
CASE REPORT

Obturator Hernia: Diagnosis by CT Scan

HUMAIRA SALEEM, RAHAT SHAHID, MISBAH RASHID

SUMMARY

Obturator hernia is relatively rare and is a diagnostic challenge in the emergency department because the hernial mass is usually concealed beneath the pectineus muscle. We report the case of a 72-year-old emaciated woman with an incarcerated obturator hernia. The hernia was discovered early in the emergency department by computed tomography and was reduced by emergency laparotomy. The Howship-Romberg sign and pain from the ipsilateral thigh to the knee are important clinical manifestations raising suspicion of obturator hernia, but these did not occur in our patient. One of the clinical clues in our patient was small-bowel obstruction of unknown origin, diagnosed by computed tomography. If the hernia is not palpable by physical examination, a CT scan of the pelvis and upper aspect of the thigh would confirm the diagnosis before operation and allow prompt treatment and better chance of patient survival.

Keywords: Obturator hernia, CT scan, intestinal obstruction.

INTRODUCTION

Obturator hernia is a relatively rare pelvic hernia and usually occurs in elderly, thin, multiparous women. Because symptoms are nonspecific in most cases, diagnosis is often delayed until laparotomy is performed for treatment of bowel obstruction or peritonitis. Delay in diagnosis and surgical intervention directly contribute to high morbidity and mortality rates¹. Here we report a case of obturator hernia where the diagnosis was made by emergency preoperative abdominal CT scan.

CASE REPORT

On 15 of July 2011 a 72 years old woman was referred to our emergency department with paroxysmal and cramping abdominal pain, constipation, and vomiting for 4 days. The patient had history of cholecystectomy 4 days back. On physical examination, the abdomen was distended and tympanitic. There was mild tenderness, especially in the right lower quadrant, without guarding. The bowel sounds were hyperactive. No Romberg-Howship sign was present, and no mass was palpated in the bilateral inguinal regions. The patient weighed 45kg. The WBC count was $11.4 \times 10^9/L$ with 93.1% neutrophils. Electrolyte and other biochemical studies were within normal limits. Because of unknown causes of intestinal obstruction, an emergency abdominal CT scan was ordered. Since the scan revealed a low-density mass in the left-side obturator canal area, a diagnosis of left obturator hernia was considered (Fig.1,2,3) and an emergency

*Department of Radiology, CMH Medical College, Lahore
Correspondence to Dr. Humaira Saleem, Registrar
Radiology, Email: shumaira31@yahoo.com*

laparotomy with lower-midline incision was performed. During exploration, a mechanical obstruction of the small intestine was found, and consisted of a 5-cm small intestinal loop and omentum incarcerated in the left obturator canal 30 cm proximal to the Bauhin valve. The portion of incarcerated intestine was reduced. Closure of the pelvic orifice of the obturator canal with proline mesh was done. The patient had a smooth post operative recovery and was discharged on the fifth postoperative day.

Axial section of CECT scan

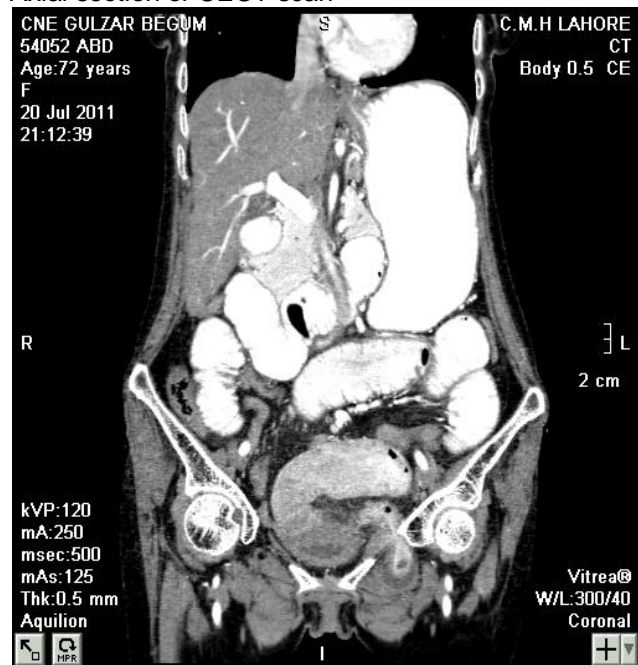


Fig 1

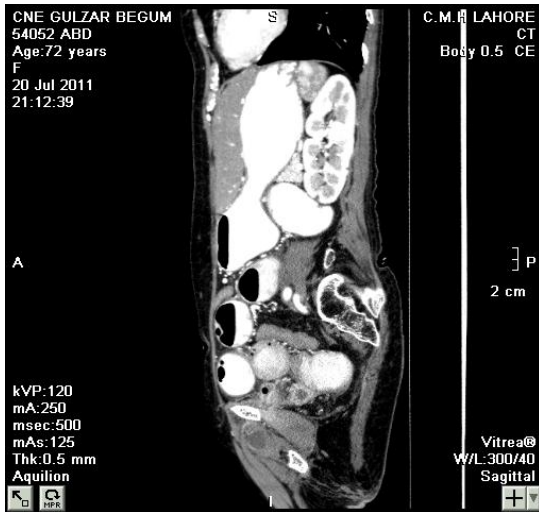


Fig 2

Coronal and sagittal reconstruction of abdominopelvic CT showing hypoattenuating mass in left obturator canal

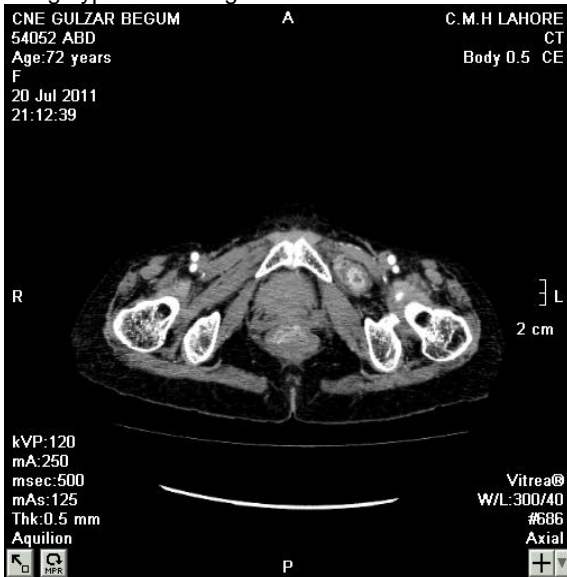


Fig 3

DISCUSSION

Obturator hernia is relatively rare and is a diagnostic challenge. The formation of an obturator hernia is initiated by preperitoneal fat entering the obturator foramen, the largest and strongest foramen in the body, adjacent to the obturator vessels and nerves². Our case manifested most of these predisposing factors. Obturator hernia is nine times more common in females due to their wider pelvis, more triangular obturator canal opening and greater transverse diameter. It occurs most frequently in emaciated patients aged between 70 and 90 years, and hence its nickname, "little old lady's hernia". The loss of protective preperitoneal fat and lymphatic tissue

(corpus adiposum) around the obturator vessels and nerves facilitates the formation of hernia³.

The most common clinical presentation of obturator hernia is intestinal obstruction, but this is nonspecific. The Howship-Romberg sign (i.e., pain along the distribution of the obturator nerve caused by compression of the nerve by the hernia sac) is pathognomonic of obturator hernia. Typically, this pain is exacerbated by extension and abduction or inward rotation of the thigh. In most cases, correct preoperative diagnosis is made because of the presence of the Howship-Romberg sign² but this sign is present in only 15%–50% of obturator hernia patients^{4,5}. In the absence of a positive Howship-Romberg sign, an early diagnosis in patients with atypical or ambiguous presentation of obturator hernia is challenging.

Because symptoms are nonspecific and specific physical findings are often obscure, diagnosis of obturator hernia is often delayed until laparotomy is performed for treatment of bowel obstruction or peritonitis. Recently, several imaging modalities have been used to establish the diagnosis, including barium enema fluoroscopy, ultrasonography, and herniography. In 1983, computed axial tomography (CAT) of the pelvis was used to diagnose obturator hernia.⁶ Subsequently, increasing evidence indicates that CT scanning has superior sensitivity and accuracy in the preoperative diagnosis of obturator hernia.⁷⁻⁹ Some authors propose that emergency CT scanning could lead to rapid diagnosis and early surgical intervention, particularly in elderly patients presenting with ileus of unknown origin.^{7,10} In our case, neither the Howship-Romberg sign nor obviously inguinal palpable mass were noted, and the clinical presentation consisted solely of intestinal obstruction. However, emergency abdominal CT scanning allowed rapid and correct diagnosis, and led to immediate operative intervention.

Obturator hernia invariably requires surgical intervention because intestinal occlusion and strangulation often occur. Early diagnosis and surgical treatment are essential to minimize the morbidity and mortality associated with obturator hernia. Currently, there are several ways to repair obturator hernia, including hernia sac ligation only, hernial defect direct closure with interrupted nonabsorbable sutures, mesh repair at laparotomy, and laparoscopic transabdominal or preperitoneal mesh repair¹¹. In our case, mesh repair of the pelvic orifice of the obturator canal was performed.

CONCLUSION

An obturator hernia is one of the rarest of the abdominal wall hernias. It is difficult to diagnose

preoperatively unless there is a high index of suspicion. Clinicians should include obturator hernia in the differential diagnosis of any malnourished, elderly woman presenting with a Howship-Romberg sign and no history of abdominal surgery. CT scanning plays a key role in diagnosing this condition early. In our case, abdominal and pelvic CT scans was instrumental in making the diagnosis preoperatively. Intraoperative assessment of the defect and repair are necessary. Small bowel resection should be performed when the segment of bowel involved is not viable.

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