CASE REPORT

Difficult diagnosis: strangulated obturator hernia in an 88-year-old woman

Megan Kathleen Leitch,¹ Michael Yunaev²

¹Department of Surgical, Royal Perth Hospital, Perth, Western Australia, Australia
²Saint Luke's Care, Potts Point, New South Wales, Australia

Correspondence to
 Dr Megan Kathleen Leitch,
 mleitch19@gmail.com

Accepted 16 June 2016

SUMMARY

The obturator hernia is a rare type of hernia that can present a diagnostic challenge for the clinician. We report a case of an 88-year-old woman who presented with a history of right iliac fossa pain, bilious vomiting and diarrhoea. Non-specific findings on examination and blood tests made the diagnosis difficult, however, a CT scan of her abdomen revealed the site of the obstruction and the patient was taken to theatre for emergency surgery. We review the literature with focus on the diagnosis of obturator hernias and the different surgical approaches used. The authors believe that this case is of educational value to healthcare professionals, particularly those working in general practice, emergency departments and on surgical teams. It highlights to doctors that patients with incarcerated obturator hernias can present with or without overt signs of intestinal obstruction and emphasises the fact that an obturator hernia can be an important cause of intestinal obstruction in a thin, elderly woman.

BACKGROUND

Although obturator hernias make up <1% of all hernias, strangulated obturator hernias carry the highest mortality rate, ranging from 12% to 70%.¹⁻⁴ The obturator hernia is most often the Richter's type, which can be a diagnostic challenge as focal strangulation of the bowel can progress to gangrene with or without overt signs of intestinal obstruction.²⁻⁵ A high index of suspicion should be attained in thin, elderly and multiparous women presenting with bowel obstruction.

CASE PRESENTATION

This case is of an 88-year-old nursing home resident who presented with a 3-day history of right iliac fossa pain, bilious vomiting and diarrhoea. A combination of dementia and gangrenous bowel rendered the patient a poor historian. Her abdomen was soft and non-distended. There was generalised tenderness without peritonism, most severe on palpation of her right iliac fossa. The Howship-Romberg sign was not assessed for on admission.

INVESTIGATIONS

The patient's blood results were within normal limits with the exception of a C reactive protein of 71 mg/L. CT scan of her abdomen ([figure 1](#)) confirmed the source of obstruction to be in the right pelvis. However, the reporting radiologist did not initially comment on this finding and only on further review with the surgical team was a diagnosis of obturator hernia made.

Figure 1 CT scan showing an obturator hernia on the right side (arrow).

TREATMENT

After discussion between the consultant surgeon and the patient's family, it was decided that surgery would offer the best chance to return the patient to her prehospital baseline. Only limited intensive care unit support was agreed on postoperatively, due to the poor pre-existing health of the patient.

The initial surgical approach was laparoscopic ([figure 2](#)), which confirmed the incarceration of a segment of ileum in the obturator canal.

Attempts were made to reduce the hernia, using atraumatic forceps and gentle traction, however, the risk of bowel perforation proved too high and the operation was converted to an open procedure using a Pfannenstiel incision ([figure 3](#)).

The incarcerated bowel was oedematous and purple in colour, suggesting necrosis. On release of the bowel, a small perforation was identified along with the segment of non-viable bowel and therefore 10 cm of ileum was resected and primary anastomosis with a peritoneal lavage performed. Taking care not to obstruct the obturator vessels and nerve, the obturator foramen was reduced in size to normal, using interrupted sutures, and this was

Figure 2 Laparoscopic view of an obturator hernia (arrow).

CrossMark

To cite: Leitch MK, Yunaev M. *BMJ Case Rep* Published online: [please include Day Month Year] doi:10.1136/bcr-2016-215428

Figure 3 Open view of an obturator hernia with a Pfannenstiel incision, with forceps pointing to the segment of ileum leading to the hernia.

further reinforced with biological mesh (Surgisis Biodesign) on the preperitoneal plane. There was no observed hernia on the left side.

OUTCOME AND FOLLOW-UP

The patient returned to the surgical ward, where she underwent daily review by the surgical team, medical team and various allied health professionals. The surgery and multidisciplinary team approach proved a success as the patient was discharged back into the care of her nursing home 8 days later. No recurrence was identified at the time of writing this case report.

DISCUSSION

The obturator hernia is a rare type of hernia that can present a diagnostic challenge for the clinician. These hernias occur most commonly in elderly, thin and multiparous women, who are at an increased risk due to a wide pelvis and enlarged obturator canals.^{1 2 6} Chronically raised abdominal pressure from cough, constipation or ascites can also increase the risk of developing this type of hernia. These hernias are more commonly right sided but can occur bilaterally.⁵

Our patient, in her early course, was misdiagnosed and discharged from the emergency department only to present hours later with overt symptoms of gangrenous intestine. Owing to her dementia, the diagnosis could have been easily missed if it had not been for a thorough review of the CT scan. Delay in diagnosis is a common feature of obturator hernias as the symptoms may be attributed to more benign causes such as constipation. CT is the gold standard imaging for assisting in diagnosis as it proves to have the highest sensitivity and specificity.^{2 7}

Surgical repair is the gold standard for management of an obturator hernia.⁸ Although in this case, the operation was converted to an open approach, laparoscopy was initially applied as it has the advantage of shorter hospital stay, less postoperative pain and lower risk of major complications.⁹

Other surgical approaches include inguinal, retropubic and transperitoneal. There has also been a case report published on a two-stage laparoscopic technique for strangulated obturator hernias.

Although there is controversy over the use of mesh for obturator hernias, a biological mesh was used in this case as it is

thought to be potentially less likely to get infected if used in a contaminated field, however, this benefit is not well defined in the current literature. Whether it adds to the strength of the repair is arguable, however, a report published in 2014⁸ analysed 80 obturator hernia repairs and found a 3-year recurrence rate of 0% with mesh versus that of 22% without mesh. This advantage tends to be stronger for synthetic rather than biological mesh, however, there is limited literature comparing the two.

With obturator hernias making up only 1% of all hernias, the high morbidity and mortality make it a rare yet important cause of bowel obstruction in elderly women.¹⁻⁴ This case aims to remind healthcare professionals of the importance of including obturator hernia in the differential diagnosis of a patient with bowel obstruction.

Learning points

- Staff working in emergency departments and surgical units need to be aware that an incarcerated obturator hernia is a rare yet important cause of bowel obstruction in thin, elderly women.
- Symptoms and signs of an incarcerated obturator hernia can vary from mild to overt.
- CT scans represent the gold standard of imaging for the diagnosis of obturator hernias, however, they must be reviewed thoroughly as the diagnosis can be missed.
- The use of biological mesh in obturator hernia repair is a safe and viable option.

Contributors MY contributed in diagnosing the hernia, performing the operation and managing the patient until discharge. Also contributed by editing the case report and selecting the images for the case. MKL was present at the time of admission, was in theatre during the operation and contributed in preparing the case report and extended consent from the patient's next of kin.

Competing interests None declared.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

REFERENCES

- 1 Lo CY, Lorentz TG, *et al.* Obturator hernia presenting as bowel obstruction. *Am J Surg* 1994;167:396–8.
- 2 Yokoyama Y, Yamaguchi A, Isogai M, *et al.* Thirty-six cases of obturator hernia: does computed tomography contribute to postoperative outcome? *World J Surg* 1999;23:214–17.
- 3 Hsu CH, Wang CC, *et al.* Obturator hernia: a report of eight cases. *Am Surg* 1993;59:709–11.
- 4 Bjork KJ, Mucha P Jr, Cahill DR. Obturator hernia. *Surg Gynecol Obstet* 1988;167:217–22.
- 5 Brooks D. Overview of abdominal wall hernias in adults. In: Post TW, ed. UpToDate. Waltham, MA: UpToDate 2014.
- 6 Yip AWC, AhChong AK, Lam KH. Obturator hernia: a continuing diagnostic challenge. *Surgery* 1993;113:266–96.
- 7 Yokoyama T, Munakata Y, Ogiwara M. Preoperative diagnosis of strangulated obturator hernia using ultrasonography. *Am J Surg* 1997;174:76–8.
- 8 Karasaki T, Nomura Y, Tanaka N. Long-term outcomes after obturator hernia repair: retrospective analysis of 80 operations at a single institution. *Hernia* 2014;18:393–7.
- 9 Ng DC, Tung KL, Tang CN, *et al.* Fifteen-year experience in managing obturator hernia: from open to laparoscopic approach. *Hernia* 2014;18:381–6.

Copyright 2016 BMJ Publishing Group. All rights reserved. For permission to reuse any of this content visit <http://group.bmj.com/group/rights-licensing/permissions>.
BMJ Case Report Fellows may re-use this article for personal use and teaching without any further permission.

Become a Fellow of BMJ Case Reports today and you can:

- ▶ Submit as many cases as you like
- ▶ Enjoy fast sympathetic peer review and rapid publication of accepted articles
- ▶ Access all the published articles
- ▶ Re-use any of the published material for personal use and teaching without further permission

For information on Institutional Fellowships contact consortiasales@bmjgroup.com

Visit casereports.bmj.com for more articles like this and to become a Fellow