Clinical History:

A 87-year-old woman was admitted to our hospital with 24 hours history of diffuse abdominal pain and vomiting. She didn't present fever or diarrhoea, and had no history of abdominal surgery.

Imaging Findings:

Physical examination developed diffuse abdominal pain, no palpable masses, and hypoactive bowel sounds during auscultation. Plain abdominal X-ray was nonspecific. A CT of abdomen and pelvis was performed on a 64-MD-CT scanner, with administration of intravenous contrast. Scanner showed distended and fluid-filled small bowel loops, compatible with small bowel obstruction. All loops presented normal wall enhancement (meaning viability). Also, CT developed a small bowel loop herniated through right obturator foramen and located between external obturator muscle and pectineus muscle, outside pelvic girdle, that presented enhancement of the wall. Obturator hernia was diagnosed and urgent surgical repair was performed.

Discussion:

Obturator hernia is a rare abdominal hernia, whose incidence rates vary between series: 0.05-1.4% of all abdominal wall hernias and 0.2-1.6% of all cases of small bowel mechanical obstruction, approximately [1, 2, 3].

Obturator foramen is bounded by the ischial and pubic bone and covered by the obturator membrane, except a supero-lateral perforation open to the obturator canal that contains the obturator nerve and vessels and preperitoneal fat. Obturator hernia is produced by herniation of small bowel loops (ileum) through obturator foramen [2]. Herniation sac may contain colon, appendix, urinary bladder, omentum, ovary and Fallopian tube, as well [1].

It occurs most frequently in elderly patients, and in females more than in males, due to their wider pelvis, especially in multiparous. Other risk factors are emaciation (there is a lack of preperitoneal fat, that has a protective effect) and those conditions that increase intrabdominal pressure (chronic constipation,…). Obturator hernia is more common through right foramen, probably because sigmoid colon covers left obturator foramen [1, 2, 3, 4].

Clinical presentation is nonspecific, with symptoms of bowel obstruction, principally nausea, vomiting and abdominal
Hernial sac is situated behind the pectineus muscle, so it's difficult to palpate during physical examination.

The Howship-Romberg sign is characterised by pain in proximal lower limb. It's due to compression of the obturator nerve by the hernial sac in the obturator canal. This sign may be misinterpreted as osteo-articular pathology. The Hannington-Kiff sign, consisting of an absence of the adductor reflex in the thigh, is more specific than the previous. Palpation of a mass during vaginal or rectal examination should suggest this condition.

**Differential Diagnosis List:** Intestinal obstruction secondary to obturator hernia, Intestinal adhesions, Abdominal wall hernias, Inflammatory bowel diseases, Intussusception, Volvulus, Tumours in small bowel, Abdominal or pelvic surgery, Metabolic disorders, Medications

**Final Diagnosis:** Intestinal obstruction secondary to obturator hernia.

**References:**


Description: Abdominal CT scanner after intravenous administration of iodinated contrast material. Axial plane. Small bowel loops are dilated and filled with fluid, compatible with obstruction. All loops present normal wall enhancement (viability). Origin: Santa-Olalla Gonzalez M, Department of Radiology, Virgen de la Arrixaca University Clinical Hospital, Murcia, Spain.
Figure 2

Description: MPR in axial plane, at a lower level as Figure 1. It shows a small bowel loop located between right external obturator muscle (arrow) and right pectineus muscle (asterisk), outside pelvic girdle. Origin: Santa-Olalla Gonzalez M, Department of Radiology, Virgen de la Arrixaca University Clinical Hospital, Murcia, Spain.

Description: MPR in axial plane, at the same level than Figure 2a. It shows a small bowel loop located between right external obturator muscle and right pectineus muscle, outside pelvic girdle. Origin: Santa-Olalla Gonzalez M, Department of Radiology, Virgen de la Arrixaca University Clinical Hospital, Murcia, Spain.
**Figure 3**

**a**

*Description:* Scanner shows a small bowel loop herniated through obturator foramen and located between right external obturator muscle (arrow) and right pectineus muscle (asterisk), causing bowel obstruction secondary to obturator hernia. *Origin:* Santa-Olalla Gonzalez M, Department of Radiology, Virgen de la Arrixaca University Clinical Hospital, Murcia, Spain.

**b**

*Description:* A small bowel loop is herniated through obturator foramen and located between right external obturator muscle and right pectineus muscle. Wall of the herniated loop presents adequate enhancement (compatible with viability). *Origin:* Santa-Olalla Gonzalez M, Department of Radiology, Virgen de la Arrixaca University Clinical Hospital, Murcia, Spain.
Figure 4

Description: MPR in sagittal plane shows a small bowel loop passing through obturator foramen (obturator hernia). Small bowel presents marked distention and predominantly fluid content. Origin: Santa-Olalla Gonzalez M, Department of Radiology, Virgen de la Arrixaca University Clinical Hospital, Murcia, Spain.
Description: MPR in sagittal plane shows a small bowel loop passing through obturator foramen. All small bowel loops are distended, fluid-filled and present adequate wall enhancement. **Origin:** Santa-Olalla Gonzalez M, Department of Radiology, Virgen de la Arrixaca University Clinical Hospital, Murcia, Spain.

Description: CT scan shows herniated loop outside pelvic girdle. **Origin:** Santa-Olalla Gonzalez M, Department of Radiology, Virgen de la Arrixaca University Clinical Hospital, Murcia, Spain.