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(CASE REPORT)

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Obturator Hernia, an unusual cause of small bowel obstruction: Radiographic and surgical findings

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Abstract

Obturator hernia is a rare condition, it contributes to about 1% of incidence of all hernias, even less frequently are they diagnosed preoperatively, with the vast majority being found incidentally at laparotomy for small bowel obstruction.

Diagnosing an obturator hernia clinically is a challenging one due to vague signs and symptoms. Pelvic CT is almost 100% accurate in the diagnosis of obturator hernia and should be the modality of choice in older patients presenting with intestinal obstruction of unknown etiology. This case report describes a thin elderly woman, with a history of 5 days acute abdominal pain, which was correctly diagnosed before surgery as an incarcerated obturator hernia using CT.

Keywords: Obturator hernia; Strangulation; Intestinal obstruction; Computed tomography

1. Introduction

An obturator hernia is a rare cause of all abdominal wall hernias commonly seen in females, they first described in 1724 by Arnaud de Ronsil. Obturator hernia is rare; they represent only 0.05– 1.4% of all abdominal-wall hernias. Obturator hernias are commonly found in elderly, emaciated, multiparous women with concurrent medical conditions. Possible contributing factors include the degradation of the fat body within the obturator canal.

Due to its rarity and unspecific early symptoms, obturator hernia can still be misleading even to the most experienced surgeons. Delays in operative intervention can contribute to the increased need for resection of gangrenous bowel seen in up to 50% of obturator hernia repairs; perioperative mortality rates in such settings can be as high as 70%.

The usefulness of computed tomography (CT) in the diagnosis of OH was reported by Cubillo in 1983; since then, it has been assisting surgeons in the emergency management of this disorder. With the improvement of equipment, a computed tomography (CT) scan is able to detect the obturator hernia preoperatively, being consistent with the findings of laparotomy for obturator hernia. Early CT imaging allows early diagnosis and reduces morbidity and mortality associated with obturator hernia.

Given obturator hernia is rare, their management has been based on individual case reports or case series that have resulted in a few suggested diagnostic and therapeutic algorithms. The following case report highlights these diagnostic difficulties and reviews the current literature on diagnosis and management of such cases.

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2. Case report

A 73-year-old frail woman (BMI = 16,44 kg/m^2) who gave birth to 6 kids and denied any history of previous abdominal surgery, was sent to our emergency department because of acute abdominal pain, absolute constipation and vomiting for 5 days.

She firt went to nearby hospital where an X-ray of the abdomen showed evidence of small gut obstruction with no perforation. then she was referred to our emergency surgical department hospital for better evaluation and management.

On admission, she reports recent weight loss during this year, and intermittent abdominal pain throughout the past month. On examination, her heart rate was 88 beats/min and blood pressure were 130/80 mm Hg. Her abdomen was soft and non-distended, and no groin hernias. Rectal examination is unremarkable. The Howship-Romberg sign is not present. Biochemical testing showed evidence of acute kidney injury.

An urgent CT scan revealed an incarcerated right obturator hernia containing small bowel loop.

Figure 1 Coronal CT section showing a right obturator hernia with an incarcerated intestinal loop

Figure 2 Axial CT section showing a right obturator hernia with an incarcerated intestinal loop

At laparotomy, we confirm that a small bowel segment was herniated in right obturator foramen, about 1,7 m proximal to ileocecal valve, the bowel proximal to the hernia was dilated, while the distal segment was collapsed. The incarcerated intestine was reduced and a perforated lesion was noted. the bowel defect was closed with sutures. The orifice of the obturator canal was closed with interposition of round ligament and bladder.

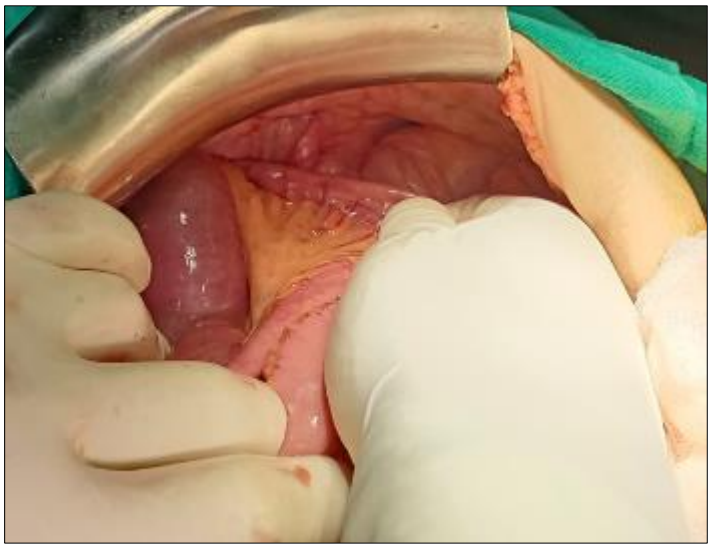

Figure 3 Per operative image of obturator hernia with incarcerated intestinal loop

The patient was recovered uneventfully and discharged six days after operation.

3. Discussion

Due to their low incidence and non-specific symptoms, obturator hernias may present a diagnostic challenge for the radiologist or surgeon. Obturator hernias are exceedingly rare, constituting 0.073% of all hernias in the West and 1% in the Far East; even less frequently are they diagnosed preoperatively, with the vast majority being found incidentally at laparotomy for SB obstruction [1].

The high morbidity (30%) and mortality (10%) rates associated with obturator hernia, which is most likely related to disease acuity (63% presented emergently), greater need for bowel resection (47%), and underlying medical comorbidities in a frail, elderly patient, stress the importance of a prompt diagnosis and immediate operative intervention.[5]

The majority of obturator hernia patients present as the classic description of a “skinny old lady,” with signs and symptoms suggestive of bowel obstruction. Multiple predisposing factors have been associated with obturator hernia formation, including a wider pelvis causing a triangularshaped obturator canal with an increased transverse diameter, multiparity, increased age usually in conjunction with emaciation, as well as chronic concomitant medical conditions which increase the intraabdominal pressure, such as chronic obstructive pulmonary disease, chronic constipation, ascites, and kyphoscoliosis.[3]

They occur when the intestine protrudes through a defect in the obturator foramen and into the obturator canal, giving rise to a combined clinical picture of bowel obstruction. Diagnosis of an obturator hernia before surgery is difficult due to its non-specific symptoms and because there is usually intestinal obstruction. Clinical diagnosis based on the HowshipRomberg sign presented pain spreading along the medial thigh to the knee because of a nervous blockage by the hernia mass and pain increasing when the leg was spread out and rotated outside in 13%-68% of cases [6].

CT is the ‘gold standard’ for the diagnosis of obturator hernia, and has a high rate of accuracy; Since the early diagnosis of obturator hernia helps to decrease both intestinal resection rate and surgical mortality, a CT scan is recommended for patients with small bowel obstruction of undetermined cause, especially for those with risk factors for obturator hernia. Our case report thus highlights the value of a CT scan in establishing a prompt preoperative diagnosis of an obturator hernia, appropriate planning of surgical intervention, and thus optimising the outcome [7].

Obturator hernia repair is usually accomplished by midline laparotomy and primary repair. However, with the advent of laparoscopy, additional choices of mesh, and the possibility of a preoperative diagnosis, other options for repair now exist. The extraperitoneal approach using an inguinal or thigh incision is a possibility; however, a preoperative diagnosis is necessary. Furthermore, in the event of strangulated bowel, resection through this incision would prove difficult. Mesh-based repairs may prove beneficial in certain circumstances in which primary tissue repairs are challenging, such is often the case when the boundaries of the hernia are rigid and difficult to approximate. A multitude of materials have been used in the past to stabilize the closure such as costal cartilage, innermost fibers of pectineus muscle, rolled-up tantalum gauze, osteoperiosteal flap from the pubic bone, free omentum, and uterine fundus or round ligament. our patient, the digestive leak prevented us from using prosthetic material, and a simple closure was impossible because of the rigidity of the anatomical structures, we chose a repair with interposition of the round ligament and the bladder, which was easy to perform [2,4].

4. Conclusion

Obturator hernia is a rare but significant cause of intestinal obstruction and a diagnostic challenge for surgeon and radiologist. The diagnosis of obturator hernia can be made by CT scan preoperatively. Despite having delayed presentation, our patient has good postoperative outcome.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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