gradual resumption of domestic activities.

3. Comment

Internal hernias are protrusions of hollow abdominal viscera into an intraperitoneal opening, but remain inside the abdominal cavity [4]. They are a rare cause of acute intestinal obstruction and account for approximately 5% of all causes of acute intestinal obstruction [1] [2]. According to Sardar, internal hernias caused by abnormalities of the broad ligament account for approximately 0.2% to 0.9% of all cases of intestinal obstruction. Those through an ovarian cyst are exceptional [5]. In Burkina Faso, the actual frequency of acute intestinal obstructions complicating an internal hernia is probably underestimated because this condition is also treated in public and private health facilities in the city of Ouagadougou. The rarity of this condition means that it is the subject of case reports [3] [6].

Internal hernias have a wide variety of anatomical and clinical characteristics. Indeed, diagnosing intestinal obstruction caused by an internal hernia requires a thorough understanding of the anatomical variety involved [7]. In our patient, the abdominal pain had lasted eight days; the late obstructive syndrome was linked to lateral pinching of the incarcerated intestinal loop.

Several anatomical forms of internal hernias have been reported. There are three types of internal hernia depending on the location of the hernial orifice. These are: a normal foramen epiploicum, found in 8% of cases; a paranormal orifice, which accounts for 55% of cases (para-duodenal or retrocecal); and an abnormal orifice, found in 36% of cases [8] [9]. Our patient's case falls into the latter category. The presence of an ovarian cyst can be functional and transient, influenced by hormonal secretions and the menstrual cycle, or it can be organic in women. However, the existence of an orifice through this cyst constituting the hernial neck is exceptional and appears to have been created after a probable rupture of the pre-existing ovarian cyst, which was in the process of reabsorption. Although broad ligament hernias were previously the rarest type of pelvic hernia, those through an ovarian cyst remain exceptional.

The diagnosis of an internal hernia is usually made intraoperatively [2] [10], as was the case with our patient. However, with the development of medical imaging, particularly CT scans and magnetic resonance imaging, preoperative diagnosis is now possible [3]. In the absence of specific clinical features, radiological examinations play an important role in the diagnosis of internal hernias [11] [12]. Imaging mainly detects signs of intestinal obstruction. Computed tomography with contrast injection, the gold standard examination, allows for preoperative diagnosis [12] [13]. This diagnosis can be considered in cases of obstructive syndrome with

the presence of a symptomatic ovarian cyst by analyzing all the cyst's relationships with neighboring organs.

Surgery is indicated for all cases of acute intestinal obstruction. As the Yalgado Ouédraogo University Hospital does not have laparoscopic equipment for visceral emergencies, laparotomy remains the preferred approach in our setting. Both laparoscopic surgery and laparotomy are considered treatment options. Thus, it is important to determine which operative procedure is better based on the patient's condition, including the status of small bowel obstruction, such as dilation of the intestinal tract [14] [15]. For Ji Hyeong [15], the decision to perform laparoscopic surgery was based on a number of factors, including the patient's clinical presentation and imaging findings, as well as the surgeon's experience and expertise in laparoscopic procedures.

When it comes to internal hernias, treatment consists of resection of the herniated loop if it is necrotic or perforated, combined with suturing or anastomosis. Hernia repair is essential to prevent recurrence. In our case, ovarian cyst repair was performed by cystectomy [16].

The postoperative course was uneventful due to the absence of biological disorders, signs of preoperative multiorgan failure, and the absence of extensive intraoperative procedures.

4. Conclusion

Internal hernia through an ovarian cyst is a rare cause of acute intestinal obstruction in active adult women. The combination of obstructive syndrome and ovarian cyst, coupled with abdominal and pelvic CT scans, can guide preoperative diagnosis, which is often difficult.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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