

Strangulated Obturator Hernia with Intestinal Perforation in a Nonagenarian: A Case Report and Management Challenge

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Abstract

Case Report

Introduction: Obturator hernia is a rare type of pelvic hernia, representing less than 1% of all abdominal hernias. It predominantly affects frail, elderly, multiparous women, leading to high morbidity and mortality rates due to diagnostic delays and the frequency of strangulation. **Case Presentation:** We report the case of a 95-year-old woman. She presented with a four-day history of obstructive syndrome Associated with pain on the inner thigh. Vital signs were normal except for a heart rate of 95 beats per minute. Clinical examination revealed a distended, tympanic abdomen and free hernia orifices and a positive Howship-Romberg sign. Laboratory tests showed leukocytosis (14,000/mm³) and elevated C-reactive protein (100 mg/L) in front of this clinical presentation an obturator hernia was suspected and an abdominal computed tomography (CT) scan confirmed a small bowel obstruction caused by a left obturator hernia, with no signs of bowel compromise. **Management and Outcome:** The patient was emergently transferred to the operating room. A sub-umbilical midline laparotomy was performed. Exploration revealed a dilated small bowel proximal to an incarceration in the left obturator foramen. The incarcerated loop was carefully isolated with a tissue tape to protect the surgical field. Upon gentle extraction using a dissector, an 8-cm segment of non-viable small bowel with a 1-cm perforation was identified. A manual small bowel anastomosis was performed after small bowel resection. The hernia defect was repaired by closing the peritoneum with a single buried suture and reinforcing the area with a plasty using the adjacent round ligament. The postoperative period was good with transit resumption at day 4, we however noticed a fixed evisceration successfully treated with Vaseline gauze dressings and cutaneous approximation sutures. **Conclusion:** This case highlights the diagnostic challenge of obturator hernia in the elderly, where CT scan is crucial for diagnosis. Despite the patient's advanced age and the presence of intestinal perforation, manual anastomosis should be the preferred option. An appropriate per operatory and postoperative management led to a favorable outcome. The use of the round ligament for hernia repair can be an option in this context to avoid recurrence.

Keywords: Obturator hernia, Intestinal obstruction, Intestinal perforation, Geriatric surgery, round ligament plasty.

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INTRODUCTION

Obturator hernias are a rare surgical condition, with 600 cases reported by Chakhvadze B in 2010 and 351 by Burla MM in 2023[1,2], and they are difficult to treat, with a high mortality rate reaching 70% according to Shapiro K [3]. They occur through the obturator canal, which transmits the obturator nerve and vessels. The condition is most frequently observed in thin, elderly women, in whom the pre-peritoneal fat is diminished and the pelvic musculature is relaxed, creating a wider and more vulnerable obturator canal [4]. the hernia sac often contains only a portion of the bowel wall (Richter's type), symptoms can be insidious, leading to a delayed diagnosis and a high rate of strangulation (25-100%) [5]. We present a case of a strangulated and perforated

obturator hernia in a 95-year-old woman, discussing the surgical strategy.

CASE PRESENTATION

A 95-year-old woman was brought to the emergency department with a four-day history of absolute Shut-off of materials and gases, abdominal pain and distension and paresthesia of the inner left thigh, Her past medical history was significant for hypertension, managed with amlodipine, and a cardiac condition for which she was treated with beta-blockers.

On physical examination, patient on stretcher Vital signs were normal except for a heart rate of 95 beats per minute. The abdomen was significantly distended and tympanic on percussion. No external hernias were

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palpable, she also felt more pain and paresthesia while doing passive movements of the thigh especially abduction and medial rotation signing the Howship-Romberg sign.

Laboratory findings revealed a white blood cell count of $14,000/\text{mm}^3$ and a C-reactive protein level of 100 mg/L , indicating a significant inflammatory

response. An urgent contrast-enhanced computed tomography (CT) scan of the abdomen and pelvis was performed. The CT scan demonstrated a dilated small bowel arriving at 42 mm with a transition point at the level of the left obturator foramen, where a loop of bowel was seen protruding between the pectineus and obturator externus muscles. No free fluid intra-abdominal and no sign of bowel compromise (Figure 1).

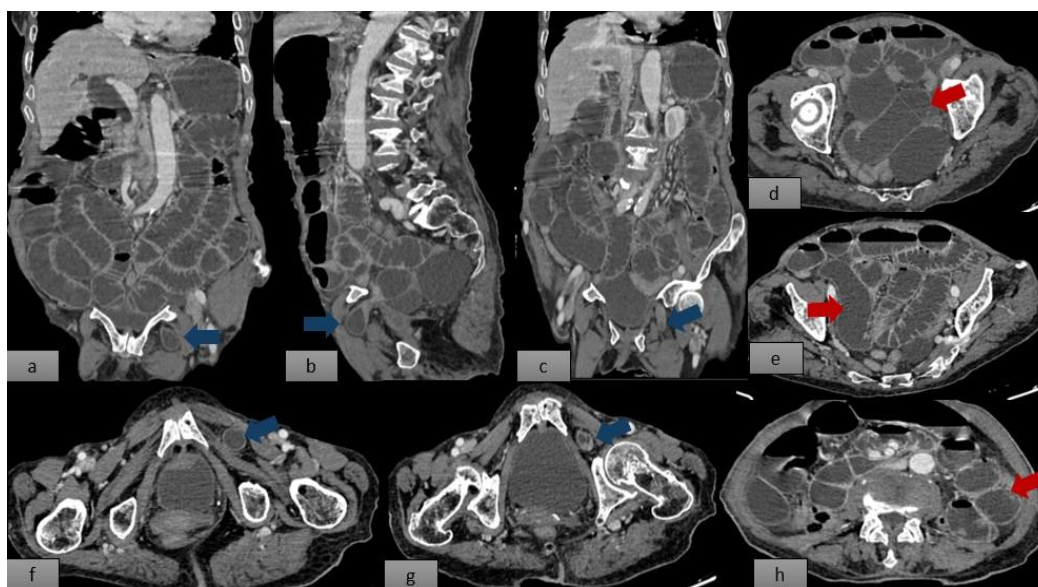


Figure 1: CT: Distension of the small bowel loops (red arrow, images d, e, and h), with air-fluid levels mostly fluid upstream of an incarcerated loop (dark blue arrow, images a, b, c, f, and g) between the obturator externus and pectineus muscles, located medially to the femoral vessels, with a narrow neck, suggesting a mechanical small bowel obstruction due to a strangulated left obturator hernia, with no signs of bowel ischemia

The patient was immediately taken to the operating room. A midline sub-umbilical incision was made revealing a small amount of serosanguinous fluid that had been collected and a dilated bowel proximal to a loop firmly incarcerated in the left obturator hernia orifice, with non-contaminated field. To protect the surgical field from contamination during manipulation, the incarcerated loop was gently clamped with a soft tissue tape.

Careful extraction of the loop using a dissector making a little rapidly controlled contamination of the field and revealed an 8-cm segment of necrotic, non-viable small bowel with a 1-cm perforation on its antimesenteric border (figure 2). The decision was to perform a segmental small bowel resection. A manual, end-to-end, single-layer anastomosis was fashioned using absorbable sutures.

We also made an Anterograde drainage of the bowel contents to minimize stress on the anastomosis before.

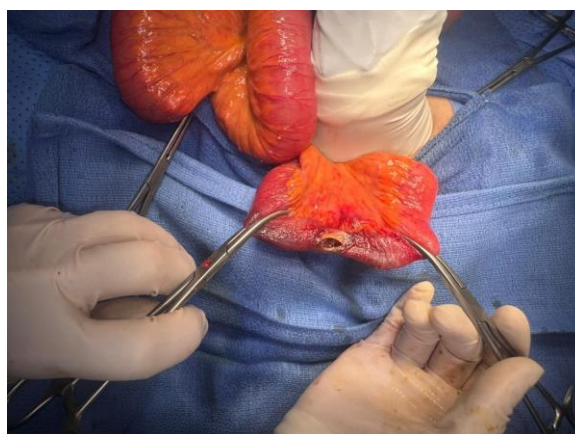


Figure 2: content of the hernia after extraction

Attention was then turned to the hernia repair. The peritoneum at the level of the obturator canal was closed over the defect using a single, inverted absorbable suture to bury the sac. Then, a tension-free reinforcement

was achieved by mobilizing the ipsilateral round ligament and securing it over the repaired perineal orifice with two interrupted sutures (figure 3).

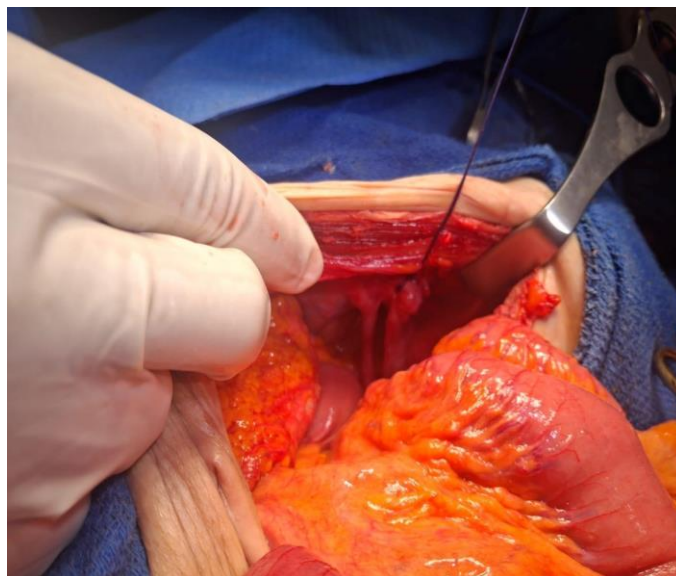


Figure 3: mobilizing the ipsilateral round ligament and securing it over the repaired perineal orifice

Postoperatively, transit resumption was done on day 4. We therefore proceeded to remove the drain and allowed food progressively. On day five, she developed a superficial surgical site infection, which was managed with daily saline dressings. Unfortunately, on day eight, a wound dehiscence with a fixed evisceration (small bowel loop visible but not reducible) occurred. The eviscerated contents were covered with sterile Vaseline gauze to prevent erosion. Skin sutures were placed to reduce the fascial defect size gradually. The patient was discharged home in good condition on postoperative day 14. clinical control showed a good cicatrization after 3 weeks, helped by Healing ointment.

DISCUSSION

This case underscores the classic presentation of an obturator hernia: an elderly, thin female with a small bowel obstruction of unknown cause [6]. The diagnosis is notoriously difficult to make on clinical grounds alone. The Howship-Romberg sign (pain along the medial thigh exacerbated by extension, adduction, or medial rotation), though pathognomonic, is present in only 15-56% of cases and was reported by our patient [7,8]. In the modern era, CT scanning has become the gold standard for diagnosis, offering high sensitivity and specificity, as it did in this case by clearly demonstrating the hernia sac and its contents [9].

The surgical approach is not standardized; it may be laparoscopic which results in quicker recovery of bowel function and a shorter length of hospitalisation or laparotomy, given the cardio-pulmonary risks and cerebral blood flow [10,11] or a hybrid approach involving transabdominal laparotomy followed by

preperitoneal surgery, as described by Yuta Yamazaki [12].

The surgical approach must address two main issues: the viability of the incarcerated bowel and the repair of the hernia defect. In our patient, despite the absence of clear CT signs of ischemia, the intraoperative finding was a perforated, necrotic segment. This highlights the fact that a delay of several days, as in this case, inevitably leads to bowel compromise. The decision to perform a primary anastomosis in a contaminated field is controversial but can be safe in a hemodynamically stable patient with good bowel preparation proximal to the obstruction.

Repairing the hernia defect can be challenging due to the proximity of the obturator nerve and vessels. Simple suture closure is often sufficient, but recurrence is possible. The use of the round ligament as a local autologous flap, as performed here, is an excellent option, particularly in a contaminated field where the use of prosthetic mesh is contraindicated. It provides a robust, well-vascularized barrier without the risk of infection associated with synthetic materials [13].

Finally, the postoperative course was marked by a superficial infection at the surgical site, treated with twice-daily dressings, followed by a fixed evisceration that is considered as serious complication in elderly patients. Our approach was to apply dressings with petroleum jelly to prevent erosion of the bowel and to perform skin-to-skin closure over the evisceration as soon as the local condition permitted.

CONCLUSION

This case demonstrates that strangulated obturator hernia can be clinically suspected but are diagnosed with CT Scan, an Anastomosis is better option if the field is not so contaminated, Roud ligament plasty can be a good option to avoid recurrence.

Consent

Written informed consent was obtained from the patient's next of kin for publication of this case report and any accompanying images.

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