Intestinal obstruction due to an obturator hernia: a case report with a review of the literature

Z Antoniou1*, E Volakaki1, E Giannakos1, DC Kostopoulos2, A Chalazonitis1

Abstract
Introduction
Obturator hernia is a rare abdominal hernia and a diagnostic challenge. It is a significant cause of intestinal obstruction in thin, elderly women. Delayed diagnosis and surgical intervention causes its high morbidity and mortality. Computed tomography is a valuable tool for preoperative diagnosis. This report presents an intestinal obstruction due to an obturator hernia.

Case report
This report presents the case of an 84-year-old female patient with a small bowel obstruction caused due to an obturator hernia.

Conclusion
A computed tomography scan is valuable to establish preoperative diagnosis. Early diagnosis and surgical treatment contribute greatly to reduce the morbidity and mortality rate.

Introduction
Obturator hernia was first described by Arnaud de Ronsil. It is considered to be rare and accounts for 0.05%–0.4% of all hernias1 and 0.2%–1.6% of all cases of mechanical intestinal obstruction2. It is more common in thin, elderly females and has a high mortality rate between 13% and 40%3. Rapid evaluation and early surgical intervention can reduce morbidity and mortality. A computed tomography (CT) scan of the pelvis and upper thigh is the best imaging tool in obturator hernia. This report discusses an intestinal obstruction caused in a patient due to an obturator hernia.

Case report
An 84-year-old female was admitted to our hospital with colicky abdominal pain and repeated episodes of vomiting. Pain was localised over the periumbical area and radiated along the medial side of the thigh. On physical examination, the patient’s vital signs were stable, her abdomen was distended centrally and abdominal tenderness was present with no evidence of peritonitis or free fluid. There were hyperactive bowel sounds. No abnormal signs were found on rectal and vaginal examinations. Biochemical parameters were within normal limits. Plain abdominal radiography revealed multiple distended bowel loops. A CT scan and reconstruction of the acquired images in coronal and axial planes was performed to determine the cause of bowel obstruction (Figure 1). The CT scan demonstrated dilated fluid-filled loops of small bowel up to a herniated loop of small bowel, through the obturator canal (Figure 2). Small bowel loop was noted between the pectineus and the left external obturator muscle (Figure 3). Obturator hernia was diagnosed and emergency surgical treatment was arranged.

Discussion
Obturator hernia proceeds through the obturator foramen situated bilaterally in the anterolateral pelvic wall, interiorly to the acetabulum. The obturator artery, vein and nerve pass through this tunnel protected by extraperitoneal connective tissue and fat4,5. Typically, obturator hernias occur in elderly women or patients with chronically raised intra-abdominal pressure. A computed tomography scan allows for better visualisation of the hernia sac and its contents. This case report emphasises the importance of early detection and surgical intervention to prevent significant morbidity and mortality.

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pressure. The female predominance of these hernias is the result of pregnancy, which leads to relaxation of the pelvic peritoneum and a wider and more horizontal obturator canal. In general, obturator hernias are asymptomatic unless the hernia sac compresses the obturator nerve and produces the pathognomonic Howship–Romberg sign, which includes pain with or without paresthesia localised down the anteromedial thigh to the knee upon movement of the hip or thigh.

The Howship–Romberg sign is positive in 15%–50% of cases. The Hannington–Kiff sign, a clinical sign in which there is an absent adductor reflex in the thigh, is more specific but less known. Other symptoms include acute or intermittent small bowel obstruction with high risk of strangulation, weight loss and rarely a palpable mass. Various imaging examinations such as ultrasonography, herniography and CT scan have been applied to establish the diagnosis. The best imaging tool is CT which has superior sensitivity and accuracy. Bowel herniating through the obturator foramen and lying between the pectineus and obturator muscles is a key finding on CT and determines the diagnosis. CT also differentiates the obturator hernia from other abdominal masses, such as tumours, haematomas and abscesses. Thin, reformatted images of 2.5 mm or less may better delineate the size and shape of the hernia sac and associated complications. Intravenous administration of contrast medium helps check the vascular supply of the bowel wall to detect complications such as ischemia. Dilation of small bowel proximal to the hernia is a sign of obstructed hernia. The intraperitoneal approach through a low midline incision is most commonly used as it can establish the diagnosis, avoid the obturator vessels, expose the obturator ring and facilitate bowel resection if necessary. Retropublic, preperitoneal, groin or laparoscopic approaches may be used if the diagnosis is made preoperatively.

**Conclusion**

Obturator hernia remains an important diagnosis to consider in elderly patients with intestinal obstruction. CT scan is valuable to establish preoperative diagnosis. Early diagnosis and surgical treatment contribute greatly to reduce the morbidity and mortality rate.

**Abbreviations list**

CT: computed tomography.

**Consent**

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal.

**References**