Case Report

Obturator Hernia – a Case Report

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Abstract:

Background: An obturator hernia is a rare cause of an abdominal wall hernia. Obturator hernia as a cause of small bowel obstruction can be difficult to detect. Delayed diagnosis and treatment of this condition usually leads to a high mortality rate.

Case Presentation: We present a case of an 82 year old lady who presented to the emergency with pain and abdominal distension of 3 days duration. Clinically, she had features of bowel obstruction. Ultrasonography revealed dilated small bowel loops. Contrast enhanced CT scan of the abdomen and pelvis was obtained which showed left obturator hernia with features of small bowel obstruction. The patient underwent emergency exploratory laparotomy which revealed left obturator hernia with ileal loop as content. Approximately 40 cm of non-viable distal ileum was resected and ileo-ileal anastomosis was performed. Post-operative period was uneventful.

Conclusion: Obturator hernia, though rare is an important cause of intestinal obstruction. High index of clinical suspicion is needed especially in emaciated elderly women who presents with intermittent medial thigh pain and features of bowel obstruction. Immediate surgery is the life-saving procedure.

Key words: Case report, CT Scan, obturator hernia, Surgical treatment

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INTRODUCTION

An obturator hernia is a rare pelvic hernia where protrusion of either an intraperitoneal or an extraperitoneal organ or tissue occurs through the obturator canal. It accounts for 0.07 – 1% of all hernias and 0.2 – 1.6% of all cases of mechanical obstruction of the small bowel.[1] Correct diagnosis is often delayed due to nonspecific symptoms and obscured physical findings resulting into significant morbidity and even mortality. The signs of small bowel obstruction usually suggest strangulation. Strangulation is frequent and mortality remains high (13-40%).[2]

Plain X-ray can sometimes be diagnostic for obturator hernia; however, the diagnosis is often made on CT scan of abdomen. The management of obturator hernia is mainly surgical.

CASE REPORT

An 82 year old female presented to emergency department with complaints of abdominal pain and vomiting for past 3 days. There was no history of previous abdominal surgeries. On clinical examination, she had stable vitals, abdominal distension and tenderness per abdominal examination without any palpable lump. Per rectal examination revealed empty rectum without other significant abnormality. A clinical diagnosis of bowel obstruction was made. She underwent ultrasonography in the emergency department which showed dilated fluid-filled small bowel loops with interloop fluid and hyperperistalsis. Emergency contrast enhanced CT abdomen and pelvis was performed for suspected small bowel obstruction.

CECT abdomen showed herniation of small bowel loop through left obturator foramen extending down between obturator externus muscle posteriorly, and pectineus muscle anteriorly. This was associated with dilated proximal bowel loops showing air-fluid levels and collapsed bowel loops distally. The wall of herniated loop showed reduced contrast enhancement. Blurring of fat pad was noted adjacent to the loop (Figure 1 and 2). Retrospectively, the topogram demonstrated round lucent gas shadow infero-medial to left obturator foramen along with air filled dilated small bowel loops (Figure 3). Laboratory examinations showed leukocytosis and elevated lactate level. Pre-operative diagnosis of obstructed left sided obturator hernia was made.

The patient underwent immediate exploratory laparotomy which revealed left obturator hernia with distal ileal loop as content which was edematous, congested and non-viable (Figure 4). Approximately 40 cm of distal ileum was resected followed by ileo-ileal anastomosis and herniorrhaphy was performed. Post-operative period was uneventful.

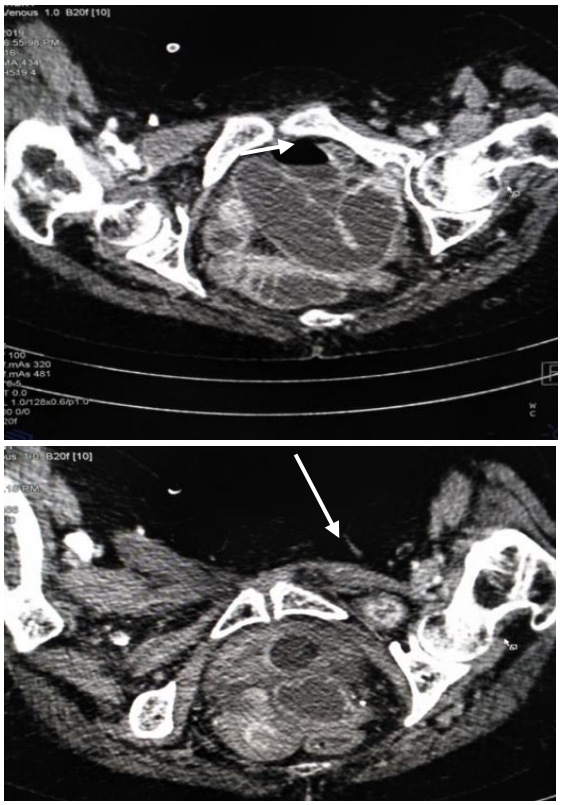
DISCUSSION

Obturator hernia is one of the rare abdominal wall hernia. It was first described by Arnaud de Ronsil in 1724 and the first successful operation was performed by Obre in 1851.[3]

Obturator hernia occurs through obturator canal which is approximately 2-3 cm long and around 1 cm wide. Fibro-osseous obturator membrane covers the obturator foramen except in its antero-superior aspect where obturator nerve and vessels perforate the membrane. The hernia develops through the defect in fibro-osseous obturator membrane where it first separates muscular band of obturator internus muscle and later separates the obturator externus muscle. Finally, the

hernial sac lies beneath the pectineus muscle and on top of obturator externus muscle.[3]

Three types of obturator hernia have been described: hernia between the obturator externus and the pectineus muscles (commonest) [Fig: 5], between the superior and middle fasciculi of the obturator externus muscle, and hernia between the external and internal obturator membranes (least common).[4]



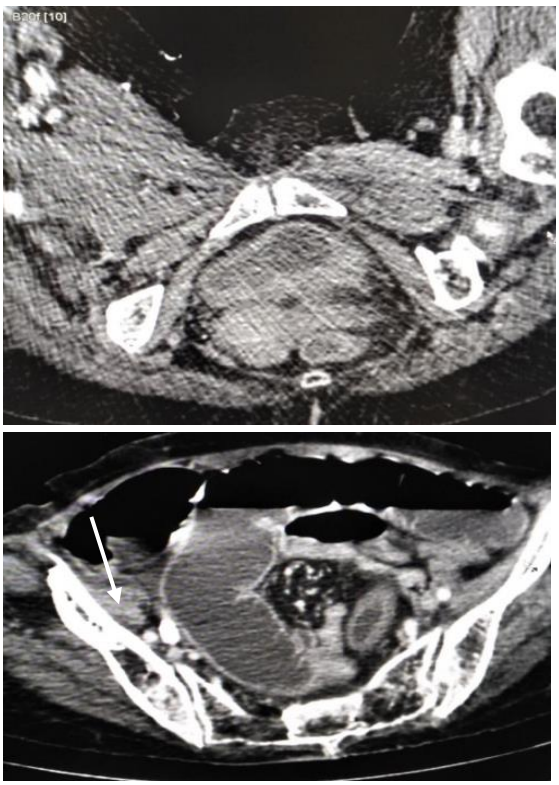


Figure 1: Axial contrast enhanced CT abdomen showing herniation of small bowel loop through left obturator foramen and lying between obturator externus and pectineus muscle (arrow). There is dilatation of proximal small bowel loops with multiple air-fluid levels.

Figure 2: Coronal and sagittal view of left obturator hernia (arrows).

Figure 3: Topogram showing round lucent gas shadow inferomedial to left obturator foramen with gas filled dilated small bowel loops (arrow).

Fig 4: Intra-operative images showing left obturator hernia and resected edematous, congested ileal loop.

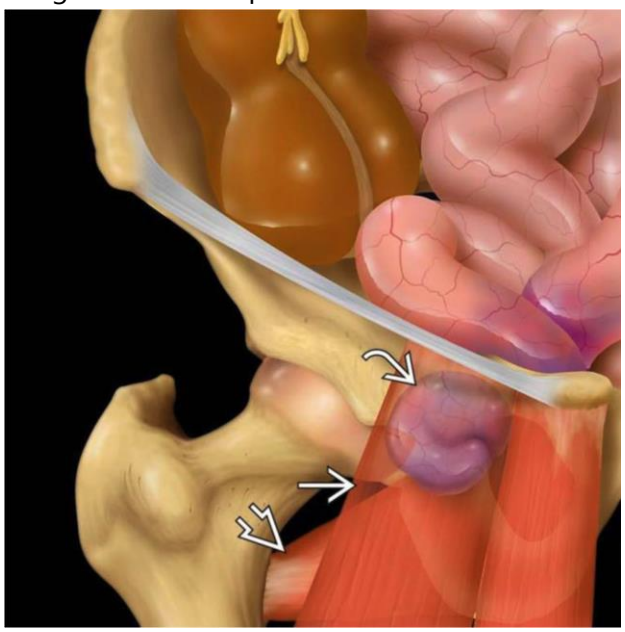


Figure 5: Graphic image shows a bowel obstruction caused by an obturator hernia. Strangulated bowel lies deep to the pectineus muscle and superficial to the obturator externus muscle [Source of image: Radiologykey.com; obturator hernia]

Fat usually fills the obturator canal with no space for the hernia. However, loss of fat in emaciated elderly people along with increased intra-abdominal pressure increases the chance of hernia. In females, pelvis is broader and obturator canal is larger leading to higher incidence of obturator hernia in females especially after multiple pregnancy [4]. Therefore, this disease is nicknamed the "little old lady's hernia".[3]

A correct preoperative diagnosis of obturator hernia is made in only 20 – 30% of cases.[5] The symptoms are often non-specific and vague. Common symptoms are nausea and vomiting or symptoms of bowel obstruction like abdominal pain and constipation. Medial thigh pain is often a common symptom due to compression and irritation of obturator nerve by the hernial sac.[3] In approximately 20% of cases, mass may be palpable in the medial aspect of the proximal thigh. Sometimes vaginal or rectal examination may reveal a tender swelling in region of obturator foramen.[3] Differential diagnosis in such case includes obturator neuritis, inflammatory conditions of the hip or inguinal region, and perineal and femoral hernias.[6] Due to its rare clinical incidence along with non-specific signs and symptoms, obturator hernia is difficult to diagnose clinically. However, early and rapid clinical suspicion along with appropriate radiological evaluation followed by early surgery are essential for successful treatment and good clinical outcome. As early surgical reduction and herniorrhaphy is the only treatment available, delay in specific diagnosis causes increased morbidity and mortality.

Plain X-ray seldom help in diagnosing obturator hernia as they often show nonspecific findings of small bowel obstruction. Identification of gas shadow in the region of obturator foramen may be a helpful feature in plain radiograph. A barium study is rarely ordered. Ultrasonography may be useful in case of an incarcerated obturator hernia demonstrating a cystic lesion or hypoechoic tubular structure in the region of obturator canal representing a dilated, edematous bowel loop.[7] Abdominal and pelvic CT scans have high sensitivity and specificity with the diagnostic accuracy approaching 90% preoperatively, and is considered the investigation of choice.[4] The common CT scan finding is low density mass between obturator externus and pectineus muscle. In our case, the diagnosis was made preoperatively on CT scan. The hernia was seen between the

pectineus and obturator externus muscle with strangulation of bowel loop.

Management consists of emergency laparotomy following a clinical suspicion, if peritoneal signs are present. If peritoneal signs are absent, a CECT of abdomen and pelvis can be performed for confirmation of the diagnosis before further operative management. Various surgical approaches are described in the management of an obturator hernia including abdominal, inguinal, obturator, retropubic and laparoscopic approaches. The abdominal approach is preferred in the majority of published evidences where a low midline incision is utilized. Herniorrhaphy with placement of synthetic mesh after closure of the hernial defect with interrupted sutures is preferred as it is associated with the lowest complication rate.

CONCLUSION

Obturator hernia, although rare, is an important cause of intestinal obstruction. Obturator hernia should be suspected when an emaciated, elderly woman presents with intermittent symptoms of medial thigh pain and features of small bowel obstruction. Ultimately, accurate diagnosis and immediate surgical intervention are essential to produce good clinical result.

Consent: Informed consent was obtained from the patient for the publication

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