

Strangulated obturator hernia in an elderly female patient with a history of femur fracture. A case report

Ofir Rodríguez Aguilera M.D.

Daniela Isabel Ramírez Jiménez M.D.

Octavio Orduña Domínguez M.D.

Abel Cisneros Vázquez M.D.

Luis Fernando Flores Castillo M.D.

Leonardo Peña Silva M.D.

Martín Eduardo Morales Saavedra M.D.

Manuel Senen Barroso Hernández M.D.

Omar Armando Cáceres

Von Roehrich M.D.

Background: Obturator hernia (OH) is a protrusion of the hernial sac through the obturator canal, accounting for only 0.05–1% of all abdominal hernias and being a rare cause of intestinal obstruction (0.2–1.6%). It primarily affects elderly, malnourished women (70–90 years old), with an incidence nine times higher than in men due to their wider pelvic anatomy and history of pregnancy, earning it the nickname "the little old lady's hernia."

The obturator foramen, is sealed by a thick membrane and traversed by the obturator canal (2–3 cm), which contains the obturator nerves and vessels. Loss of preperitoneal adipose tissue and conditions that increase intra-abdominal pressure (emaciation, COPD, chronic constipation, etc.) predispose to this hernia. It is more common on the right side (the left colon covers the left foramen), and 50–60% of cases are Richter-type hernias (involving only part of the intestinal wall).

The main symptom is intestinal obstruction (90%) in patients with no prior surgeries, accompanied by medial thigh pain exacerbated by leg movement (Howship-Romberg sign) and loss of the adductor reflex (Hannington-Kiff sign). Preoperative diagnosis is challenging (identified in only 10–30% of cases), but computed tomography (CT) has increased detection rates to 90%, allowing differentiation from other causes of obstruction. Treatment is always surgical, with debate over the optimal approach. The classic technique involves placing a polypropylene plug fixed to the obturator membrane, though some warn of potential obturator neuralgia. Obturator hernia has the lowest incidence, making diagnosis a challenge for the inexperienced surgeon. It is important to suspect this entity in elderly women presenting with intestinal obstruction without apparent cause. The objective of this work is to present the clinical case and the literature review of this pathology.

Keywords: Obturator hernia.

Veracruz, Mexico

Case Report

General Surgery



Obturator hernia (OH) is one in which the hernial sac protrudes through the obturator canal. It is a rare condition, with an incidence of 0.05% to 1% of all abdominal hernias. They account for 0.073% of all hernias, and their main presentation is intestinal obstruction, although they are a rare cause of it (0.2–1.6%). They usually appear in elderly women with poor nutritional status, in whom the loss of fatty tissue contributes to increasing the free space in the obturator canal, allowing the passage of hernial contents through it.

The obturator foramen hernia is grouped into the so-called "pelvic floor hernias," among which are also the sciatic and perineal varieties, sharing. This occurs more frequently in emaciated patients between the ages of 70 and 90 years. Women are affected nine times more often than men because they have a larger pelvis with a larger triangular obturator canal opening, with a larger transverse diameter and a history of

pregnancy. Therefore, this condition is nicknamed "the little old lady's hernia."

The obturator foramen, which is the largest foramen in the body, is sealed by a thick membrane and perforated by the obturator canal. The canal is 2 to 3 cm long and has the obturator nerves and vessels passing through it, which are peripherally covered by adipose tissue.

The etiology and pathogenesis of obturator hernia are due to a decrease in preperitoneal fatty and lymphatic tissue that occupies the obturator canal. Situations that increase abdominal pressure, such as extreme thinness, cachexia, pregnancy and multiparity, COPD, chronic constipation, kyphoscoliosis, ascites, etc., will be predisposing factors. They are more frequent on the right side, because the left colon covers the left obturator foramen, and in 50–60% of cases, they are Richter-type hernias.

From the Department of General Surgery at Hospital de Alta Especialidad de Veracruz IMSS Bienestar. Veracruz, Mexico. Received on August 18, 2025. Accepted on August 28, 2025. Published on August 31, 2025.



Figure 1. CT abdomen scan with multiple air – fluid levels.

Normally, the sac contains small intestine (ileum) (100% in our series), but the presence of colon, appendix, ovary, fallopian tube, omentum, and bladder has also been described.

The clinical picture reported in the literature corresponds to intermittent episodes of intestinal obstruction (90%) in a patient without abdominal

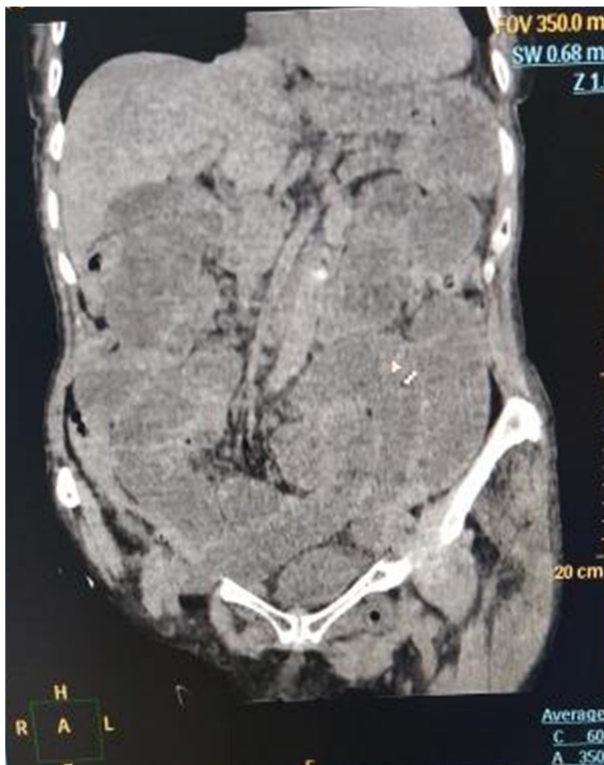


Figure 2. CT scan showing obturator hernia with an intestinal loop.



Figure 3. Portion of small intestine entering the obturator foramen.

surgical interventions, plus pain in the inner thigh of the affected side, which increases with extension, internal rotation, and adduction of the limb (Howship-Romberg sign), and loss of the adductor reflex, known as Hannington-Kiff sign.

The use of CT for the diagnosis of OH was initially described in 1983. Since its use, preoperative diagnosis has improved from 43% to 90%; this study can evaluate the presence of OH and also rule out other causes of intestinal obstruction.



Figure 4. Perforation of the ileum

Obturator hernia, first described in 1724 by Ronsil, is a rare entity, with a frequency of presentation between 0.05-0.14% of all abdominal wall hernias, and is a cause of small bowel obstruction in 0.2-1.6% of cases.

Because the signs and symptoms are non-specific, diagnosis and treatment are often delayed, with preoperative diagnosis only possible in 10-30% of cases. This delay is associated with an increase in rates of strangulation (ranging from 25-100%) and mortality (12-70%).

OH mortality is relatively high, especially for cases of strangulated hernias, ranging from 12% to 70%. Diagnosis is usually radiological or intraoperative in the context of intestinal obstruction with no apparent cause. Due to the patient profile and the difficulty in preoperative diagnosis, OH has the highest morbidity and mortality.

The treatment of OH will always be surgical, although there is controversy regarding the approach and the repair method used. If there is no clear diagnosis of OH or suspicion of strangulation (90% of cases), midline laparotomy is the indicated approach since it allows reduction and resection, if necessary, of the herniated intestine and adequate repair of the obturator canal with control of all its anatomical elements.

Classically, the ideal repair has been considered to be the placement of a polypropylene plug in the hernial orifice, which is fixed to the obturator membrane and the edges of the obturator canal, correctly visualizing the vascular and nervous structures; this technique, initially described by Tchupetlowsky et al. in 1995, is easy to reproduce, safe, and effective, although some authors have argued against it, stating that it can generate or worsen obturator neuralgia.

Regarding the use of prosthetic material versus primary repair, the condition of the local tissues and the size of the defect must be considered to choose the most appropriate technique

Case report

This report has been carried out under the principles of the Declaration of Helsinki. It concerns a 91-year-old female patient who suffered a fall from her own height, slipping at home and impacting her left hip. She presented three days after the incident to a private doctor who requested a pelvis X-ray and managed her with analgesics. She was referred to our hospital and evaluated by traumatology and orthopedics, who diagnosed a transtrochanteric femur fracture, and she was hospitalized in that service for surgical resolution. Six days after admission, a general surgery consultation was requested due to absence of bowel movements, inability to pass gas, vomiting, and

abdominal pain. A nasogastric tube was placed, obtaining fecaloid material. A CT (fig.1 and fig.2) scan of the abdomen was requested, which showed multiple air-fluid levels as well as an obturator hernia, with an intestinal loop in the obturator foramen, so it was decided to intervene for surgical resolution of intestinal occlusion.

She underwent exploratory infraumbilical laparotomy, finding an obturator hernia with a strangulated and perforated ileum, fecal matter leakage, and a perforation 2 meters from a fixed loop. Resection and ileostomy were performed, and the defect was treated with primary closure with Vicryl. During her postoperative period, the patient started a liquid diet two days post-surgery, tolerating and progressing to a normal diet. She was treated with antibiotic impregnation and was discharged from our service 7 days post-surgery to continue her treatment with traumatology and orthopedics for fracture resolution.

Conclusion

Obturator Hernia is an entity with a very low incidence, for which its diagnosis should be suspected when there appears to be no other cause of intestinal occlusion, apparent or at first glance on physical examination. It is important to consider this type of hernia as a differential diagnosis and suspect it in cases of elderly female patients. In the case of our patient, the history of femur fracture was added, subsequently presenting the picture of intestinal obstruction.

Conflicts of interests

The authors have no conflicts of interests.

References

1. Park J. Obturator hernia: Clinical analysis of 11 patients and review of the literature. *Medicine (Baltimore)*. 2020;99(34):e21734. doi: 10.1097/MD.00000000000021734.
2. Devarakonda A, Gupta-Kaistha A, Kulkarni N. Small bowel obstruction secondary to obturator hernia in an elderly female. *J Surg Case Rep*. 2020;2020(10):rjaa413. doi: 10.1093/jscr/rjaa413.
3. Ziegler DW, Rhoads JE Jr. Obturator hernia needs a laparotomy, not a diagnosis. *Am J Surg*. 1995;170(1):67-72. doi: 10.1016/S0002-9610(99)80258-0.
4. Marín Camero N, Ramírez Plaza CP, Pulido Roa Y, Álvarez Alcalde A, Valle Carbajo M, Jiménez Mazure C, et al. Strangulated obturator hernia: An exceptional cause of intestinal obstruction. *Andalusian Surg*. 2009;20(3):45-8.
5. Aydin I, Yucel AF, Pergel A, Sahin DA. Obturator hernia: A rare case of acute mechanical intestinal obstruction. *Case Rep Surg*. 2013;2013:256062. doi: 10.1155/2013/256062.

6. Tsai MT, Wu JM, Lien WC. Obturator hernia: The "little old lady's hernia." J Med Ultrasound. 2014;22(2):96-8. doi: 10.1016/j.jmu.2014.06.002.
7. Li Z, Gu C, Wei M, Yuan X, Wang Z. Diagnosis and treatment of obturator hernia: Retrospective analysis of 86 clinical cases at a single institution. BMC Surg. 2021;21(1):124. doi: 10.1186/s12893-021-01131-4.
8. González Ospina DA, Ortega Toscano CA, Flórez Arango N, Flórez Leguía MK. Obturator hernia and intestinal obstruction. Case report. Hispanoam Hernia J. 2016;4(4):179-83.

Ofir Rodríguez Aguilera
Department of General Surgery
Hospital de Alta Especialidad de Veracruz IMSS Bienestar
Veracruz, Mexico.
Departamento de Cirugía General