



OBTURATOR HERNIA OF THE RICHTER TYPE: A RACE AGAINST TIME

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<p>Article Info <i>Received 15/09/2015</i> <i>Revised 27/09/2015</i> <i>Accepted 12/10/2015</i></p> <p>Key words: Obturator hernia, Richter's hernia, Small bowel, Laparotomy.</p>	<p>ABSTRACT Obturator hernia is a rare type of hernia accounting for less than 1% of all intra-abdominal hernias and 0.2–1.6% of mechanical small bowel obstructions. The diagnosis is often delayed due to non-specific presenting symptoms. It is usually diagnosed on an exploratory laparotomy for small bowel obstruction. We present a case of obturator hernia of Richter's variety in which the diagnosis was promptly made by computed tomography and emergent treatment was carried out by laparotomy and reduction of viable small bowel. The diagnosis of obturator hernia should be strongly suspected in a thin, elderly woman with small bowel obstruction and no previous abdominal surgery.</p>
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INTRODUCTION

An obturator hernia is a rare form of pelvic hernia that occurs when intra-abdominal viscera protrude through the obturator canal. It constitutes just under one percent of all intra-abdominal hernias and is reported to be the cause of 0.2 – 1.6% of all mechanical small bowel obstructions [1]. They occur most frequently in frail, elderly women who are multiparous [2]. The obturator foramen is greater in diameter in women compared to men owing to the broader female pelvis, and is markedly widened in multiparous women. Lymphatic tissue and peritoneal fat surrounds the neurovascular bundle within the obturator canal which consequently diminishes in patients who are emaciated. Therefore, these hernias are commonly found in those individuals with a lower body mass index (< 19kg/m²) [1]. Other factors that increase the chance of obturator hernia include conditions that predispose the individual to prolonged increased intra-abdominal pressure

like chronic cough, urinary straining and long-standing constipation. A Richter's hernia on the other hand, is a protrusion of only part of the circumference of a viscus through a weakness in the abdominal wall [3]. In this instance, only a section of the small bowel wall protrudes through the obturator canal and subsequently becomes incarcerated.

CASE REPORT

An 84-year-old Caucasian woman presented with a one day history of colicky mid abdominal pain, abdominal distension and a few episodes of vomiting. She had a normal bowel movement the day before presentation. She had no other systemic symptoms and no previous abdominal surgery. She was known to have ischaemic heart disease, hypertension, atrial fibrillation, chronic obstructive airway disease, osteoporosis and rheumatism.



Physical examination revealed that she was dehydrated, frail and emaciated with a body weight of 32 kg. Her body mass index was 12.1 kg/m². Her abdomen was distended, with a little tenderness in lower abdomen, without signs of peritonism. The hernial orifices were clinically normal. Bowel sounds were reduced. She had an elevated white cell count of 13.4 x 10⁹/l but all other blood tests remained within normal range.

The plain abdominal X-ray revealed distended small bowel loops extending across the midline at the pelvic inlet level. The patient was kept nil by mouth, started on intravenous fluids and a nasogastric tube was inserted. Contrast enhanced computed tomography (CT) of the abdomen and pelvis demonstrated features of small

bowel obstruction with a knuckle of small bowel herniating through the left obturator foramen (Figures 1 and 2).

The patient underwent exploratory laparotomy through a lower midline incision the same evening. A classic Richter's hernia was discovered with a knuckle of small bowel incarcerated within the left obturator foramen. The hernia was reduced by pulling out the small bowel, which remained healthy and viable (Figure 3). The peritoneal sac in the obturator foramen was closed with a continuous suture (Figures 4a and 4b). She started to tolerate food and drink and resumed her bowel function soon after her operation. The patient's recovery was complicated with pneumonia, resulting in her unfortunate death 4 weeks post-operatively.

Figure 1. Cross section computed tomography (CT) of the abdomen showing a knuckle of small bowel herniating through the left obturator foramen

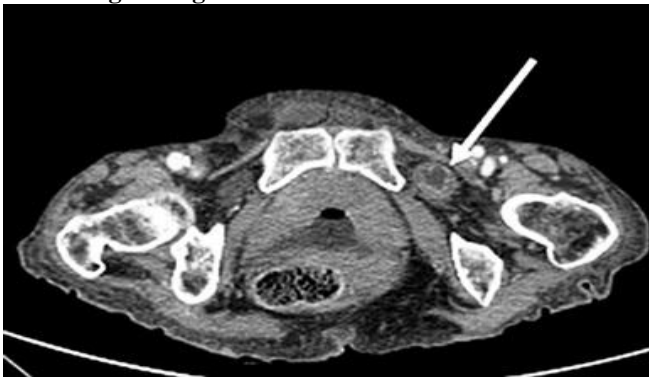


Figure 2. Sagittal section CT of the abdomen showing small bowel entrapped in obturator foramen

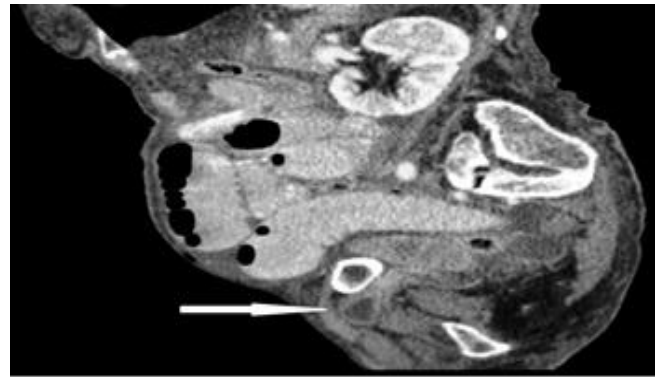
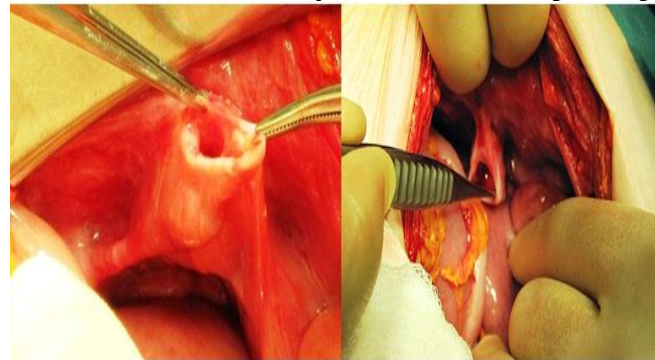


Figure 3. Healthy and viable small bowel after reduction of Richter's hernia from the left obturator foramen



Figure 4a & 4b. The peritoneal sac in the left obturator foramen is demonstrated by eversion with forceps & clips



DISCUSSION

Patients with obturator hernias commonly present with vague symptoms including abdominal pain and vomiting, which could lead to delay in finding the true cause. It is reported that 15-50% of these patients may also exhibit a positive Howship-Romberg sign, a result of obturator nerve compression within the obturator canal, producing pain at the medial aspect of the thigh [2, 4].

Early diagnosis of such hernias is challenging since the presenting symptoms are very non-specific, which results in lost time and an increased chance of necrosis of the involved bowel.

Consequently obturator hernia is associated with significantly high morbidity and mortality rates, especially in the elderly [1]. Therefore, in cachectic, elderly women presenting with such non-specific symptoms, suspicion of an obturator hernia must be kept in the mind. For an early diagnosis to be made, urgent CT scan should be chosen as the imaging modality of choice [5]. In this case, an urgent CT was performed within a few hours of admission and with a firm diagnosis, the patient was taken into emergency theatre the same evening. With this prompt diagnosis, the patient was fortunately discovered to have viable bowel

within the obturator canal. In cases of delayed diagnosis, where patients are taken to theatre days rather than hours after admission, resection of necrotic bowel may be inevitable.

CONCLUSION

Although rare, it is important to remember the obturator hernia as a differential diagnosis of acute intestinal obstruction in a thin, emaciated and elderly woman. Urgent CT scanning is effective in providing an early diagnosis. These patients require prompt surgical intervention to ensure bowel viability and good post-operative outcomes.

REFERENCES

1. Mandarray MT, Zeng SB, Wei ZQ, Zhang C, Wang ZW. (2012). Obturator hernia--a condition seldom thought of and hence seldom sought. *Int J Colorectal Dis*, 27(2), 133-141.
2. Fakeye VO, John AR, Jambulingam PS, Vidya R. (2010). Pre-operative diagnosis of obturator hernia: a report of two cases. *Ann R Coll Surg Engl*, 92(1), W1-2.
3. Shukla S, Garge S. (2010). Obturator hernia of the Richter type: A case report. *Indian J Surg*, 72(Suppl 1), 299-301.
4. Ziegler DW, Rhoads JE Jr. (1995). Obturator hernia needs a laparotomy, not a diagnosis. *Am J Surg*, 170, 67-68.
5. Cai X, Song X, Cai X. (2012). Strangulated Intestinal Obstruction Secondary to a Typical Obturator Hernia: A Case Report with Literature Review. *Int J Med Sci*, 9(3), 213-215.

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CONFLICT OF INTEREST: Nil

STATEMENT OF HUMAN AND ANIMAL RIGHTS

All procedures performed in human participants were in accordance with the ethical standards of the institutional research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. This article does not contain any studies with animals performed by any of the authors.

