OBTURATOR HERNIA

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SUMMARY

The obturator hernia is a rare form of internal hernia that often presents with a confusing clinical picture. The diagnosis is usually made at laparotomy for small bowel obstruction. It often occurs in elderly, emaciated women. We present a case of obturator hernia in an 89-year-old female. This problem is usually resolved only by surgery. A delay in diagnosis of internal hernia may result in a high probability of morbidity and mortality. Plain abdominal radiography and computed tomography are the most appropriate early diagnostic tools for an obturator hernia. Prompt diagnosis and surgery could have a good clinical result and reduce the mortality rate. Emergency physicians should be alert to the possibility of an obturator hernia. [International Journal of Gerontology 2010; 4(2): 104–106]

Key Words: computed tomography, intestinal obstruction, obturator hernia

Introduction

Internal hernia is a rare form of intestinal obstruction involving bowel herniation via a congenital or acquired opening within the peritoneal cavity. The obturator hernia is a rare type of internal hernia, in which abdominal content protrudes through the obturator foramen. The symptoms and signs of obturator hernia are nonspecific. Thus, it may result in high morbidity and mortality if the diagnosis is missed. We present a case of obturator hernia that was very difficult to diagnose correctly.

Case Report

An 89-year-old female patient presented to our emergency department with right inguinal area pain. There was no vomiting, fever or abdominal pain. She had a history of abdominal hysterectomy for prolapse of the uterus and excisional biopsy for squamous cell carcinoma of the face.

On arrival at the emergency department, the patient’s body temperature was 36.3°C and heart rate was 64 beats/min. Respiratory rate was 20 beats/min, and blood pressure was 216/98 mmHg. An abdominal examination revealed tenderness over the right inguinal area. There was no inguinal lymph node enlargement.

There was no leukocytosis. Liver and renal functions were also normal. Plain abdominal radiography (Figure 1) revealed an intestinal obstruction in the right pelvic cavity. The patient was diagnosed with a right obturator hernia. The abdominal computed tomography study (Figure 2) showed that the intestine was trapped above the obturator externus muscle, confirming the diagnosis.

A general surgeon undertook an urgent enterolysis operation. Intraoperative findings revealed that the jejunum was trapped at the obturator foramen. The jejunum was pulled backed into the abdominal cavity. There was no bowel ischemia. The postoperative condition of the patient was good, and she subsequently made a full recovery.
Discussion

An obturator hernia is a rare condition first described in 1724 by Arnaud de Ronsil at the Royal Academy of Sciences in Paris \(^1\). The incidence of the disease is about 0.073% of all hernias \(^1\). In the United Kingdom, there have only been 600 cases reported between 1724 and 1994. In Taiwan, according to a Kaohsiung Veterans General Hospital report, only nine cases (one male, eight female) were noted between 1993 and 2003. It occurs most often in elderly, multiparous women. The obturator foramen is the largest foramen in the body and is covered by a fibrous osseous membrane. The obturator canal is an opening in the superolateral part of the obturator foramen. It contains the obturator nerve and vessels. The canal is 2–3 cm long and 1 cm wide, and it is usually filled with fat, allowing no space for a hernia. The fat disappears in patients who have massive body weight loss or are very thin. In emaciated elderly people, loss of fatty tissue coupled with increased intra-abdominal pressure facilitates the formation of a hernia \(^1\). Women are affected more often because they have a broader pelvis and larger obturator canal. Multiple pregnancies may also be a contributing factor, although there is still controversy that this is a contributory factor \(^6\). A female to male ratio for obturator hernia of 9:1 to 6:1 has been reported \(^1,2,6,7\). The majority of patients are between 70 and 90 years old \(^6\). The right and left sides are about equally affected in male patients, but in female patients, obturator hernia of the right side is involved three times as often as that of the left \(^1,6\). Bilateral obturator hernia occurs in approximately 6–15% of the patients \(^7\).

The clinical features are thigh or knee pain in the affected side, recurrent bouts of intestinal obstruction with cramping abdominal pain, nausea, and vomiting \(^1\). Obturator hernia has been reported to account for 0.4–1.6% of mechanical small bowel obstruction \(^2,4,6\). Because the signs and symptoms are not specific to obturator hernia and the hernia itself is often not detectable on physical examination, the diagnosis of obturator hernia is difficult. Sometimes, the hernia may be felt as a tender swelling in the region of the obturator foramen on vaginal or rectal examination. Howship-Romberg sign, which refers to ipsilateral groin pain radiating down the thigh as a result of irritation of the obturator nerve, is a characteristic sign of obturator hernia. The referred pain is relieved by flexion of the thigh and aggravated by extension, abduction and medial rotation \(^6\), but it is present in only 15–50% of the patients with obturator hernia \(^1,2,4,6,7\), and is often misinterpreted as arthritis in elderly patients. The Hannington-Kiff sign is considered more specific than Howship-Romberg sign in the diagnosis of obturator hernia. It manifests

![Figure 1. Small bowel obstruction (arrow) was noted in the pelvic cavity. The proximal portion was distended and revealed an intestinal obstruction. The distal portion was not distended.](image1)

![Figure 2. The small intestine was trapped between the (A) obturator externus (arrow) and (B) pectineus muscle (arrow).](image2)
as loss of thigh adductor reflex in the presence of a positive patellar reflex.

The hernia is small, so the incarcerated hernia results in an interrupted blood supply and causes ischemic changes to the bowel loop. The bowel becomes edematous and infarcted, leading to gangrene and perforation. The hernia sac contains the small bowel in most cases, particularly the ileum, and occasionally the large intestine, omentum, fallopian tube or appendix

Plain radiographs often show nonspecific findings of small bowel obstruction and are seldom helpful in diagnosing obturator hernia. Noting a gas shadow in the obturator foramen area may be helpful. A barium enema or small bowel series can be useful if a bowel loop is in the obturator canal, but a barium study is more time consuming in diagnosing a case of acute abdomen. Ultrasonography is useful and reliable in the diagnosis of obturator hernia, but it is often limited by the relative inaccessibility of this deep region and is operator dependent. The use of a computed tomography scan in detecting obturator hernia was first reported in 1983. The common computed tomography scan finding is a low-density mass between the obturator externus and pectineus muscles. The low-density mass may contain air in some cases and appears different from the opposite side. Since the use of computed tomography scanning, the preoperative diagnosis rate has improved from 43% to 90%. A computed tomography scan can accurately diagnose not only an obturator hernia but also other conditions of bowel obstruction. Three types of obturator hernia have been described: hernia between the pectineus and obturator externus muscles (most common), hernia between the superior and middle fasciculi of the superior and middle fasciculi of the obturator externus muscle, and hernia between external and internal obturator membranes (least common).

Surgery through midline incision is preferred for an obturator hernia, because it gives the best exposure, allows reduction of hernia content, and facilitates bowel resection if necessary. Resection of the involved portion of the bowel is sometimes required because of gangrenous changes or perforation. The mortality rate for patients with an obturator hernia is still high. Reported mortality rates ranged from 12% to 70%. The high mortality is often related to delayed diagnosis, treatment, and the debilitated physical condition of the patients.

Most of the obturator hernia cases have delayed diagnosis. In our case, the time between the patient’s arrival at the emergency department and surgery was 2 hours. There was no gut resection or complications.

In a patient with hernia, mechanical obstruction should always be included in the initial differential diagnosis. The emergency physicians should be alert for this exceedingly rare condition, because a delay in diagnosis will increase the mortality rate to as much as 70%.

References