Obturator hernia: A diagnostic challenge

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Abstract

An obturator hernia is a rare condition, but important cause of bowel obstruction we reported the case of a 87-year-old woman complaining of a lower right abdominal pain and vomiting due to an obturator hernia diagnosed by a CT scan and treated by an open surgical procedure.

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Corresponding author’s full contact details: Name: Mohamed Amine Tormane University of Monastir- Tunisia Department of general surgery Hospital Fattouma Bourguiba – Monastir Tunisia Email: medaminetormane307@gmail.com Present address: Address: Rue Okbaa Ben Nafaa 5090 Bekalta Monastir – Tunisia Title Page (including author details) ¹TITLE: Obturator hernia: A diagnostic challenge ²KEYWORDS: Obturator hernia, occlusions, CT-scan, diagnostic, surgical treatment ³HIGHLIGHTS: Obturator hernia is an extremely rare type of hernia with relatively high mortality and morbidity. Early diagnosis is a challenge because of the non-specific signs and symptoms. Computed tomography scan is sometimes required to establish the diagnosis. Surgery is the ultimate treatment. ⁴ABSTRACT: INTRODUCTION Obturator hernia is an extremely rare type of hernia with relatively high mortality and morbidity. Its early diagnosis is challenging since the signs and symptoms are nonspecific. PRESENTATION OF CASE: This report illustrates the case of an elderly female who presented with nausea, vomiting, and lower right abdominal pain. Imageology demonstrated bowel obstruction secondary to an incarcerated obturator hernia treated with an open surgical approach. CLINICAL DISCUSSION: 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. Surgery is the cornerstone treatment for this type of hernia.

CONCLUSION:

Obturator hernia is a highly rare surgical emergency. Clinical diagnosis is a challenge with atypical symptoms. It can be guided by a CT scan.
This entity has a high mortality rate, mainly due to delays in diagnosis and surgery.

**INTRODUCTION AND IMPORTANCE**

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. It has one of the highest mortality rates of all abdominal wall hernias at 12%–70% due to delayed diagnosis. 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 an exploratory laparotomy for bowel obstruction. Surgery is the definitive treatment.

This work has been reported in line with the SCARE 2020 criteria.

**PRESENTATION OF A CASE**

An 87-year-old woman presented to the emergency department after 3 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. 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, rebound tenderness or guarding were found.

Abdominal ultrasound showed hydro-aerial levels and small bowel dilatation as shown in Figure 1. CT scan revealed a strangulated left-sided obturator hernia with jejunal contents shown in Figure 2.

The patient was operated by laparotomy. The exploration highlighted a strangulated obturator hernia on the left side, with a lateral pinch marking a variation in caliber (Figure 3, Figure 4: A, B).

The incarcerated bowel was reduced gently. No sign of ischaemia was found and so there was no need for bowel resection. The defect was repaired with parietal peritoneum plicature.

The postoperative course was uneventful with a follow-up of two weeks.

**CLINICAL DISCUSSION**

We report a successful surgical treatment of a strangulated obturator hernia. The main strength of our work is early diagnosis avoiding bowel resection and thus decreasing morbidity and mortality. The main weakness of our work is the choice for a laparotomy instead of laparoscopy. Our choice is explained by the fact that this approach is the fastest and safest to facilitate bowel resection when bowel necrosis complicates the occlusion.

Strangulated obturator hernia is a rare condition [5, 6], and was first defined in 1718 (1), but only few cases have been described since then. However, an increase in its secondary prevalence to the aging population has been observed [1, 7]. Also, OH is 8 times more common in females than males [1, 7, 8].

Obturator hernia is often associated with advanced age (70 year-old or more), female sex, significant weight loss and multiparity, causing laxity of the pelvic floor [8]. Because of its latent nature, obturator hernia reaches the strangled state and is revealed by an acute occlusive syndrome, sometimes preceded by spontaneously reduced constriction in 23.5% [8].
In the literature, there is a rate of sub-occlusive cases varying from 11.8 to 34.7% [6, 8]. Besides, obturator hernia happens often on the right side, and is associated with inguinal hernia in 2.1% of cases [9], and bilateral in 6% of cases.

For the case of obturator hernia, Romberg-Howship sign is considered the best clinical way to identify it, with a frequency going from 15 up to 50% of cases [9]. It corresponds to a pain caused by the compression of the obturator nerve by the hernial sac. This pain is amplified by the abduction and internal rotation of the knee. However, our patient didn’t show any of these symptoms, which confirms that this pathology is rare. Thus, it cannot be considered a clinical sign to look for when examining a patient with acute occlusion of the small intestine. Different examinations were used for the diagnosis of obturator hernia; still, CT-scan is the best choice for this case [4, 5, 10].

Surgery is the common treatment of strangulated obturator hernia, but different approaches can be considered, varying both in approach and repair technique. Performing an emergency laparotomy is the fastest and safest approach to facilitate intestinal resection when intestinal necrosis complicates the occlusion [2, 3, 4, 8]. In addition to its therapeutic role, laparoscopy is a diagnostic tool for small bowel occlusion, allowing the definition of its organic nature and etiology [11].

Although this technique is reported by many researchers in the field, the accumulated experience in the treatment of obturator hernias is still too limited to be recommended as a routine procedure. Surgical treatment involves a smooth reduction of the congestive and fragile incarcerated loop, while avoiding any traction.

If the intestinal necrosis persists even after reduction, a segmental resection is then necessary by means of a simple suture or a prosthetic material insertion [8, 9]. It is noteworthy that the recurrence rate can reach up to 10% in case the surgery is not carried out [9]. Moreover, using adjacent tissues (e.g. bladder, ovary, obturator and uterine ligaments) seems to provide a more stable repair than peritoneal closure alone [9].

In summary, we reported the case of a 87-year-old woman complaining of a lower right abdominal pain and vomiting due to an obturator hernia diagnosed by a CT scan. A successful hernia repair by an open surgical procedure was performed. **CONCLUSION**: Obturator hernia is a rare but significant cause of intestinal obstruction especially in emaciated elderly woman and a diagnostic challenge for the Doctors. CT scan is valuable to establish preoperative diagnosis. Surgery either open or laproscopic, is the only treatment. The need for the awareness is stressed and CT scan can be helpful. Any therapeutic delay increases both mortality and morbidity.

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**PATIENT CONSENT**: Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

**AUTHOR CONTRIBUTIONS**: Mohamed Amine Tormane and Amal Bouchrika did the conception and design of the work, the data collection, and the data analysis and interpretation. Amina Chaka and Tarak Kellil did the critical revision of the article
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ADDITIONAL FILES:

Figure 1: Abdominal ultrasound revealing a dilated small-bowel

Figure 2: An axial section of Abdominal CT scan, showing left herniated obturator

Figure 3: Lateral pinching of the loop in the filling hole with a variation in caliber

Figure 4: A: obturator hole

B: the right tube

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