Recurrent obturator hernia as a cause of nonspecific abdominal pain: a case report
復發性閉孔疝氣作為非特異性腹痛的原因：一個病例報告

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Many patients visit the emergency department (ED) with abdominal pain. Sometimes, physicians are faced with diagnostic challenges, particularly for older patients. We recently had an elderly female patient who visited the ED several times with non-specific abdominal pain caused by an unusual hernia. One year before, an 81-year-old female visited our ED complaining of abdominal pain radiating to the right inguinal/femoral area. An incarcerated obturator hernia was found on an abdomino-pelvic computed tomography (CT) scan, and she underwent a laparoscopic hernioplasty. However, 1 year later, she revisited complaining of abdominal pain similar to the previous episode. Eventually, the diagnosis of recurrent obturator hernia was made, and a second operation was performed. An obturator hernia may be the cause of non-specific abdominal pain and small bowel obstruction in elderly emaciated females. Recognising the clinical signs and characteristics of this disease is necessary for a prompt diagnosis and treatment. (Hong Kong J. emerg.med. 2012;19:210-213)

許多患者因為腹痛到急診科（ED）就診。腹痛的診斷，特別是老年患者，醫生有時都會面臨困難。最近我們有一位年老女病人，因一個不尋常的疝引起的非特異性腹部疼痛，到診急診科幾次。一年前，一名 81 歲的女病人到診我們的 ED，主訴腹痛，疼痛放射到右腹股溝。腹部電腦斷層掃描（CT）發現一個嵌頓性閉孔疝，她接受了腹腔鏡疝修補術。然而，一年後，她再次到診，主訴類似以前的腹痛。最終，診斷為復發性閉孔疝，並進行了第二次手術。閉孔疝可能是老弱消瘦女患者非特異性腹痛和小腸梗阻的原因。認識本病的臨床症狀和特點，對及時診斷和治療是必要的。

Keywords: Acute abdomen, intestinal obstruction, X-ray computed tomography
關鍵詞：急腹症、腸梗阻、X-ray computed tomography

Introduction

Abdominal pain is one of the most common presentations in the emergency department (ED). Various disease processes can be the cause of abdominal pain, including unusual hernias. Due to its low incidence and non-specific signs and symptoms, obturator hernia is a difficult diagnosis to make. On occasion, obturator hernia has been discovered incidentally during a diagnostic laparotomy for an intestinal obstruction. Delay in the diagnosis and treatment of this disease has frequently occurred and this contributes to relatively high mortality.¹ Once the diagnosis has been established, operative management is required, which is relatively simple.²
Our recent experience was an elderly female patient who visited the ED several times with non-specific abdominal pain that was caused by an obturator hernia. We report here a case of this unusual hernia, which can be a cause of non-specific abdominal pain in elderly emaciated women.

Case

An 81-year-old female visited our ED complaining of diffuse abdominal pain radiating to her right inguinal/femoral area, which had begun 5 hours prior to her arrival. She had visited our ED 3 years prior with a similar complaint of lower abdominal pain. On that occasion, she was discharged after conservative treatment. She had also visited other medical facilities several times with recurrent symptoms, but no definite diagnosis had been made.

She had no history of abdominal surgery. Vital signs on presentation were unremarkable: blood pressure, 150/70 mmHg; pulse rate, 68/min; respiratory rate, 22/min; and body temperature, 36.4°C. She was thin with a body weight of 39 kg, but she did not have a history of chronic illness, except for hypertension. A physical examination revealed slightly increased bowel sounds with mild tenderness in the lower abdomen; apparent tenderness was noted in the right inguinal area. Routine laboratory test results were unremarkable, and no significant findings were found on simple radiography of the abdomen except for a slightly increased bowel gas shadow in the lower abdomen.

With the impression of nonspecific abdominal pain, the patient was treated conservatively with intravenous fluids and antispasmodic agents. However, there was no improvement in symptoms, so we decided to perform an abdominal computed tomography (CT) scan. On CT, a short loop of the ileum was observed to be protruding through the obturator foramen (Figure 1). A laparoscopic operation was conducted under the diagnosis of an obturator hernia. A simple reduction of the herniated loop was performed during the operation, and the foramen was closed with parietal peritoneum. After 5 days staying in the hospital, the patient was discharged without complications.

She fared well without any complications or abdominal pain thereafter. However, 1 year later, the patient revisited our ED complaining of abdominal and right inguinal area pain similar to the pain of the previous episode. In the second visit, she was examined for the Howship-Romberg sign by an attending physician, who had obtained information of her past medical history. She complained pain on the medial aspect of right thigh when her right hip joint was extended, adducted, and internally rotated by the physician. A CT scan of the abdomen and pelvis was performed immediately, and again, an incarcerated small bowel loop was found protruding through the obturator foramen (Figure 2). A second laparoscopic hernioplasty was conducted. During the second operation, the foramen was further reinforced with polypropylene mesh. The patient was discharged without any complications after the second operation, and she has observed at the outpatient department but has not experienced further complications or recurrences.

Discussion

Obturator hernia was first described by Arnaud de Rosil in 1724. This is a rare condition that accounts for approximately 0.05-0.14% of all reported hernias. A wider pelvis and a more triangular obturator canal opening are factors that contribute to a higher incidence in females. Obturator hernias occur more
Figure 2. Computed tomography scan at the second visit. High density metallic materials, which were thought to be staples (arrows) used in a previous operation, are shown around the herniated loop. (a) axial view; (b) coronal view.

often in emaciated elderly multiparous women.\textsuperscript{4} In addition, chronic lung disease, constipation, ascites, and kyphoscoliosis may increase intra-abdominal pressure, thereby contributing further to herniation.\textsuperscript{5} This condition occurs more frequently on the right side due to the sigmoid colon being located in the left lower quadrant.

According to Gray et al.\textsuperscript{4} obturator hernia can be classified into three stages. The first stage involves the pre-peritoneal fat entering the orifice of the obturator canal on the pelvic side, which forms a pilot fat plug. The second stage encompasses the dimpling of the peritoneum through the canal and further progression to the formation of a peritoneal sac. The third stage is represented by manifestations of symptoms caused by herniation of the intra-abdominal viscera into this sac. Extension, adduction, or medial rotation of the hip joint causes the hernia sac to compress the obturator nerve, thereby causing pain in the medial aspect of the thigh. This is known as the ’Howship-Romberg sign’, a unique sign observed in patients with an obturator hernia.\textsuperscript{4} However, this sign is reported in only 15-50% of patients with an obturator hernia and is often overlooked or misinterpreted.\textsuperscript{7} Loss of the adductor reflex of the thigh, known as the ’Hannington-Kiff sign’, may also be observed.\textsuperscript{4} In this case, tenderness in the right inguinal area was found, but the Howship-Romberg sign was not recognised at the first visit, as physicians were not aware of such clinical signs at that time.

Most patients with obturator hernias present to the ED complaining of non-specific abdominal pain with no external lump, so making early diagnosis difficult. This, in turn, often leads to delayed surgical intervention, which results in a high mortality rate.\textsuperscript{7,8} A simple X-ray usually reveals nonspecific findings of a small bowel obstruction but may occasionally show gas shadows in the obturator foramen area. In any case, an accurate diagnosis is difficult with simple X-rays.\textsuperscript{1} The X-ray of the patient in this case also did not reveal any other specific findings, besides the generalised increase in a bowel gas shadow.

Studies have been conducted on the usefulness of ultrasonography as a diagnostic tool for obturator hernias.\textsuperscript{9,10} Yokoyama et al\textsuperscript{10} reported successfully diagnosing an obturator hernia with ultrasonography in 4 of 15 suspicious cases. Ultrasonography was not used in our case, but considering the easy accessibility to bedside sonography in the ED, we believe ultrasonography may be a useful diagnostic tool in clinically suspicious cases. Recent reports have emphasised the role of early CT scanning for making a proper diagnosis and administering timely treatment.\textsuperscript{1,3} In this case, we were able to diagnose an obturator hernia by performing a CT scan within a relatively short time.

The patient in this case had suffered from repetitive non-specific abdominal pain for 3 years before she was diagnosed with an obturator hernia. It is highly
probable that the previous pain was also due to an obturator hernia. These recurrent symptoms could be explained by the waxing and waning of the hernia between stages 2 and 3. Indeed, many of the reported cases of obturator hernia show this unexplained, recurrent, non-specific abdominal pain.7

Various operative methods for obturator hernia have been proposed e.g. primary suture of the obturator foramen with peritoneum or coverage with peritoneum after reinforcement with a polypropylene mesh.11,12 However, the low incidence and limited numbers of cases have left a void in the choice of an established surgical method.

An obturator hernia should be diagnosed early and treated properly to achieve a good outcome. As rare as obturator hernias are, should an elderly emaciated woman complain of non-specific abdominal pain and inguinal area pain with no plausible reason, physicians should consider an obturator hernia as a possibility and look for characteristic signs like the Howship-Romberg sign.

**Conclusion**

An obturator hernia can be a cause of recurrent non-specific abdominal/inguinal area pain in the old, thin, female patients. Early clinical suspicion and a diagnostic approach including CT scans and ultrasonography are important for making a proper diagnosis and achieving a good outcome.

**References**