



ORIGINAL ARTICLE

Bowel obstruction secondary to incarcerated obturator hernia



Dawei Chen*, Zhewei Fei, Xiaojun Wang

Department of General Surgery, Shanghai Xinhua Hospital Chongming Branch, Shanghai Jiaotong University School of Medicine, Chongming, Shanghai, China

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KEYWORDS

bowel obstruction;
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Summary *Background/Objective:* Obturator hernia is rare type of abdominal hernia and its diagnosis usually is made intraoperatively for bowel obstruction or computed tomography (CT) scans of the abdomen. The aim of this study was to review patient's records with respect to clinical manifestation, CT scan findings, and operative outcomes.

Methods: From April 2009 to January 2015, six female patients with incarcerated obturator hernia underwent urgent operation for acute intestinal obstruction. The medical records were reviewed with respect to clinical manifestation, findings of CT scan and the outcomes of operation.

Results: The median age of patients was 83 years (range, 79–87 years) and the body mass index was $21.61 \pm 0.52 \text{ kg/m}^2$. CT scans of abdomen demonstrated that intestinal obstruction secondary to obturator hernia, consistency with operative findings. Partial bowel resection was performed in two of six patients because of necrosis of incarcerated obturator hernia. The hernia was repaired with interrupted sutures. Lung infection occurred in one patient, and wound infection in another. One recurrence was observed and two patients died from the unrelated diseases during the period of follow-up.

Conclusion: The diagnosis of obturator hernia can be made by CT scan preoperatively, and the obturator hernia should be suspected when an unexplained bowel obstruction in elderly, thin women occurs.

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* Corresponding author. Department of General Surgery, Shanghai Xinhua Hospital Chongming Branch, Shanghai Jiaotong University School of Medicine, 25 Nan Men Road, Chongming, Shanghai 202150, China.

E-mail address: daweichen98@hotmail.com (D. Chen).

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1. Introduction

Obturator hernia is a rare type of hernia in the abdominal wall in which abdominal contents protrude through the obturator canal.^{1,2} Obturator hernia accounts for 0.07–1% of all hernias and 0.2–1.6% of all cases of mechanical obstruction of the small bowel.^{3,4} Due to its rarity and un-specific early symptoms, obturator hernia can still be misleading even to the most experienced surgeons. The most common presentation for the patients with obturator hernia is acute intestinal obstruction, and the diagnosis is often made intraoperatively.^{2,5,6} As the symptoms are nonspecific and the physical findings are obscure, a correct diagnosis is often delayed until laparotomy for bowel obstruction, despite advances in diagnostic modalities.^{2,7} It occurs much more in elderly, thin, and multiparous women. Loss of supporting connective tissue and the wider female pelvis are believed to be the cause of obturator hernia.^{5,8}

With the improvement of equipment, a computed tomography (CT) scan is able to detect the obturator hernia preoperatively, being consistent with the findings of laparotomy for obturator hernia.^{9,10} Early CT imaging allows early diagnosis and reduces morbidity and mortality associated with obturator hernia.¹⁰ From April 2009 to January 2015, six consecutive patients with incarcerated obturator hernia underwent laparotomy for acute bowel obstruction in our hospital. The records of the patients were reviewed with respect to clinical manifestation, CT findings, and surgical outcomes.

2. Methods

From April 2009 to January 2015, six patients with incarcerated obturator hernia underwent urgent operation for acute intestinal obstruction in our hospital. Meanwhile, 1950 hernia repairs were done and 728 cases of acute bowel obstruction were admitted to our hospital. Obturator hernia accounts for 0.31% of all hernias and 0.82% of all cases of mechanical obstruction of the small bowel in our hospital. The six patients with incarcerated obturator hernia were female with median age of 83 years (range, 79–87 years). The detailed information of the patients is shown in Table 1. The patients had delivered four children on average and their body mass index was 21.61 ± 0.52 kg/m². In the emergency room, physical abdominal examination demonstrated that mild abdominal distension and tenderness, especially in the middle and lower abdomen. The



Figure 1 Dilated small bowel loops in the lower abdomen and pelvis.

patients received abdominal plain x-ray examination and CT preoperatively.

Abdominal X-ray examination showed dilatation of small bowel loops in entire abdomen. CT scan demonstrated dilated bowel loops (Figure 1) and incarcerated bowel between the external obturator and pectineal muscles (Figure 2), suggestive of bowel obstruction secondary to incarcerated obturator hernia. Four of the obturator hernias were in the left and the other two in the right.

All patients underwent urgent laparotomy for acute bowel obstruction. The dilated small bowel occupied the entire abdomen and the herniation of the bowel through the obturator canal was detected, being consistent with the CT scan findings. The incarcerated bowel was reduced gently and carefully inspected. Partial intestinal resection was performed in two patients because of necrosis of incarcerated bowel and no sign of ischemia was noted in the other four patients. The sac was inverted and the defect closed with interrupted sutures. The operative time was 82.17 ± 20.14 minutes, and the length of hospital stay 10.17 ± 2.93 days.

Lung infection occurred in one patient and wound infection developed in another. No hospital death happened in our series. Two patients died from the unrelated diseases during the period of follow-up. One patient developed intermittent abdominal pain, which suddenly appeared and spontaneously disappeared; in this patients, recurrence of obturator hernia was detected by CT scan at 3 years postoperatively. This patient refused further surgical intervention.

Table 1 Patient information.

Age (y)	Parity	BMI (kg/m ²)	Bowel resection	Lung infection	Wound infection	Operative time (min)	Hospital stay (d)
83	5	22.31	No	No	No	72	9
87	3	20.83	Yes	No	Yes	106	16
79	4	21.72	No	Yes	No	69	10
84	4	21.64	No	No	No	66	8
81	3	21.94	Yes	No	No	110	9
83	6	21.23	no	no	no	70	9

BMI = body mass index.

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