

Case of laparoscopic treatment recurrent obturator hernia

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Abstract. Obturator hernia is an internal abdominal hernia in the pelvis, which is very rare in the practice of a surgeon. This hernia is more common in elderly women. The incidence varies but is approximately 0.05-0.07% of all hernias. Obturator hernias present a diagnostic challenge because signs and symptoms are often non-specific, making preoperative diagnosis difficult. They require high vigilance and caution in surgical treatment as many of these patients are elderly with the presence of comorbidities. Reports on the treatment modality, will benefit the surgical community regarding the management of obturator hernias. We present a rare case of recurrent obturator hernia causing recurrent small bowel obstruction in a 63-year-old woman.

1 Introduction

Although obturator hernias represent only 0.05-0.07% of the total number of hernias, they are characterised by a relatively higher mortality rate (15-25%), mainly due to late diagnosis with bowel infarction (60-75%) [1, 2-7].

An obturator hernia exits the pelvic cavity through a small obturator vessel and nerve opening located at the upper edge of the obturator membrane, embeds into the internal opening of the obturator canal. The hernia sac, the contents of which are a loop of small intestine, omentum, exits through the external opening of the canal to the medial surface of the thigh under the adductor muscles [2, 3, 9-11].

Typical patients are elderly and thin women, termed "thin old lady's hernia" [3, 4, 9-11]. This is because women have a wider pelvis and a wider obturator canal [6, 11]. In emaciated elderly people, loss of adipose tissue combined with increased intra-abdominal pressure favours hernia formation [11, 12]. Latent forms are recognised by indirect signs: neuralgic pain in the upper third of the inner thigh, due to pressure of the hernial bulge on the obturator nerve within the canal. In 50% of cases, the pain covers the entire area of innervation of the obturator nerve [13]. To reduce the pain, the patient assumes a slightly flexed position in the hip joint with internal rotation of the thigh [12, 14]. Accurate preoperative diagnosis of obturator hernias is usually difficult, and most patients are operated on as intestinal obstruction of unknown cause [9, 14]. The manifestations are nonspecific, ranging from hip or knee pain on the affected side to recurrent attacks of intestinal obstruction with spasmodic

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abdominal pain, nausea and vomiting [1, 3, 4, 8, 9, 13]. Howship-Romberg sign in which there is pain in the medial part of the thigh, which increases with internal rotation of the thigh, due to compression of the locking nerve. Huntington-Kieff syndrome is another symptom encountered in obturator hernias and is manifested by the absence of the femoral adductor reflex in the presence of the patellar reflex on the side of the hernia [3, 4, 10, 13]. However, it occurs in only 15-50% of patients with obturator hernias [4, 10, 14]. Plain X-rays often show non-specific signs of small bowel obstruction and are rarely helpful in the diagnosis of obturator hernias [8]. Ultrasound is often limited by the relative inaccessibility of this deep region and is operator dependent. Computed tomography can accurately diagnose not only obturator hernia but also other conditions of intestinal obstruction [3, 4, 8].

Here we present a case of an elderly woman who presented again one year after surgery with complaints of obstructive symptoms and abdominal pain due to an obturator hernia.

2 Case report

A 65-year-old woman was admitted to the clinic with complaints of severe abdominal and left leg pain, nausea, vomiting and general weakness. The last bowel emptying was 3 days ago. Earlier during 3 years the patient had been experiencing periodic pain in the abdomen and left leg. The patient's condition improved when lying on the right side. Due to signs of intestinal obstruction, laparoscopic surgery was performed a year ago at a district hospital. The examination revealed a pinched obturator hernia on the left side and the peritoneum was sutured over the obturator opening with absorbable sutures. No postoperative complications were observed. Nothing bothered the patient for a year.

On examination She was emaciated, asthenic, body mass index (BMI) - 17.5, acutely ill looking with tachycardia 98 beats/min and blood pressure 110/65 mmHg. The tongue is semi-dry, covered with white plaque. The abdomen is distended, slightly tense and painful in the lower parts. Abdominal examination revealed a moderately bloated, hyperintympanic abdomen with hyperactive intestinal murmur, but there were no signs of peritoneal irritation. Digital rectal examination was without signs. Nasogastric tube insertion revealed biliary gastric contents, basic laboratory investigations showed leucocytosis 11,500 with left shift (neutrophils 86%), an overview abdominal X ray (Fig. 1) - dilated loops of small intestine. Due to technical problems in the CT scanner, the scans could not identify the cause of the intestinal obstruction. CT scan did not reveal the cause of obstruction.



Fig. 1. Plain abdominal X-ray showing dilated small bowel loops with fluid-gas levels, Cloeber's bowls and isolated "arches".

Taking into account the similarity of the patient's complaints and condition before the first operation and at present, as well as the sutured peritoneum on the obturator canal with absorbable sutures (from the operation protocol) it is established a preliminary diagnosis of "Intestinal obstruction. Recurrent impingement of obturator hernia on the left?". Laparoscopic examination: there is a small amount of transparent exudate in the abdominal cavity, the small intestine is swollen over a large length. The small intestine was found to be pinched in the internal opening of the left obturation canal. The intestine was released from the impingement ring by careful traction. Examination of the intestine revealed no necrosis. The hernia sac was removed from the obturation canal and the peritoneum was dissected by a semi-oval incision 9-10 cm long, 3 cm from the upper edge of the obturation hole. Together with the hernia sac it was separated from the obturation fascia. lightweight large porous mesh was placed in the vacated space, which covered the hole with a reserve of 5-7 cm and fixed to the fascia along the perimeter with nonabsorbable suture because we didn't have an endostepler. The peritoneum above the mesh was fixed with a continuous suture with absorbable suture. The pelvic cavity was drained. The postoperative period proceeded without complications and she was discharged from the hospital in a stable condition on the 6th day of her stay. Follow-up of the patient for 1 month after the operation showed a normal course of the postoperative period.



Fig. 2. Small intestine pinched in the left obturator canal.

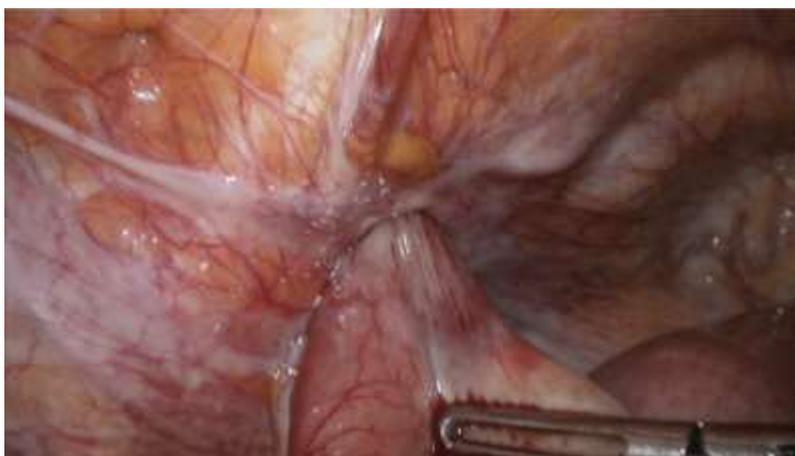


Fig. 3. Extraction of the bowel from the left obturator canal.

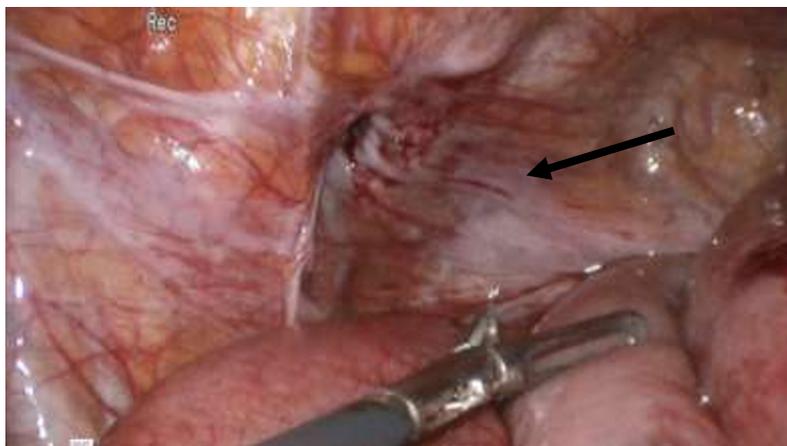


Fig. 4. Hernia gate (internal opening) of the left obturator canal.



Fig. 5. Fixation of mesh along the periphery of the internal orifice of the obturator canal.

3 Discussion

An obturator hernia is formed through an obturator foramen containing vessels and a nerve of the same name. Arnaud de Roncil first described this pathology in 1724 [3]. The obturator canal is approximately 2.5-3 cm long and 1 cm wide, allowing the passage of the obturator artery, vein and nerve from the pelvis to the thigh. It is covered by the obturator membrane and is usually filled with fatty fibre, leaving no room for hernia formation [3, 4, 7]. Loss of body fat and increased intra-abdominal pressure are the main factors leading to the development of hernias [3, 5]. Weakened pelvic floor in multiple pregnancies, advanced age and debilitation due to chronic disease are contributing factors in patients. Diagnosis of this type of hernia poses a significant challenge due to the specificity of its symptoms. The most common contents of the sac are ileum [3, 9, 12]. Patients may present with Howship-Romberg sign or obturator nerve neuropathy due to irritation of the nerve by the intestine in the hernia. Hip flexion relieves the pain as observed in our patient. Although abdominal CT is sensitive for preoperative diagnosis of obturator hernias [3, 4], in most patients, as well as in our patient during her first operation, the diagnosis is made intraoperatively as it is a rare cause of acute surgical abdomen. In contrast to the data frequently found in the literature, this patient was found to have a left obturator hernia, which is extremely rare.

The main method of treatment is surgical intervention [13]. Surgery can be performed transperitoneally (laparotomy along the lower midline) or laparoscopically [3, 4, 7, 8, 13, 14]. When the diagnosis is not established before surgery and the operation is undertaken due to intestinal obstruction, laparotomy is most often used. This access creates good conditions for examination, provides adequate exposure, makes it possible to reposition the hernial contents and, if necessary, facilitate bowel resection [5, 7]. However, it does not provide the surgeon with the convenience of closing the hernia defect deep in the pelvis, which increases the risk of wounding the obturator vessels.

In our practice we prefer laparoscopic surgeries as less traumatic and at the same time allowing to perform a thorough revision of any part of the abdominal cavity and small pelvis. In this case, the patient underwent laparoscopic treatment with the use of mesh and her recovery was without complications, which allowed the patient to be discharged home on the 5th day of hospital stay with a favourable outcome in a satisfactory condition.

4 Conclusion

The literature is quite complete in describing the surgeries for obturator hernia repair and the types of hernia closure. However, due to the rarity of these hernias and publications on this topic, as in our patient, during the first operation, the surgeon faces intraoperative questions (possibly in our region) with the method of closure (repair) of the hernia gate. Obturator hernias, although rare, require high alertness and caution in surgical treatment as many of these patients are elderly with multiple comorbidities. Further studies and reports on the technique and type of hernia closure encountered by surgeons will benefit the surgical community regarding the practice and management of obturator hernias. In our experience, if endostaplers are available, we suggest using them for mesh fixation, as this is minimally traumatic and will save operating time. When applying sutures or endostapler, one must be very careful with regard to the obturator vessels. If an obturator hernia is suspected, it is advisable to perform CT angiography to fully visualize the topographic-anatomical relationship of the abnormally located vessels around the neck of the hernia sac [14].

5 Conflict of interest statement

The authors have declared no potential conflicts of interest in relation to the research, authorship and publication of this article.

6 Ethical approval

Ethical approval is not required at our institution for the presentation of individual cases or case series.

7 Consent

Written informed consent was obtained from the patient for the publication of their anonymised information in this article.

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