

## A Rare Case of Obstructed Obturator Hernia with Acute Appendicitis and Cholelithiasis

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**Abstract:** Obturator hernia is a significant cause of intermittent bowel obstruction difficult to diagnose clinically associated with high mortality rate in elderly patients. We report a rare case of obstructed right obturator hernia with acute appendicitis and cholelithiasis in an elderly woman with scoliosis. The patient was diagnosed by CT scan followed by emergency laparotomy. The strangulated bowel loop was reduced gently, hernial site was repaired with proline suture. Appendectomy and cholecystectomy was done. Patient developed pneumonitis in postoperative period but recovered well. CT scan is very useful in early diagnosis and significantly reduces the morbidity and mortality.

**Keywords:** Obturator hernia, Appendicitis, Intestinal obstruction, Cholelithiasis

### INTRODUCTION

A hernia can occur at various sites of the body, these defects most commonly involve the inguinal, femoral, and umbilical area [1]. Obturator hernia is a rare pelvic hernia account for 0.07–1% of all hernias [2] very difficult to diagnose clinically with relative high morbidity and mortality due to high chance of bowel strangulation and delay in diagnosis [2, 3]. Non-specific signs and symptoms make the clinical diagnosis of an obturator hernia difficult [4]. Obturator hernias account for 0.2–1.6% of all cases among small bowel mechanical obstruction [2].

Conditions which causes increased intra-abdominal pressure, such as chronic constipation, ascites, kyphoscoliosis, multiparity and chronic obstructive pulmonary disease, are predisposing factors [5]. Multiparity is implicated on the basis of laxity of the parietal peritoneum [6]. It is more common in females because of anatomical differences, especially older women and multiparous with history of significant weight loss [7]. The diagnosis is usually made intraoperatively in cases of intestinal obstruction [8].

Here we present a rare case of obstructed obturator hernia diagnosed pre-operative by CT-scan associated with intra-operative finding of inflamed appendix with impacted appendicolith and incidental finding of cholelithiasis. It was managed successfully with exploratory laparotomy.

### CASE REPORT

A 70 year old women presented with complains of recurrent vomiting, abdominal pain and distension, not passing stool and flatus since last 5 days. Past history of on and off constipation was present. On examination patient looks emaciated with body weight of 38 kg, well oriented with kyphoscoliosis. Mild abdominal distension was present with tenderness at right lower abdomen but no guarding or rigidity. Bowel sounds were hyperactive. Hernial sites were normal. Per-rectal examination revealed no abnormality. In laboratory tests no abnormality detected except hypokalemia. Radiography of abdomen shows dilated jejunal loop but no significant air fluid level. Scoliosis noted with concavity towards left (Fig. 1). Sonography suggestive of cholelithiasis with dilated bowel loops. CT abdomen was done and results shows cholelithiasis with strangulated right obturator hernia containing small bowel loop (Fig. 2). With the diagnosis of strangulated right obturator hernia emergency surgery planned. During surgery a strangulated small bowel loop extending through the right obturator foramen detected and pulled out gently with dilated proximal jejunal loop. No resection of bowel required as viability of reduced bowel segment was satisfactory. Appendix was inflamed with impacted appendicolith. Our case is extremely rare as this patient had obstructed obturator hernia as well as acute appendicitis and cholelithiasis simultaneously. Patient was managed with primary closure of right obturator foramen, appendectomy and cholecystectomy. Postoperatively patient developed

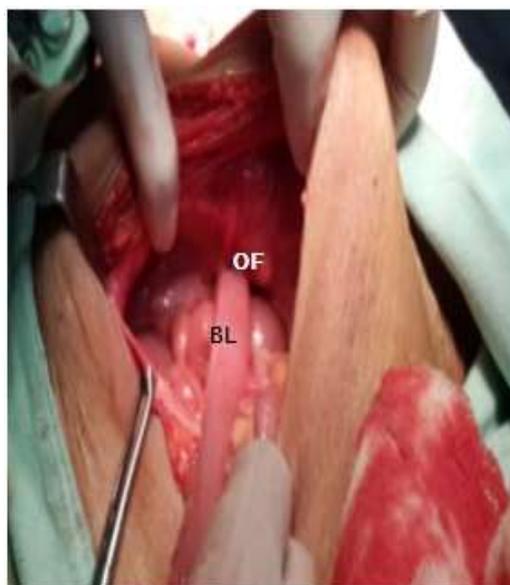
pneumonitis treated well with intravenous antibiotics and discharged on 8<sup>th</sup> day.



Figure 1: Computed tomography coronal section image showing proximal dilated bowel loops suggestive of obstruction with obturator hernia (shown by arrow)



Fig. 2: Computed tomography transverse section image showing herniated bowel loop outside the obturator externus (labeled as OE) suggestive of obturator hernia (shown by arrow)



**Fig. 3: Intraoperative picture showing small bowel loop (labelled as BL) going through obturator foramen (OF)**

## DISCUSSION

Obturator hernia is a rare form of pelvic hernia with high morbidity and mortality [9], more likely in the age group of 70s and 80s in elderly women. Arnaud de Ronsil at the Royal Academy of Sciences in Paris in 1724 described an obturator hernia [10]. The incidence of the disease is about 0.073% of all hernias [11].

An obturator, or pelvic hernia occurs in the pelvic area and presents as bowel obstruction, instead of protrusion of the bowel contents. An obturator hernia may be fatal, if not treated on time.

The obturator membrane occludes the obturator foramen. Neurovascular bundle which contains the obturator vein, nerve and artery, pierces the obturator membrane anterosuperiorly. This neurovascular bundle travels along obturator canal which is a oblique tunnel 2- to 3-cm in length formed by the external and internal obturator muscles. Obturator hernia occurs through this deficiency which is the result of obturator canal and neurovascular bundle. Obturator hernia is more common on the right presumably due to the sigmoid on the left [12, 13].

Obturator hernia lie deep and inferior to pectineus muscle and superficial to obturator external muscle. The hernia may contain small bowel (most common), colon, appendix, omentum, Meckel diverticulum in both sex, while ovary/fallopian tube and even uterus in female [12, 13].

An abdominal CT-scan can establish the diagnosis with high sensitivity and specificity [14]. Obturator hernia can be diagnose with the help of laparoscopy in cases which lacks conclusive historical

or physical findings. Advantage with laparoscopy is that once this entity diagnosed, can be repaired simultaneously with the use of mesh technique [15].

For laparotomy most commonly used approach is through a low midline vertical incision is used and favored because it provide proper exposure [16], helpful to establish the diagnosis, avoiding injury to the obturator vessels, expose the obturator ring, facilitate hernia reduction and bowel resection if necessary [17, 18]. If the diagnosis is made preoperatively different approaches like Cheatle-Henry retropubic, preperitoneal, groin, or laparoscopic may be used [19].

Defect can be closed with polypropylene mesh, cartilage, free omentum or Teflon patch [19]. In critically ill patients simple closure of hernial defect with one or more interrupted sutures can be done with recurrence rate less than 10% [2, 20].

Almost 50% of patients with obturator hernia present with complete or partial bowel obstruction. In our case patient admitted with complains of recurrent bilious vomiting associated with colicky pain abdomen. Preoperative diagnosis of obstructed obturator hernia was made by CT scan of abdomen and emergent operation performed. Fortunately bowel resection not required as viability of reduced bowel was satisfactory. Appendicitis with impacted appendicolith is very rarely associated with obstructed obturator hernia. Our case was managed by simple closure of the defect with prolene, appendectomy and cholecystectomy.

## CONCLUSION

In an elderly woman with features of intestinal obstruction differential diagnosis of obturator hernia

should be kept in mind particularly in emaciated individuals. During laparotomy always explore the bowel to rule out other pathology like malignancy, stricture, appendicitis. Early diagnosis and surgical intervention in strangulated obturator hernia is helpful in reducing the high mortality rate associated with this rare entity.

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