A Hernia You Don’t Palpate: CT Diagnosis of Obturator Hernia

Abstract:

Background: Obturator hernia is an uncommon type of pelvic hernia but carries the highest mortality among abdominal wall hernias, largely due to delayed diagnosis. Clinical presentation is often nonspecific, and both clinical examination and imaging may pose diagnostic challenges. Early recognition and surgical intervention are crucial for improving outcomes.

Materials and Methods: We report the case of a 59-year-old woman who presented with intermittent features of small bowel obstruction accompanied by right medial thigh pain. Physical examination revealed no palpable hernia at the usual hernial orifices. Contrast-enhanced computed tomography (CECT) of the abdomen and pelvis was performed as part of the radiologic evaluation.

Results: CT imaging suggested aright incarcerated obturator hernia as the likely cause of bowel obstructionwith the herniated bowel segment passing through the obturator foramen and lying within the obturator canal between the pectineus and obturator muscles.

Conclusion: Obturator hernia should be considered in elderly patients presenting with bowel obstruction, particularly when symptoms are intermittent or associated with medial thigh pain. CT plays a pivotal role in early diagnosis and reducing morbidity and mortality. A high index of clinical suspicion combined with prompt radiological assessment and early surgical management remains essential for optimal patient outcomes.

Keywords: medial thigh pain; obturator hernia; small bowel obstruction

1. Introduction

Most external abdominal wall hernias commonly occur in the inguinal region as inguinal or femoral hernias. In contrast, obturator hernias are rare and frequently overlooked pelvic hernias. They constitute approximately 0.07–1% of all hernias and account for 0.2–1.6% of cases of mechanical small bowel obstruction[1]. Despite their low incidence, obturator hernias are associated with the highest mortality among abdominal wall hernias, ranging from 13% to 40%, primarily due to nonspecific clinical presentation and delayed diagnosis[1-3]. The increasing use of computed tomography has improved preoperative detection; however, early recognition remains challenging, particularly in elderly patients[2-3].

The clinical presentation of obturator hernia is frequently subtle and nonspecific, often leading to delayed or missed diagnosis. Unlike more common abdominal wall hernias, a palpable groin mass is usually absent, and clinical examination may be unremarkable[1]. Imaging findings can also be challenging, as early or intermittent herniation may not be readily apparent, particularly in the absence of bowel obstruction[3]. This combination of vague symptomatology, limited clinical signs, and potential imaging pitfalls, together with the associated high mortality rates, makes obturator hernia a serious yet easily overlooked cause of abdominal pain and bowel obstruction, especially in elderly patients[3].

2. Case Presentation

A 59-year-old thin, frail woman presented with a 9-day history of nausea, vomiting, constipation, and progressively worsening right lower quadrant abdominal pain radiating to the right medial thigh. On physical examination, the abdomen was soft with mild distension and localized tenderness in the right iliac fossa. No palpable abdominal or groin masses were detected, and examination of all hernial orifices was unremarkable.

Initial evaluation with a plain abdominal radiograph demonstrated multiple dilated small bowel loops and minimal gas within the large bowel, findings consistent with small bowel obstruction**(Figure A)**. To further delineate the underlying cause, a contrast-enhanced computed tomography (CECT) scan of the abdomen and pelvis was performed. CT imaging revealed markedly dilated jejunal and proximal ileal loops showing multiple air–fluid levels, with a maximum luminal diameter of approximately 3.3 cm. The distal ileal loops were seen herniating through the right obturator foramen into the pelvis via a narrow neck measuring approximately 12 mm, highly suggestive of an incarcerated right obturator hernia**(Figure B and C)**. The large bowel loops appeared collapsed, supporting the diagnosis of a mechanical small bowel obstruction.

Based on these imaging findings, patient was taken for surgical exploration. Exploratory laparotomy confirmed the presence of an obturator hernia, with herniation of an ileal segment passing anterior to obturator externus muscle and beneath the pectineus muscle within the obturator canal. Reduction of herniated ileal loops was successfully achieved at approximately 7 cm proximal to ileocecal junction. Primary closure of the obturator defect was performed, along with repair of an associated bowel perforation. She had an uneventful postoperative course and was discharged in stable condition on the sixth postoperative day.Retrospective review of imaging revealed that high axial CT sections emphasize the importance of careful evaluation of the obturator canal on multiplanar reformatted images.

Figure A: Plain abdominal X-ray showing small bowel obstruction.

Figure B: Axial CT pelvic image showing the small bowel loop (indicated by #) descending into the right obturator canal anterior to the obturator externus muscle.

Figure C: CoronalCT pelvic image with small bowel loop (indicated by #) descending into the right obturator canal.

3. Discussion

Obturator hernia is a rare form of pelvic hernia in which abdominal contents protrude through the obturator canal, a narrow fibro-osseous passage that transmits the obturator nerve and vessels[1]. Owing to its deep anatomical location and lack of superficial signs, this entity is frequently overlooked during clinical examination. Obturator hernias predominantly occur in elderly, thin women, a predisposition attributed to several anatomical and physiological factors, including a wider female pelvis, a relatively larger obturator canal, multiparity, and age-related loss of protective preperitoneal fat within the obturator canal[1]. Progressive weakening of the pelvic tissues and atrophy of the surrounding muscles further contribute to the development of herniation in this population.

Because of this characteristic demographic distribution, obturator hernia has been classically referred to as the “little old lady’s hernia”[1]. Recent studies continue to support this epidemiological profile, emphasizing that advanced age, low body mass index, and chronic conditions associated with increased intra-abdominal pressure significantly increase the risk of hernia formation[4]. Despite advances in imaging, the rarity of the condition and its

nonspecific presentation continue to contribute to delayed diagnosis, underscoring the importance of maintaining a high index of suspicion in susceptible patients[4].

Clinically, obturator hernias are difficult to diagnose as they often lack a palpable groin mass and present with nonspecific symptoms of small bowel obstruction such as nausea, vomiting, abdominal pain, and constipation[1]. Obstruction is frequently intermittent, commonly attributed to Richter's-type herniation, where only a portion of the bowel wall is involved, further contributing to diagnostic delay[1]. Compression or irritation of the obturator nerve by the hernial sac may result in medial thigh pain, known as the Howship–Romberg sign, which, although not universally present, is a valuable clinical clue when identified[1].

Computed tomography (CT) is widely accepted as the primary imaging modality for the preoperative diagnosis of obturator hernia and has been shown to significantly reduce morbidity and mortality by enabling early and accurate detection[3-4]. CT allows direct visualization of the herniated bowel segment and precise delineation of the obturator canal anatomy. The hallmark imaging feature is the presence of bowel loops herniating through the obturator foramen, typically located between the pectineus muscle anteriorly and the obturator externus muscle posteriorly, a finding best demonstrated on low axial sections and multiplanar reformatted images[3].

Recent studies continue to emphasize the critical role of computed tomography (CT) in the preoperative diagnosis of obturator hernias, particularly in patients presenting with atypical symptoms or intermittent features of bowel obstruction[5]. CT allows precise visualization of bowel loops passing through the obturator canal and offers critical anatomical information that facilitates timely surgical planning and intervention.Nevertheless, several reports caution that radiologic findings may occasionally be limited or underestimate associated complications, reinforcing the importance of correlating imaging with clinical assessment and intraoperative findings to guide definitive management[5].

4. Conclusions

Given the high morbidity and mortality associated with obturator hernias, rapid clinical evaluation combined with timely radiological assessment, followed by early surgical repair, is essential for optimal outcomes. Clinicians should maintain a high index of suspicion for obturator hernia in patients presenting with bowel obstruction, particularly when symptoms are intermittent or accompanied by medial thigh pain. A thorough assessment of all hernial orifices, including screening for the Howship–Romberg sign, should not be overlooked. When inguinal and femoral hernias have been excluded on clinical examination, early CT imaging should be strongly considered. This approach facilitates quicker diagnosis and reduces the risk of complications such as bowel ischemia and the need for intestinal resection during surgery.

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