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TITLE: Small bowel obstruction due to recurrent obturator hernia: a case report

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ABSTRACT

Introduction
A diagnostic challenge, the obturator hernia is an uncommon cause for small bowel obstruction. It is classically described in thin elderly women. Delay to diagnosis may result in strangulation and gangrenous bowel at subsequent laparotomy. The classically described signs, whilst useful when present, are absent in greater than 50% of cases, and preoperative diagnosis is made on radiological imaging.

Case Report
We report a case of small bowel obstruction secondary to a strangulated obturator hernia in an elderly female. Laparotomy, bowel resection and suture hernia repair was undertaken. A subsequent presentation of small bowel obstruction was due to recurrence of the obturator hernia, however resolved without operative management.

Conclusion
A high index of suspicion is required to diagnose an obturator hernia clinically. Failure to do so results in greater mortality and morbidity. Early cross sectional imaging can make the diagnosis and lead to earlier surgical repair. A diagnostic challenge, an obturator hernia is a rare cause of small bowel obstruction. Delay in diagnosis is associated with adverse outcome. CT imaging has proved invaluable to early detection and repair.

Keywords: Obturator hernia, small bowel obstruction
TITLE: Small bowel obstruction due to recurrent obturator hernia: a case report

INTRODUCTION
An obturator hernia is a result of weakening of the obturator membrane, allowing a hernial sac to pass through the obturator foramen [1]. An uncommon type of hernia, and a rare cause of bowel obstruction, it is often clinically difficult to diagnose as the cause of obstruction. The pathognomonic sign, present in up to 50% of cases, is the Howship-Romberg sign; compression of the obturator nerve causing pain with or without paraesthesia in the anterior-medial thigh [2,3]. The Hannington-Kiff sign is positive when there is loss of the adductor reflex in the presence of an active patellar reflex [4]. Cross-sectional imaging with either computer tomography (CT) or magnetic resonance imaging plays an important role in pre-operative diagnosis of this uncommon hernia [3]. This report discusses a case of recurrent obturator hernia and the value of CT for diagnosis.

CASE REPORT
An 86 year-old Caucasian female presented to hospital with a five day history of vomiting, generalized colicky abdominal pain and constipation as well as right hip pain. Past medical history included congested cardiac failure, pulmonary hypertension, transient ischaemic attack, mitral valve replacement on warfarin, previous surgery for rectal prolapse and bilateral inguinal herniae.

Initially, the patient was noted to be nauseated with a tender, distended abdomen. An initial working diagnosis of constipation or gastroenteritis was made, and enemas and supportive treatment was initiated overnight. The following day, a surgical review was sought for failure to progress and an abdominal x-ray suggesting a subacute or developing bowel obstruction. Clinical findings of ascites, lower abdominal tenderness and no palpable herniae prompted a CT abdomen for further evaluation. The Howship-Romberg sign was not present. Imaging confirmed a right sided obturator hernia (Figure 1) containing a loop of small bowel as the cause of the obstruction, with multiple dilated loops of small bowel and moderate intraperitoneal fluid. The patient underwent emergency laparotomy, suture repair with omental plug...
of the obturator hernia and small bowel resection for gangrenous constriction rings of
the small bowel.

Once recovered, the patient presented a further three times in the next year with
small bowel obstruction, with symptoms of nausea, vomiting, bowels not opening
and abdominal pain and lower abdominal tenderness on examination. All episodes
were managed conservatively, and CT imaging confirmed the diagnosis in every
case. During the second presentation, the CT scan confirmed a recurrence of the
right sided obturator hernia and identified it as the cause of the acute obstruction
(figures 2, 3). The patient was planned for surgery, however, improved with non-
operative measures, and given the high anaesthetic risk secondary to multiple
comorbidities, the procedure was abandoned. No elective repair was planned. The
final presentation identified a transition point in the right iliac fossa on imaging,
however, in this episode, the obturator hernia was not thought to be the cause, and
management was as for adhesive obstruction. The patient died not long after from
complications secondary to a cerebrovascular accident.

DISCUSSION

The obturator hernia was first described by Arnaud de Ronsil in 1724 [2]. It’s
incidence has been reported as 0.07-1% and it accounts for up to 1.6% of small
bowel obstructions [3,4]. The first laparotomy for a strangulated obturator hernia
was performed by Hilton in 1848, however Obre performed the first successful repair
in 1851 [4,5]. Predisposing factors include increasing age, female gender (6:1 F:M
ratio), multiparity, emaciation and condition associated with chronically raised intra-
abdominal pressure (e.g., ascites, chronic pulmonary disease, chronic constipation)
[4]. Most often, obturator herniae are diagnosed in elderly, emaciated females, and
so have been named the little old ladies’ hernia. Diagnostically, they pose a
challenge, as the pathognomonic features are present in fewer than fifty percent of
patients. Cross-sectional imaging has increased the rate of pre-operative diagnosis,
as well as decreasing morbity and mortality it results in earlier intervention [6,7,8].

Various approaches are available for operative repair of an obturator hernia. Most
commonly, an open abdominal approach has been employed, however retropubic,
obturator and inguinal approaches have been described. Laparoscopic repair is
possible via transabdominal and extraperitoneal approaches. Mesh repairs have been reported to have a lower recurrence rate compared with suture repair, which has been reported as less than 10% [9].

In our case, peri-operative diagnosis was confirmed by CT and the patient underwent intervention in a timely fashion. Due to the delay in seeking medical attention from onset of symptoms, non-viable bowel and subsequent resection, precluded the use of mesh for hernia repair. Unfortunately, the obturator hernia had recurred by the second presentation of bowel obstruction, only two months later. This reiterates the point that a high index of suspicion is required when presented with the case of small bowel obstruction in an elderly female patient. One must therefore, also consider that any subsequent presentations of small bowel obstruction may be due to recurrence of the obturator hernia, the differential being adhesive bowel obstruction, and delay to definitive treatment is associated with poorer prognosis.

CONCLUSION

The consideration of an obturator hernia as a cause of small bowel obstruction remains an important differential, especially in the absence of palpable herniae and a negative history for abdominal surgery. Obturator herniae usually present in elderly patients in their seventh or eight decade of life, with a low body mass. There is a female predominance. The classical findings are present in fewer than half of cases and early employment of CT scanning in the acute setting to confirm the diagnosis results in timely surgical intervention.

CONFLICT OF INTEREST

Authors declare no conflict of interest.

AUTHOR’S CONTRIBUTIONS

Yasser Arafat

Group 1 - Conception and design, Acquisition of data

Group 2 - Drafting the article, Critical revision of the article

Group 3 - Final approval of the version to be published
Marianna Zukiwskyj

Group 1 - Conception and design, Analysis and interpretation of data
Group 2 - Drafting the article, Critical revision of the article
Group 3 - Final approval of the version to be published

REFERENCES


FIGURE LEGENDS

Figure 1: CT Abdomen/Pevis, Portal Venous phase demonstrating a right obturator hernia containing small bowel (arrow).

Figure 2: CT Abdomen/Pelvis, Portal Venous phase demonstrating mechanical small bowel obstruction secondary to right obturator hernia (arrow).

Figure 3: CT Abdomen/Pelvis, Portal Venous phase, demonstrating the recurrence of the right obturator hernia (arrow).
**FIGURES**

Figure 1: CT Abdomen/Pelvis, Portal Venous phase demonstrating a right obturator hernia containing small bowel (arrow).

Figure 2: CT Abdomen/Pelvis, Portal Venous phase demonstrating mechanical small bowel obstruction secondary to right obturator hernia (arrow).
Figure 3: CT Abdomen/Pelvis, Portal Venous phase, demonstrating the recurrence of the right obturator hernia (arrow).