RICHTER TYPE OF INCARCERATED OBTURATOR HERNIA: MISLEADING ALL THE WAY

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SUMMARY – Obturator hernia is a rare type of abdominal hernia where herniation occurs through the obturator canal. It develops predominantly in elderly underweight women. It has unspecific early symptoms, which is the reason these hernias are usually discovered only after they have become incarcerated. Incarcerated obturator hernias are usually discovered on abdominal computed tomography (CT) scan or emergency surgery due to bowel obstruction. We present a case of an 85-year-old female patient who was admitted because of intermittent abdominal pain and vomiting. Consecutive upright abdominal x-rays failed to show bowel obstruction. Abdominal CT scan revealed a right-sided incarcerated femoral hernia that was not found during emergency surgery. After laparotomy had been performed, a Richter type of right-sided incarcerated obturator hernia was discovered with a small necrotic area on the small bowel. Bowel resection was performed and obturator hernia was closed with interrupted sutures. The patient recovered without complications. Obturator hernia, due to its rarity and unspecific early symptoms, can still be misleading even to the most experienced surgeons. Delayed diagnosis of obturator hernia can lead to bowel necrosis and perforation with significant postoperative morbidity and mortality.

Key words: *Obturator hernia; Surgery; Emergency; Misdiagnosis*

Introduction

Obturator canal is situated in the upper part of obturator foramen, between pubic ramus and obturator membrane. It is usually 2-3 cm long and around 1 cm wide. Obturator artery and nerve pass through the obturator canal and enter medial aspect of the thigh[1]. Obturator hernia represents a herniation of intra-abdominal contents through obturator canal. It accounts for less than 1% of all hernias[2]. Early symptom of an obturator hernia may be intermittent pain along the medial side of the thigh. This pain can be elicited or exacerbated through abduction or extension of the knee, which is known as the Howship-Romberg sign[3]. Another early symptom is Hannington-Kiff sign, absent obturator reflex with intact patellar reflex on the side of the obturator hernia. Still, obturator hernia is rarely diagnosed at this stage[4]. It is more commonly diagnosed only during emergency surgery for bowel obstruction due to incarceration[5,6]. It is found predominantly in elderly underweight women[7]. It develops more frequently on the right side than on the left[8,9].

Treatment of obturator hernia is surgical. Smaller hernias can be reconstructed with sutures[3]. Larger obturator hernias may require mesh reinforcement. As is the case with other abdominal hernias[10], obturator hernia repair can be performed using laparoscopic approach[11].

Richter type of bowel obstruction is partial obstruction of a loop of bowel, so that ischemia and perforation may develop, but there is no obstruction[12], which can lead to delayed diagnosis of incarcerated hernia. It can develop at any hernia site, but is most often found at femoral or incisional hernia site.

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Case Report

The patient, an 85-year-old female, presented to our urgent admission complaining of pain in the lower abdomen, accompanied by repeated vomiting. Twenty years before, she had hysterectomy, performed through lower midline incision. Upright abdominal x-ray showed no abnormalities. She was given supportive therapy and her condition improved. She was then discharged. She came on the next day with worsened, diffuse abdominal pain. Upright abdominal x-ray did not show bowel obstruction. She was admitted for further diagnostic workup. Three days after admission, due to persistent abdominal pain and after another negative upright abdominal x-ray, a multislice CT scan of the abdomen was performed. It revealed distended loops of small intestine and incarcerated intestinal loop in the right femoral canal. The patient was transferred to department of abdominal surgery and was urgently operated on.

The operation started with an oblique incision in the right inguinal region. However, we did not find inguinal or femoral hernia. We entered the abdominal cavity through incision of transverse fascia and underlying peritoneum, and found vital loops of distended small intestine, without adhesions or intra-abdominal collection. Mobilization of the intestine was not possible. Through such a small incision we could not establish the cause of obstruction. We therefore closed the inguinal incision and proceeded with lower midline incision. During inspection of lower abdomen, we found a loop of small intestine that was fixed to the pelvic wall dorsal to the right femoral canal and appeared to be the site of obstruction. After mobilizing the small intestine, we established that it was partially incarcerated in a small obturator hernia, no more than a centimeter in diameter. The incarcerated part of small intestine was necrotic without perforation, so we resected it and made a terminoterminal anastomosis. We closed the obturator hernia with three interrupted absorbable sutures. The midline incision was then closed in layers.

Postoperative course was uneventful and the patient was discharged on postoperative day nine. On subsequent follow-ups, she presented without difficulties pertaining to the operation.

Discussion

Obturator hernia is a protrusion of peritoneum and intra-abdominal contents into the obturator canal. Obturator canal is larger in women because of their wider pelvis[13]. This canal is even larger in underweight women, due to resorption of fatty tissue which normally cushions it, which is why obturator hernia occurs more often in elderly, underweight women[2]. Its early symptom, pain along the medial aspect of the thigh, can easily be misinterpreted as hip pain. This and the fact that obturator hernia is not visible or easily palpable delay the diagnosis, so the majority of obturator hernias are discovered only after incarceration. This late recognition of obturator hernias is why obturator hernias are burdened with highest mortality of all abdominal hernias[14]. Late recognition of obturator hernias is the reason why this hernia is usually repaired through lower midline laparotomy instead of using laparoscopic approach. Incarcerated obturator hernia usually causes symptoms of small bowel obstruction and is diagnosed during emergency surgery for small bowel obstruction or on CT scan of the abdomen[12].

This is the case where it took two visits to the emergency clinic and a 5-day hospital stay, three consecutive upright abdominal x-rays and a multislice CT scan of the abdomen to establish indication for emergency surgery. Even then, the hernia was misdiagnosed as incarcerated femoral hernia, also characteristic of elderly underweight women. The fact that it was a Richter type hernia prevented the development of clear signs of intestinal obstruction, thus delaying indication for abdominal CT scan and subsequent surgery. Once found, obturator hernia was easily closed with interrupted sutures, but due to the delay small bowel resection had to be performed. In conclusion, obturator hernia, due to its rarity and unspecific early symptoms, can still be misleading even to the most experienced surgeons. Two surgeons were involved in this case: one with 9 years and another with more than twenty years of experience, and neither had treated a similar case before. Delayed diagnosis of obturator hernia can lead to bowel necrosis and perforation with significant postoperative morbidity and mortality.

References

1. PETRIE A, TUBBS RS, MATUSZ P, SHAFFER K, LOUKAS M. Obturator hernia: anatomy, embryology, diagnosis, and treatment. Clin Anat 2011;24:562-9.
2. ZHANG H, CONG JC, CHEN CS. Ileum perforation due to delayed operation in obturator hernia: a case report and review of literature. World J Gastroenterol 2010;16:126-30.
3. SHIPKOV CD, UCHIKOV AP, GRIGORIADIS E. The obturator hernia: difficult to diagnose, easy to repair. Hernia 2004;8:155-7.
4. KATOH T, KAWAMOTO R, KUSUNOKI T. A case of obturator hernia with overlooked Howship-Romberg sign and treated as sciatica. Nihon Ronen Igakkai Zasshi 2011;48:176-9.
5. FAKEYE VO, JOHN AR, JAMBULINGAM PS, VIDYA R. Pre-operative diagnosis of obturator hernia: a report of two cases. Ann R Coll Surg Engl 2010;92:1-2.
6. LIAO CF, LIU CC, CHUANG CH, HSU KC. Obturator hernia: a diagnostic challenge of small-bowel obstruction. Am J Med Sci 2010;339:92-4.
7. RODRÍGUEZ-HERMOSA JI, CODINA-CAZADOR A, MAROTO-GENOVER A, *et al*. Obturator hernia: clinical analysis of 16 cases and algorithm for its diagnosis and treatment. Hernia 2008;12:289-97.
8. KAMMORI M, MAFUNE K, HIRASHIMA T, *et al*. Forty-three cases of obturator hernia. Am J Surg 2004;187:549-52.
9. PANDEY R, MAQBOOL A, JAYACHANDRAN N. Obturator hernia: a diagnostic challenge. Hernia 2009;13:97-9.
10. FILIPOVIĆ ČUGURA J, KIRAC I, KULIŠ T, JANKOVIĆ J, BEKAVAC BEŠLIN M. First case of single incision laparoscopic surgery for totally extraperitoneal inguinal hernia repair. Acta Clin Croat 2008;47:249-52.
11. SHAPIRO K, PATEL S, CHOY C, *et al*. Totally extraperitoneal repair of obturator hernia. Surg Endosc 2004;18:954-6.
12. SKANDALAKIS PN, ZORAS O, SKANDALAKIS JE, MIRILAS P. Richter hernia: surgical anatomy and technique of repair. Am Surg 2006;72:180-4.
13. STAMATIOU D, SKANDALAKIS LJ, ZORAS O, MIRILAS P. Obturator hernia revisited: surgical anatomy, embryology, diagnosis, and technique of repair. Am Surg 2011;77:1147-57.
14. MANTOO SK, MAK K, TAN TJ. Obturator hernia: diagnosis and treatment in the modern era. Singapore Med J 2009;50:866-70.

Sažetak

RICHTEROV TIP INKARCERIRANE OBTURATORNE HERNIJE: OTEŽANA DIJAGNOSTIKA

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Obturatorna hernija je rijedak oblik abdominalne hernije gdje do hernijacije dolazi kroz obturatorni kanal. Najčešće se javlja kod starijih pothranjenih žena. Rani simptomi obturatorne hernije su nespecifični, što je razlog da se ovakve hernije prepoznaju obično nakon što se razvije inkarceracija. Inkarcerirane obturatorne hernije se najčešće prepoznaju tijekom CT trbuha ili hitnog kirurškog zahvata zbog simptoma mehaničkog ileusa. Ovdje prikazujemo slučaj 85-godišnje bolesnice koja je primljena u bolnicu zbog povremenih bolova u trbuhu praćenih povraćanjem. Uzastopne nativne RTG snimke abdomena nisu pokazale opstrukciju crijeva. Učinjen je CT trbuha gdje se prikazala desnostrana inkarcerirana femoralna kila koja, međutim, tijekom hitnog kirurškog zahvata nije nađena. Nakon što je učinjena laparotomija, pronašli smo desnostranu inkarceriranu obturatornu kilu Richterova tipa s malim područjem nekrotičnog tankog crijeva. Učinili smo segmentnu resekciju tankog crijeva. Kilni otvor je zatvoren pojedinačnim šavima. Postoperacijski oporavak bolesnice je bio uredan. Obturatorna kila, zahvaljujući niskoj incidenciji i nespecifičnim ranim simptomima, može biti zbunjujuća čak i za najiskusnijeg kirurga. Odgođena dijagnoza obturatorne kile može dovesti do nekroze i perforacije crijeva, što sa sobom nosi značajan pobol i smrtnost.

Ključne riječi: *Obturatorna kila; kirurgija; Hitna kirurgija; Pogrešna dijagnoza*