

Obturator Hernias

ABSTRACT

Obturator hernias are an uncommon type of abdominal hernia, occurring at the pelvic floor. Clinical presentation is vague with symptoms including nausea and vomiting secondary to intestinal obstruction as well as inner thigh pain which can be clinically exacerbated by hip and knee flexion (Howship-Romberg sign). Imaging modalities such as computed tomography and ultrasound allow visualisation of the herniated tissue within the obturator foramen. Surgical reduction of the herniated contents is the standard intervention and can be performed via open or laparoscopic techniques.

KEYWORDS

Obturator hernia, Abdominal hernia, Hernia surgery, Intestinal obstruction.

AETIOLOGY AND INCIDENCE

Due to their rarity and subtle onset, obturator hernias offer a diagnostic dilemma in clinical practice, with only 1 in 10 cases being correctly diagnosed pre-operatively.¹ Owing to the frequently delayed recognition and the high incidence of patients with concurrent medical comorbidities,² morbidity and mortality rates stand at around 38% and 12–70% respectively.³

The incidence of obturator hernias is <1% of all abdominal wall hernias.³ Characterised by the protrusion of small bowel and less commonly pelvic adnexa, appendix, omentum or colon into the obturator foramen, a right-sided obturator hernia is more common, with a ratio of 2:1, since the sigmoid colon acts as a protective barrier at the left obturator foramen.⁴ Bilateral herniation,⁵ as well as concurrence with other hernias, most frequently femoral,⁶ has been reported. The female to male ratio varies between 9 and 6:1 attributed to a broader pelvis resulting in a larger triangular obturator foramen with a greater transverse diameter. Obturator hernias are typically seen in frail, elderly women (85%), often institutionalised and chronically ill, with a mean age of 82 years and mean weight of 34.5 kg.⁷ This predominance in elderly females has led to the derivation of the moniker “little old ladies’ hernia”.⁶ There is also a higher incidence of obturator hernias in Asian populations, with the typical thin body habitus being postulated as a cause.⁸

Other contributing factors include multiparity, weight loss and malnutrition, and comorbidities causing raised intra-abdominal pressure such as chronic obstructive pulmonary disease, ascites, and chronic constipation.⁵

CLINICAL PRESENTATION

Clinical presentation is insidious. 90% of patients present with acute mechanical small bowel obstruction, having dull spasmodic abdominal pain, nausea, and vomiting. Patients may also present with chronic refractory groin pain or cramps or hyper/hypoesthesia along the medial aspect of the thigh due to obturator nerve compression. The Howship-Romberg sign can be elicited in around 50% of patients⁹ when neuralgic pain is exacerbated during extension, abduction, and medial rotation of the thigh, and relieved during flexion of the thigh. Rarely, the patient may complain of a mass over the medial thigh or complain of lower urinary tract symptoms if the bladder forms part of the hernia content.¹⁰

The Hannington-Kiff sign is more specific but occurs less frequently than the Howship-Romberg sign, and is characterised by the loss of the thigh adductor reflex in the presence of a normal ipsilateral patellar tendon reflex.¹¹

DIFFERENTIAL DIAGNOSIS

Differential diagnosis includes femoral hernia, pelvic tumours, hypogastric artery aneurysms, endometriosis, retroperitoneal haematomas, musculoskeletal and soft tissue pathologies, as well as intestinal obstruction causes.^{12–15}

INVESTIGATIONS

Computed tomography (CT) of the abdomen and pelvis is the gold standard diagnostic tool, boosting the preoperative diagnosis rate to around 90%. A CT scan can accurately demonstrate a low-density mass such as a fluid-filled or an air-filled bowel loop, in the area of the obturator foramen, between the obturator externus and the pectineus muscles, as well as indicate any features of intestinal obstruction.³ An ultrasound (US) scan offers a rapid, non-invasive, and cheap diagnostic alternative which may be used in an emergency situation. Magnetic resonance imaging (MRI) has also been used and is comparable to CT scans.¹⁶

TREATMENT

The diagnosis of an obturator hernia tends to necessitate immediate surgical release and repair of the hernial defect to avoid strangulation.¹⁷⁻¹⁸ Surgical approaches include intra-abdominal (transperitoneal), extraperitoneal, and laparoscopic.¹⁹ An extraperitoneal approach is considered superior in established pre-operatively diagnosed cases since there is less risk of future adhesions.¹⁷ An intra-abdominal approach is best considered in emergency situations, when strangulation is suspected or when diagnosis is unclear, due to improved surgical field exposure and easier hernia reduction and repair of the defect.^{17,20-21} Gentle dorsal and medial traction should be applied intra-operatively, with utmost care during reduction, to prevent rupture of the already oedematous bowel.^{20,22} Meticulous assessment of the intestinal loop must be done, to ascertain bowel viability and determine whether bowel resection and primary anastomosis should be performed.²² Sac excision and repair of the defect with sutures or a prosthetic patch further lowers recurrence rates.³ Use of prosthetic materials, such as a polypropylene mesh, is favoured for larger defects.²³

It is advisable to check and prophylactically reinforce the contralateral obturator canal during the index operation due to the high incidence of recurrences, bilaterality, and difficulty with clinical diagnosis, even when only a unilateral hernia is evident.^{1,24}

The laparoscopic approach offers fewer post-operative complications,¹¹ including shorter hospital stays and lower rates of postoperative ileus and postoperative pain.⁸

COMPLICATIONS

If left untreated, complications include colocutaneous fistulae,²⁵ bowel perforation secondary to gangrene, peritonitis, septicaemia, and ultimately death.²⁶ Such fatal complications are not uncommon and are the result of a delay in diagnosis since obturator hernias are rare and may go undetected.^{3,26}

CASE REPORT

An 86-year-old Caucasian woman presented to the emergency department with a 4-day history of vomiting and a 5-day history of constipation. She reported having more than 5 episodes of vomiting per day, with the vomitus being described as darkish in colour. She also remarked that she was passing less flatus than usual, but was still passing urine normally.

The patient had a history of ischaemic heart disease, congestive heart failure, hypertension, hypothyroidism, and gastroesophageal reflux disease, but reported no surgical history. She was on aspirin 75 mg daily, bumetanide 1 mg twice daily, carvedilol 6.25 mg twice daily, omeprazole 20 mg daily, levothyroxine 100 mcg daily, and perindopril 4 mg daily. She was allergic to pregabalin. Socially, she lived independently within the community, coping with her Activities of Daily Living (ADLs) and does not smoke or drink alcohol.

On clinical examination, she was noted to be dehydrated, though alert and oriented, with a pulse of 88 bpm, blood pressure of 143/80 mmHg, SpO₂ of 99% and a temperature of 36.9°C. Heart sounds were normal, bibasal crepitations were detected on auscultation of the chest and there were no signs of oedema or deep vein thrombosis in the lower limbs. On abdominal examination, the abdomen was distended but soft with minimal discomfort on abdominal palpation.

An initial X-ray of the abdomen showed dilated loops of the small bowel. A subsequent CT scan showed small bowel obstruction secondary to a left obturator hernia containing a loop of ileum with no evidence of ischaemia or perforation on imaging.

The patient was kept nil by mouth, and a nasogastric tube and urinary catheter were inserted. She was also given IV fluid replacement and maintenance and input-output charting was started. She was taken to the operating theatre on the same day for a laparoscopic left obturator hernia repair.

A left-sided obturator hernia with an incarcerated loop of small bowel and contained perforation at the site of the hernia was noted intraoperatively.

DIFFERENTIAL DIAGNOSIS INCLUDES FEMORAL HERNIA, PELVIC TUMOURS, HYPOGASTRIC ARTERY ANEURYSMS, ENDOMETRIOSIS, RETROPERITONEAL HAEMATOMAS, MUSCULOSKELETAL AND SOFT TISSUE PATHOLOGIES, AS WELL AS INTESTINAL OBSTRUCTION CAUSES

The hernia was reduced laparoscopically. A washout was performed within the hernial sac and the defect was closed with a figure-of-8 suture using a PDS 2-0 suture. The segment of small bowel containing the perforation was delivered through an Alexis port that was placed through the extended infra-umbilical port incision. Both the resection and the side-to-side entero-enteric anastomosis (utilising a PDS 3-0 suture) were done extracorporeally. Post-operatively, the patient remained well and resumed her normal diet within a few days. She opened her bowels 5 days following the surgery and was deemed dischargeable on postoperative day 7. She was given co-amoxiclav 1 g twice daily, for a further 3 days. The patient was followed up at outpatients 4 weeks following surgery having recovered well and without concern.

CONCLUSION

Given the elusive nature of obturator hernias and the associated diagnostic challenges, it is imperative that clinicians maintain a heightened level of vigilance. Timely and accurate referral of patients presenting with symptoms indicative of obturator hernias is crucial, as it facilitates prompt intervention, thereby mitigating the associated morbidity and mortality risks.

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