

An Unusual Cause of Acute Abdomen: Obturator Canal Herniation of Appendix: Case Report

Akut Batının Nadir Bir Nedeni: Apendiksin Obturator Hernisi

Betül TIRYAKI, MD,^a
Funda GELENGEÇ, MD,^a
Gönenç KOCABAY, MD,^b
Halil ALIŞ, MD,^c

Departments of
^aRadiodiagnosis,
^bInternal Medicine,
^cGeneral Surgery,
İstanbul University,
İstanbul Faculty of Medicine,
İstanbul

Geliş Tarihi/Received: 20.05.2008
Kabul Tarihi/Accepted: 30.12.2008

Yazışma Adresi/Correspondence:
Gönenç KOCABAY, MD
İstanbul University,
İstanbul Faculty of Medicine,
Department of Internal Medicine,
İstanbul,
TÜRKİYE/TURKEY
gkocabay@istanbul.edu.tr

ABSTRACT Obturator hernia is a rare disorder and its preoperative diagnosis is usually difficult. Mortality rates up to 38% have been reported for obturator hernia. This clinical entity is usually depicted in elderly and thin women and patients present with intestinal obstruction findings. The presented case is interesting because appendix herniation to the obturator canal has been rarely reported. In addition, although obturator hernias usually develop in the seventh and eighth decades of life, our case was thirty years old. The herniation of appendix into the obturator canal was detected by laparoscopic examination. Appendix was removed from the obturator canal and appendectomy was performed. Following this, the obturator canal was repaired using polypropylene mesh.

Key Words: Hernia, obturator; appendix

ÖZET Obturator herni nadir bir hastalık olup genellikle preoperatif olarak tanınması zordur. Obturator herni için %38'e varan mortalite oranları bildirilmiştir. Bu klinik tabloya genellikle yaşlı ve zayıf kadınlarda bağırsak obstrüksiyonu bulgularıyla rastlanır. Sunulan olgu, apendiksin obturator kanala herniasyonu nedeni ile ilginç olup, literatürde nadir rapor edilmiştir. Olguda ikinci ilginç nokta ise, obturator hernilerin yaşamın yedinci ve sekizinci dekadında görülmesine rağmen, bizim olgumuzun 30 yaşında olmasıdır. Laparoskopik girişimde apendiksin obturator kanala herniasyonu saptanmıştır. Apendiks, obturator kanaldan çıkartılmış ve apendektomi yapılmıştır. Apendektomi sonrasında obturator kanal polipropilen yama kullanılarak onarılmıştır.

Anahtar Kelimeler: Obturator herni, apendiks

Türkiye Klinikleri J Med Sci 2009;29(6):1740-2

Obturator hernia accounts for about 2% of all hernias.¹ Obturator hernia is a rare disorder and its preoperative diagnosis is usually difficult. Thus, it is commonly diagnosed during the operation. Mortality rates up to 38% have been reported for obturator hernia usually due to the delay in diagnosis and surgical management. This clinical entity is usually depicted in elderly and thin women and patients present with intestinal obstruction findings. Because of high mortality rates of strangulated or gangrenous obturator canal herniations, an emergent operative approach should be considered for this diagnostic problem. This case is interesting because appendix herniation to the obturator canal has been reported relatively rare.²⁻⁴ In addition, although obturator hernias develop in the seventh and eighth decades of life our case was thirty years old.

CASE REPORT

A thirty-years-old woman was admitted to the Emergency Department because of severe abdominal pain that lasted one day on the right side of the lower abdomen. She had no serious findings on previous history. Presenting findings of the patient showed that the blood pressure and body temperature were normal and heart rate was rhythmic. Physical examination revealed severe tenderness on the right lower quadrant of the abdomen. The white blood cell count was 11.000 cells/mL and the remaining laboratory tests were normal. Serum amilase level and urinalysis were unremarkable. No abnormal signs were found on rectal and vaginal examinations. The plain X-ray of the abdomen revealed no abnormality. An emergent abdominal ultrasound examination was performed and a tubular, nonperistaltic, blind terminated intestinal loop was observed on the right side of the lower abdomen. The calibre of the loop was measured 1 cm and a small amount of free fluid was detected. The diagnosis was appendicitis. Since the severity of her pain was increasing and free fluid had become more evident, the operation was planned in a short time. The operation was performed after the patient had provided informed consent. The herniation of the appendix into the obturator canal was detected by laparoscopic examination. The appendix was removed from the obturator canal and appendectomy was performed. Following this, the obturator canal was repaired using polypropylene mesh. In the postoperative period, the patient recovered rapidly and one day later, she was discharged from the hospital.

DISCUSSION

Obturator hernia accounts for about 2% of all hernias.¹ Most of the patients are women with low body weight and it develops in the seventh and eighth decades of life.¹ The clinical picture includes intestinal obstruction symptoms; the Howship-Romberg sign and a previous history of attacks may aid the diagnosis.⁵ In addition to intestinal herniation into the obturator canal, the appendix may

also herniate. It may become strangulated and edematous and may mimic appendicitis clinically and radiologically. In the literature, appendix herniation to the obturator canal was reported rarely.²⁻⁴ Although the white blood cell count is high in appendicitis, it may be within normal ranges in herniation and this may be a distinctive feature for the differential diagnosis.

Physical examination may reveal severe tenderness on the right lower quadrant of the abdomen; but the pain is more inferiorly and medially orientated in obturator herniation compared to appendicitis. The age and sex distribution are also characteristic for the differential diagnosis of hernias and appendicitis; obturator hernias usually develop in elderly women. The accurate diagnosis rate varied from 0-70% in the literature and the diagnosis was reported to be made only at the time of laparotomy in most patients; these rates also include the herniation of appendix to the obturator canal.⁶⁻⁸ The differential diagnosis of appendicitis from appendix herniation to the obturator canal also remains a clinical and radiological problem. The plain X-rays are usually unremarkable but sometimes reveal dilated small bowel loops on the lower abdomen. A loop of bowel or appendix in the obturator canal may be noted on emergent ultrasound examination of the abdomen (Figure 1). However, strangulated and edematous appendix may mimic appendicitis.



FIGURE 1: A loop of bowel or appendix in the obturator canal.

The general management of obturator hernias includes surgical approach. The operation must be planned emergently. Mortality rates up to 38% have been reported for obturator hernia due to the delay in diagnosis and surgical management. Strangulation, gangrene and perforation may develop in the obturator canal herniation of the appendix.

In conclusion, whenever appendicitis is suspected but can not be proved by radiological, clinical and laboratory tests, obturator canal herniation of appendix should be considered. Because of high mortality rates of strangulated or gangrenous obturator canal herniations, an emergent operative approach should be considered.

REFERENCES

1. Sadlić VS, Piliuićko VV. [Incarceration of the appendix and ileum in the obturator canal]. *Klin Khir* 1988;(2):65.
2. Kjossev KT, Losanoff JE. Gangrenous appendicitis in a strangulated obturator hernia. *South Med J* 2003;96(10):1042-3.
3. Hartley BE, Davies MS, Bowyer RC. Strangulated appendix in an obturator hernia presenting as gas gangrene of the thigh. *Br J Surg* 1994;81(8):1135.
4. Bjork KJ, Mucha P Jr, Cahill DR. Obturator hernia. *Surg Gynecol Obstet* 1988;167(3):217-22.
5. Ziegler DW, Rhoads JE Jr. Obturator hernia needs a laparotomy, not a diagnosis. *Am J Surg* 1995;170(1):67-8.
6. Hsu CH, Wang CC, Jeng LB, Chen MF. Obturator hernia: a report of eight cases. *Am Surg* 1993;59(11):709-11.
7. Carriquiry LA, Piñeyro A. Pre-operative diagnosis of non-strangulated obturator hernia: the contribution of herniography. *Br J Surg* 1988;75(8):785.
8. Chin LW, Chou MC, Wang HP, Bell W. Ultrasonography diagnosis of occult obturator hernia presenting as intestinal obstruction in ED. *Am J Emerg Med* 2005;23(2):237-9.