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Strangulated right obturator hernia in an elderly patient: A case report

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ABSTRACT

Introduction: An obturator hernia is a rare condition representing less than 1 % of abdominal hernias and responsible for 0.05 to 1.4 % of cases of mechanical obstruction of the small intestine [1] typically affecting elderly, emaciated, multiparous women. Strangulation is a frequent complication and is generally the main clinical presentation. The positive diagnosis is often difficult because of the low specificity, hence the importance of sectional imaging. Surgical management must be initiated urgently to reduce the rate of morbidity and mortality.

Presentation of case: A 79-year-old woman with a history of achalasia and esophageal squamous cell carcinoma undergoing radiotherapy presented with a five-day history of acute abdominal pain, vomiting, and abdominal distension. Clinical examination revealed diffuse tenderness with no palpable hernial orifices. Laboratory tests indicated an inflammatory response, and an abdominal CT scan demonstrated bowel distension with an ileal loop incarcerated in the right obturator foramen. Following brief resuscitation, she underwent midline laparotomy. Intraoperative findings confirmed a strangulated ileal loop with preserved vitality, along with an incidental left obturator hernia. Both obturator foramina were repaired using sutures and reinforcement with adjacent tissue.

Discussion: The non-specific nature of symptoms often delays diagnosis, making CT imaging the gold standard for early detection. Prompt surgical intervention is vital to reduce the high morbidity and mortality associated with obturator hernias.

Conclusion: Although rare, obturator hernias require high clinical suspicion in high-risk populations. Early diagnosis through CT imaging and immediate surgical management are essential for improving patient outcomes and reducing complications.

1. Introduction

An obturator hernia is a rare but potentially life-threatening condition, accounting for less than 1 % of all hernias and for 0,05 % to 1,4 % of small bowel obstructions, predominantly in elderly, thin, and multiparous women [1,2]. It involves the protrusion of abdominal contents through the obturator canal, a 2–3 cm long passage bordered by the obturator membrane and surrounded by the obturator internus and externus muscles [3]. Diagnosis is often delayed because of vague and nonspecific symptoms, leading to a high mortality rate, up to 70 %, when complicated by strangulation or bowel ischemia [1]. The first descriptions of this condition date back to the 18th century, and documented cases are increasing with the aging of the population [4]. Increased awareness could result in an early diagnosis and reduce morbidity and mortality rates [2]. We present a case of a strangulated right obturator hernia in an elderly woman with multiple comorbidities, highlighting the diagnostic and surgical challenges associated with this rare condition.

2. Presentation of case

A 79-year-old woman with a history of achalasia complicated by squamous cell carcinoma of the middle esophagus undergoing radiotherapy. The patient presented to the emergency department with progressively worsening colicky abdominal pain, nausea, and persistent vomiting for 5 days. The patient's general condition had worsened. The pain was diffuse but more pronounced in the lower abdomen. She had no bowel movements for 3 days. On examination, the patient appeared frail and dehydrated, with a mildly distended abdomen and generalized tenderness on palpation. Bowel sounds were diminished. There were no

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Fig. 1. CT images in coronal (A), axial (B), and sagittal (C) planes showing a bowel loop (yellow arrow) passing through the right obturator canal, incarcerated between the pectineus and obturator externus muscles, through a narrow neck measuring 14 mm. (For interpretation of the references to colour in this figure legend, the reader is referred to the web version of this article.)

palpable masses in the inguinal or femoral regions, and the hernial orifices were clinically free. No signs of peritonitis were observed. Her biology showed a moderate inflammatory response with white blood cell count of 8000/mm^3 and CRP of 80 mg/l, no ionic disorders, correct renal function, and normal lipasemia. Given the persistence of symptoms and lack of clear clinical findings, an urgent contrast-enhanced abdominal CT scan was performed. It revealed dilated small bowel loops with a transition point corresponding to a segment of distal ileum herniating through the right obturator foramen, consistent with a diagnosis of strangulated obturator hernia. No pneumoperitoneum or obvious bowel necrosis was noted (Fig. 1). After a short resuscitation, the patient was transferred to the operating room. She underwent midline surgery, intraoperatively we found small serous effusion and a distal ileal loop incarcerated in the right obturator foramen (Fig. 2), without bowel necrosis or perforation. The contents of the hernia after reduction had a good vitality (Fig. 3). There is an associated uncomplicated left obturator hernia. Both obturator foramens were closed with two stitches and a patch with the uterus was applied. Postoperative management was uneventful, and the patient was discharged on postoperative day 2.

3. Discussion

The obturator hernia is a rare condition, accounting for approximately 1 % of all abdominal wall hernias [1]. It is characterized by the protrusion of abdominal contents through the obturator foramen, which is mainly covered by the obturator membrane. This condition is frequently observed in the elderly population due to the increased tissue laxity with age, which elevates the incidence of this hernia. Other risk factors include multiparity, chronic constipation, and any condition leading to increased abdominal pressure. The obturator hernia is generally observed on the right side, as the left side is protected by the presence of the sigmoid colon [5].

Delayed diagnosis of this condition is the reason for both higher morbidity and mortality rates, reaching up to 70 %. This severity is due to the insidious nature of the disease, which is often presented with non-specific symptoms that are laborious to rapidly recognize [6]. Patients with strangulated obturator hernia usually show up with symptoms of intestinal obstruction, acute abdominal pain, and vomiting. The appearance of a mass in the femoral region is rare but possible. Other classic signs, although not always present, include obturator neuralgia, known as the Howship-Romberg sign, and Hannington-Kiff sign explained by the passage of the obturator nerve through this canal [1].

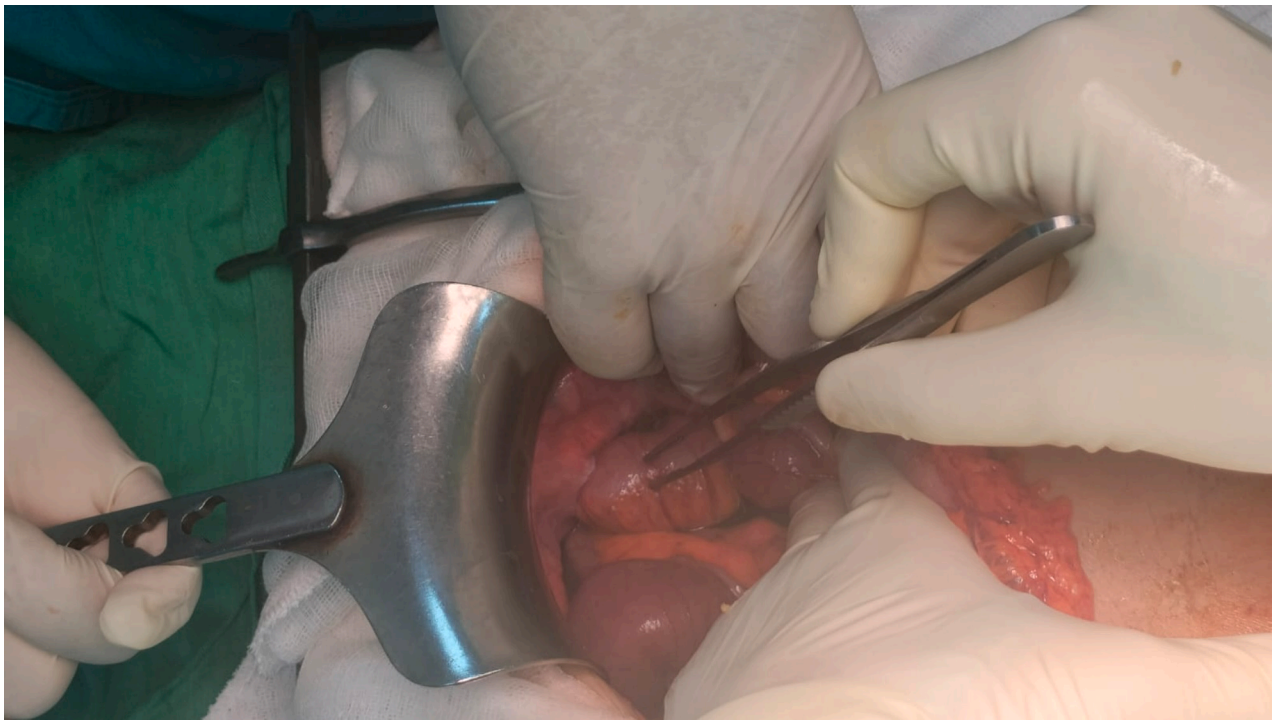

Fig. 2. A distal ileal loop incarcerated in the obturator foramen.

Computed tomography is considered the most adequate diagnostic tool due to its high sensitivity and specificity. Nonetheless, the diagnosis of strangulated obturator hernia in numerous cases is confirmed intraoperatively during surgery for an acute abdomen [4,7]. Laparoscopy, a minimally invasive abdominal exploration technique, can be employed in some cases to confirm the diagnosis and treat the hernia. In selected patients, particularly those without signs of peritonitis or bowel ischemia, laparoscopic treatment offers a valuable alternative to open surgery. This approach allows excellent visualization of both obturator foramina, facilitates bilateral exploration, and has the advantage of less postoperative pain, shorter hospital stay, and quicker recovery [8]. Laparoscopy also has a diagnostic value in cases where the cause of intestinal obstruction is uncertain, helping avoid unnecessary laparotomy in frail patients. However, in urgent situations, especially in patients with multiple comorbidities, laparotomy is very often favored. This approach allows for a thorough exploration of the abdominal cavity, provides greater surgical safety, and facilitates any necessary intestinal resection [1,5].

The treatment of strangulated obturator hernia involves assessing the viability of the involved intestine and repairing the hernia orifice. Although simple sutures can be used to close the orifice, this method does not address the defect in the obturator foramen, which may increase the risk of recurrence. Therefore, it is often preferable to fill the foramen with an adjacent organ such as the bladder or the greater omentum. This strategy reduces the risk of recurrence by offering a more durable solution [6,7].

4. Conclusions

A strangulated obturator hernia is a rare but serious pathology, often diagnosed late due to the non-specific nature of its symptoms. This diagnosis should be considered, especially in older women, due to the anatomical configuration of the pelvis and the increased laxity of tissues with age. Abdominopelvic CT scanning is the basis of the diagnosis. Prompt surgical management is essential to reduce the high rate of morbidity and mortality linked to this condition. The procedure fundamentally consists of reducing the hernia contents, assessing the vitality of the incarcerated end, and the closure of the obturator foramen with an adjacent organ such as the bladder or omentum.

Author contribution

Jasser Yaakoubi: conceptualization, data curation, redaction, project manager
Aziz Atallah: conceptualization, redaction
Mohamed Guelbi: resources, visualization
Mohamed Mehdi Kamoun: resources, visualization
Haafedh Metiri: supervision, validation, visualization
Sahir Omrani: supervision, validation, visualization

Consent for publication

Written informed consent was obtained from legal authorized representatives before the study. On request, a copy of the written consent is available for review by the Editor-in-Chief of this journal.

Ethical approval

Our institutions “Mongi Slim Hospital” and “School of Medicine of Tunis” require no ethical approval for case reports. It is required for studies on human participants. This is just a case report with written patient approval.

Guarantor

Mohamed Guelbi.

Fig. 3. The incarcerated ileal loop after reduction.

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Registration of research studies

Not applicable.

Declaration of competing interest

All authors declare that they have no conflicts of interest.

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Data availability

This published article includes all the required data.

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