

Permacol Patch Repair for Obstructed Obturator Hernia: A Case Report and Review of Literature

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Citation

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Abstract

Obturator hernias present a diagnostic challenge and diagnosis is rarely made due to vague signs and symptoms. However, symptoms of intestinal obstruction are present in approximately 90% of cases. Obstruction is usually partial rather than complete and may be acute or intermittent. Preoperative diagnosis of obturator hernia is made in only 10%–30% of operated cases and is often delayed until laparotomy for incarceration or strangulation of the small bowel. Delayed diagnosis markedly increases postoperative morbidity and mortality, especially because the affected patients are often old with other comorbid conditions.

CASE REPORT

An 82-year-old female was admitted in the acute surgical ward with a 24-hour history of constant right groin pain associated with profuse vomiting and bloating of the abdomen. She had diarrhoea for the past 2 days and passing of flatus. She had had surgery for left inguinal hernia 20 years ago and was warfarinised for atrial fibrillation but otherwise well. On examination, she was hemodynamically stable with a soft and non-tender abdomen, with tenderness in her right groin. She was Romberg-Howship sign negative. Digital examination of the rectum revealed an empty rectum with no masses. An abdominal radiograph demonstrated small-bowel obstruction. She had an abdominal computerised tomography scan which revealed a small right-sided obturator hernia with upstream small-bowel obstruction (Fig 1, 2).

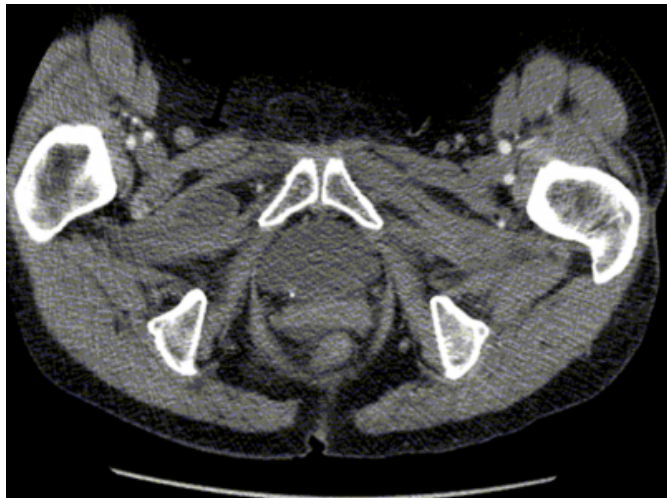
Figure 1

Fig 1: CT scan showing small-bowel obstruction.



Figure 2

Fig 2: CT scan showing a loop of small bowel in the right obturator foramen.



She then underwent a laparotomy through a transverse incision and the viable obstructed loop of bowel was delivered. The small bowel was decompressed and a permacol patch was used to obliterate the obturator foramen extraperitoneally. Post-operatively she was in ileus for 3 days and subsequently opened her bowels and she made a good recovery on a light diet and with physiotherapy. She was discharged home on the 7th postoperative day.

DISCUSSION

Obturator hernias are rare and a pre-operative diagnosis is exceptional, the vast majority being diagnosed at laparotomy for small bowel obstruction.¹²³ Obturator hernias represent 0.073% of all hernias in the West¹ and 1% in the far East.² Obturator hernias are a rare cause of small-bowel obstruction, accounting for approximately 0.4% of all cases.⁴ Despite advances in modern medicine, the mortality rate of small-bowel obstructions secondary to obturator hernias remains high because of vague presenting symptoms, which make the diagnosis difficult at initial presentation and may delay treatment. Obturator hernias occur predominantly in the seventh and eighth decades of life and are 9 times more frequent in women than men.⁵ Large, wide pelvic bones and more horizontally oriented obturator canals, which are prevalent in women, are believed to predispose to the development of obturator hernias.⁶ The typical patient with an obturator hernia is a thin, elderly female. Contributing factors are prior pregnancy, chronic illness, malnutrition, and any condition that produces peritoneal weakening. More than 60% of obturator hernias occur on the right side, and about 6%-15% of cases are bilateral. Obturator hernias have

been described:

- between the pectineus and obturator externus muscles (most common),
- between the superior and middle fasciculi of the obturator externus muscle, along the course of the inferior branch of the obturator artery and nerve, and
- between the external and internal obturator membranes (rare).¹³

The formation of an obturator hernia is initiated by preperitoneal fat entering the obturator foramen, the largest and strongest foramen in the body. Clinically, between 71% and 80% of obturator hernias present as small-bowel obstruction. The most common indicator (found in 40%-50% of patients) is the Howship-Romberg sign, which includes pain with or without paresthesias felt down the anteromedial thigh to the knee upon movement of the hip or thigh. Other symptoms include recurrent attacks of obstruction that resolve spontaneously, weight loss or emaciation, and, although rarely, a palpable mass.⁷ Usually the content is small bowel but it may contain appendix, Meckel's diverticulum¹⁴ or bladder.¹⁵

Most cases are seen in debilitated women, occurring after loss of the protective fat in the obturator canal. Many obturator hernias present as mechanical small-bowel obstruction which fails to resolve, leading to exploratory laparotomy and subsequent discovery of the hernia. CT scanning or other radiologic studies may be helpful for establishing the diagnosis and planning surgical intervention.⁸⁹ Abdominal computed tomography (CT), which is increasingly used as the first-line imaging modality for complete and high-grade incomplete small-bowel obstruction¹¹¹² resulted in more frequent preoperative diagnosis of obturator hernias. CT scans may demonstrate a low-density mass that lays between the obturator externus and pectineus muscles, contributing to a successful diagnosis in most cases.¹⁰ The combination of acute small bowel obstruction and a Howship-Romberg sign in a thin, frail, elderly woman with no history of abdominal surgery is highly suggestive of an obturator hernia.

A lower midline laparotomy is the favoured approach. Excellent views of the obturator canal, nerve and vessels are obtained and a bowel resection, necessitated in up to 80% of cases², is easily performed. There are several ways of

repairing the hernial defect, though some prefer leaving it open. The recurrence rate of unclosed defects is not known. Closure of the defect with single or multiple sutures risks damaging the obturator nerve and vessels and some defects are too large to close by simple suture. ³ We used a permacol patch to repair the hernia. We reduced the sac and opened the peritoneum at the level of the foramen and used the permacol patch and medial fixation to the pubic tubercle and fascia over the symphysis was done.

CONCLUSION

Obturator hernia invariably requires surgical intervention because intestinal occlusion and strangulation often occur. Early diagnosis and surgical treatment are essential to minimize the morbidity and mortality associated with obturator hernia. CT scan plays an important role in preoperative diagnosis. Currently; there are several ways to repair obturator hernia, including hernia sac ligation only, hernial defect direct closure with interrupted non-absorbable sutures, mesh repair at laparotomy, and laparoscopic transabdominal or preperitoneal mesh repair.

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