CASE REPORT

Obturator hernia: a rare cause of bowel obstruction

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SUMMARY

An obturator hernia is a rare condition and an unusual cause of intestinal obstruction. With a challenging diagnosis, it has one of the highest mortality rates of all abdominal wall hernias. The authors present a case of an elderly woman with bowel obstruction secondary to an incarcerated obturator hernia. An 80-year-old woman presented at the emergency room with complaints for the last 2 days of nausea, vomiting, constipation and lower right abdominal pain that radiated down to the right medial thigh. Abdominal tenderness to deep palpation of the right iliac fossa and mildly distention were noted. A CT scan demonstrated bowel obstruction secondary to an incarcerated obturator hernia. The patient underwent emergency exploratory laparotomy. The incarcerated bowel was reduced and the defect was repaired with a plug of polypropylene mesh covered with peritoneum. The patient had an uneventful postoperative period and was discharged on the fifth postoperative day.

rates of all abdominal wall hernias at 12%–70% due to delayed diagnosis.^{1–5}

Its early diagnosis is challenging as the signs and symptoms are non-specific, and usually is made by CT scans of the abdomen or intraoperatively during a exploratory laparotomy for bowel obstruction.² Surgery is the definitive treatment.

The authors present a case of an elderly woman with bowel obstruction secondary to an incarcerated obturator hernia.

CASE PRESENTATION

An 80-year-old woman presented to the emergency department after 2 days of nausea, vomiting, constipation and lower right abdominal pain that radiated down to the right medial thigh.

There was a history of one similar but less severe episode in the last year. The patient underwent abdominal hysterectomy several years ago.

BACKGROUND

An obturator hernia is a rare condition with incidence rates varying from 0.073% to 1.0% of all hernias and 0.2% to 1.6% of all cases of intestinal obstruction.^{1–3} It has one of the highest mortality

Figure 1 Plain abdominal X-ray showing small bowel obstruction.

Figure 2 Sagittal plane CT showing dilated bowel loops and an incarcerated bowel loop between the external obturator and pectineal muscles, suggestive of bowel obstruction secondary to an incarcerated obturator hernia (arrow).

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Figure 3 Coronal plane CT showing an incarcerated obturator hernia (arrow).

Physical examination revealed a cachectic, elderly woman. Abdominal tenderness to deep palpation of the right iliac fossa and mildly distention were noted. No palpable masses, organomegaly, rebound tenderness or guarding were found.

INVESTIGATIONS

Laboratory tests presented an elevated C-Reactive Protein value.

Abdominal radiographs revealed dilated small bowel loops with air fluid levels, consistent with small bowel obstruction ([figure 1](#)).

A CT scan was undertaken for further investigation. It demonstrated dilated bowel loops and an incarcerated bowel loop

Figure 4 Coronal plane CT showing an incarcerated obturator hernia (arrow).

between the external obturator and pectineal muscles, suggestive of bowel obstruction secondary to an incarcerated obturator hernia ([figures 2–6](#)).

TREATMENT

The patient underwent emergency exploratory lower midline laparotomy. A Richter's-type hernia, in which only a portion of the circumference of the bowel wall is involved, was seen in the right obturator foramen ([figure 7](#)). The incarcerated bowel was reduced gently and carefully inspected. No sign of ischaemia was found and so there was no need for bowel resection ([figures 8 and 9](#)). The defect was repaired with a plug of polypropylene mesh anchored with non-absorbable sutures. The mesh was covered with peritoneum in a purse-string fashion ([figures 10–12](#)).

Figure 5 Axial plane CT showing an incarcerated obturator hernia (arrow).

Figure 6 Axial plane CT showing an incarcerated obturator hernia (arrow).

Figure 7 Intraoperative photograph showing the ileum entering the right obturator foramen with gross dilation of proximal bowel loops.

Figure 8 Intraoperative photograph showing the antimesenteric border of the bowel that was incarcerated.

Figure 9 Intraoperative photograph showing the bowel loop that was incarcerated (lateral view).

Figure 10 Intraoperative photograph showing the right obturator foramen (arrow).

Figure 11 Intraoperative photograph showing the right obturator foramen with a plug of polypropylene mesh (arrow).

OUTCOME AND FOLLOW-UP

The patient had an uneventful postoperative period and was discharged on the fifth postoperative day, with diet tolerance and re-established intestinal transit.

DISCUSSION

An obturator hernia, a very rare entity, proceeds through the obturator canal, which is approximately 2–3 cm long and 1 cm wide. The obturator foramen is the space between the pubic rami and ischial bones, which is covered by the obturator membrane in all but the anterior superior aspect. The obturator nerve, artery and vein travel through the foramen and canal. The peritoneal obturator hernia sac can develop through a widening defect of the obturator externus and internus muscles.¹⁶

Obturator hernias are much more common in elderly female and post-pregnancy patients owing to the greater width of the pelvis, larger obturator canal and increased laxity of the pelvic tissues.^{7,8} The hernia is most often the Richter's type and usually contains ileum.² They occur more frequently on the right side because the left obturator foramen is protected by the overlying sigmoid colon.⁹

Figure 12 Intraoperative photograph showing the plug of polypropylene mesh covered with peritoneum.

The diagnostic difficulty and high mortality rates make obturator hernias a serious diagnosis that can potentially be easily overlooked.

In contrast to other abdominal wall hernias, a palpable mass is rarely found. Symptoms are vague, usually suggesting bowel obstruction, such as abdominal pain, nausea and vomiting. These symptoms are reported in >80% of patients with an obturator hernia.¹⁰ One-third of patients have a history of intermittent previous episodes. Tenderness may be elicited on palpation of the obturator foramen through a rectal or vaginal examination, but palpation of a mass occurs only in 20% of patients. The Howship-Romberg sign is referred to as pain down the medial thigh to the knee through compression of the obturator nerve with extension, abduction and medial rotation that is relieved by flexion of the thigh.⁹ Although pathognomonic, the Howship-Romberg sign is present in only 25%–50% of patients.^{12 6}

Differential diagnoses include psoas abscess, femoral and perineal hernias, intestinal obstructions, inguinal adenitis and diseases of the hip joint.

Almost 50% of patients with an obturator hernia present with bowel obstruction. An abdominal CT scan can establish the diagnosis.⁴ The CT scan has an accuracy of >90% for making preoperative diagnosis and may decrease the rate of intestinal resection and improve survival by preventing a delay in diagnosis.

Surgery is the definitive treatment.¹¹ Delay in diagnosis or operative intervention contributes substantially to increase morbidity and mortality rates. Reported morbidity rate reaches 38% and the mortality rate for a complicated obturator hernia is 12%–70%.⁵ The rate of an obturator hernia bowel resection reaches in 75% of cases.⁵ Various surgical approaches have been described in the literature in the acute management of an obturator hernia. Abdominal, inguinal, retroperic, obturator and laparoscopic approaches have all been described.² The majority of published evidence favours the abdominal approach, utilising a low midline incision. This method allows the surgeon to establish the diagnosis, avoid any obturator vessels, give better exposure of the obturator ring and facilitate bowel resection,

Patient's perspective

Very satisfied.

Learning points

- ▶ An obturator hernia is a rare condition, but important cause of bowel obstruction.
- ▶ With a challenging diagnosis, it must be considered mainly in thin elderly women presenting signs of intestinal obstruction.
- ▶ CT of the abdomen and pelvis is the imaging modality of choice for preoperative diagnosis.
- ▶ This entity has a high mortality rate, mainly due to delays in diagnosis and surgery.

if necessary. After reduction of the hernia sac and its contents, simple closure of the hernial defect with interrupted sutures or placement of a synthetic mesh is the preferred method.⁴ Mesh repair is associated with lowest recurrence rates.⁸ Laparoscopic repair has been shown to produce less postoperative pain, fewer complications and shorter hospital stay.^{2 7 8 11}

Contributors CCR: responsible for patient's investigation in the emergency room, patient's surgery, outcome and follow-up; did data analysis and interpretation, conception and design of the work, wrote the manuscript after references research, acquisition of surgery pictures and made critical revision. JT: participated in patient's surgery, outcome and follow-up of the patient, drafting the work and revising it critically for important intellectual content; did data analysis and interpretation and also made critical revision of the article and gave final approval of the version to be published. JP: substantial contributions to the conception and design of the work; drafting the article; made critical revision of the article and gave final approval of the version to be published. ALD: made the imagiological diagnosis and selected the CT scan images; critical revision of the article and gave final approval of the version to be published.

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REFERENCES

- 1 Nguyen HT. The Management of Semilunar, Lumbar, and Obturator Hernias. In: Cameron J, Cameron A, *Current Surgical therapy*: Elsevier, 2017:636–46.
- 2 Hodgins N, Cieplucha K, Conneally P, *et al.* Obturator hernia: a case report and review of the literature. *Int J Surg Case Rep* 2013;4:889–92.
- 3 Chen D, Fei Z, Wang X. Bowel obstruction secondary to incarcerated obturator hernia. *Asian J Surg* 2017;40:S1015–9584.
- 4 Malangoni MA, Rosen MJ. Hernias. Townsend C, *Sabiston Textbook of Surgery: The Biological Basis of Modern Surgical Practice*. 20th edn: Elsevier, 2017:1092–119.
- 5 Rodríguez-Hermosa JJ, Codina-Cazador A, Maroto-Genover A, *et al.* Obturator hernia: clinical analysis of 16 cases and algorithm for its diagnosis and treatment. *Hernia* 2008;12:289–97.
- 6 Yebara S, Rosenthal RJ. Lumbar, Obturator, Sciatic, and Perineal Hernia. In: Floch M, Netter F, *Netter's Gastroenterology*. Saunders: Elsevier, 2010:90:230–1.
- 7 Kulkarni SR, Punamiya AR, Naniwadekar RG, *et al.* Obturator hernia: a diagnostic challenge. *Int J Surg Case Rep* 2013;4:606–8.
- 8 Leitch MK, Yunaev M. Difficult diagnosis: strangulated obturator hernia in an 88-year-old woman. *BMJ Case Rep* 2016;2016:bcr2016215428.
- 9 Tateni Y, Adachi K. Sudden knee pain in an underweight, older woman: obturator hernia. *Lancet* 2014;384:206.
- 10 Green BT. Strangulated obturator hernia: still deadly. *South Med J* 2001;94:81–3.
- 11 Stamatiou D, Skandalakis LJ, Zoras O, *et al.* Obturator hernia revisited: surgical anatomy, embryology, diagnosis, and technique of repair. *Am Surg* 2011;77:1147–57.

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