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Bilateral obturator hernia with incarcerated richter type hernia: A case report

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Abstract

Obturator hernia are a rare type of hernia which can lead to life threatening bowel ischemia. We report a case of a richter type obturator hernia that was repaired primarily followed by contralateral obturator hernia within two weeks. A contralateral obturator hernia causing bowel obstruction was identified and treated laparoscopically with transabdominal preperitoneal mesh placement just two weeks after exploratory laparotomy with primary repair of left sided obturator hernia for a richter type hernia. This case highlights the importance of checking both obturator foramen for defects during repair of obturator hernia. If repaired open, this may only be realized by palpation and would only be visualized by entering the preperitoneal space.

Keywords: Case report, obturator hernia, bilateral hernia, richter hernia

Introduction

Obturator hernias are a relatively rare type of hernia characterized by protrusion of either intraperitoneal or extraperitoneal contents through the obturator canal, which contains the obturator nerve and associated blood vessels. Obturator hernias account for less than 1% of all abdominal wall hernias ^[1] and typically occur in elderly, thin, and multiparous women ^[2, 3]. The patient may present with abdominal pain radiating to the groin, small bowel obstruction, and rarely with a palpable mass in the medial thigh. Small bowel obstruction is present in >75% of cases ^[4]. Richter type hernias are not uncommon with obturator hernias, which can lead to strangulation without overt signs of bowel obstruction ^[5, 6]. Physical exam often fails to reveal a palpable bulge in the groin. The Howship-Romberg sign, pain along the medial thigh during medial rotation of the affected thigh, is a classic physical exam finding that occurs secondary to compression of the obturator nerve by the hernia sac. Preoperative diagnoses can be difficult; however, computed tomography scans have made diagnosing easier, with diagnostic accuracy ranging from 87% to 100% ^[2, 7]. Often, the diagnosis is made intra-operatively. Early surgical intervention is required, which also may require a small bowel resection if there is compromised bowel. Options for repair include primary repair and primary repair with mesh placement. Repair can be performed either minimally invasively or open; however, in the setting of strangulated bowel, an open repair is more prudent. The size of the defect in the obturator canal will determine if there is a need for mesh placement during repair ^[8]. Herein, we present a case of an elderly woman who presented with small bowel obstruction secondary to an obturator hernia of Richter's type. Two weeks later, she developed a small bowel obstruction secondary to a contralateral incarcerated obturator hernia which was repaired laparoscopically with mesh.

Case Report

A 74-year-old female presented to the emergency department with two days of left groin pain with associated nausea and vomiting. She had not had a bowel movement for three days prior to presentation. Medical history was significant for hypertension, hyperlipidemia, and diverticulitis. She had no prior surgical history. Physical examination revealed a moderately distended abdomen without any palpable masses in the bilateral groin. Cross-sectional (Figure 1), sagittal (Figure 2), and coronal (Figure 3) views of an abdominopelvic computed tomography (CT) scan revealed multiple fluid-filled small bowel loops with a single loop noted to enter the space between the left superior and inferior pubic ramus. Laboratory analysis was significant for leukocytosis to 13,000.

The patient was taken to the operating room for diagnostic laparoscopy, which revealed a single loop of small bowel herniating through the left obturator foramen (Figure 4). This loop was unable to be safely reduced laparoscopically.

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The loop was manually reduced through a lower midline incision; the bowel was viable, and a serosal tear was repaired. It was clear that this was a Richter's type hernia (Figure 5). The defect in the left obturator membrane was 1cm in diameter; it was repaired with a 2-0 prolene pursestring stitch. The patient had return of bowel function on postoperative day one. Her diet was slowly advanced, and she was discharged on postoperative day three. She was seen in clinic two weeks post-operatively and was tolerating a regular diet. Three days after her clinic appointment, she presented to an outside emergency department with severe pain in the right groin. Cross-sectional (Figure 6), coronal (Figure 7), and sagittal (Figure 8) views of an abdominopelvic CT scan revealed a right obturator hernia containing small bowel with dilated loops of bowel proximal to this. She was transferred to a separate facility where she underwent laparoscopic reduction of her right obturator hernia with transabdominal preperitoneal mesh placement. Of note, the primary repair of the left obturator hernia was noted to be intact during the laparoscopic repair of the right obturator hernia. She was discharged home on postoperative day one after return of bowel function.



Fig 1: Transverse view of left obturator hernia. Note the loop of small bowel immediately inferior to the left superior pubic rami.

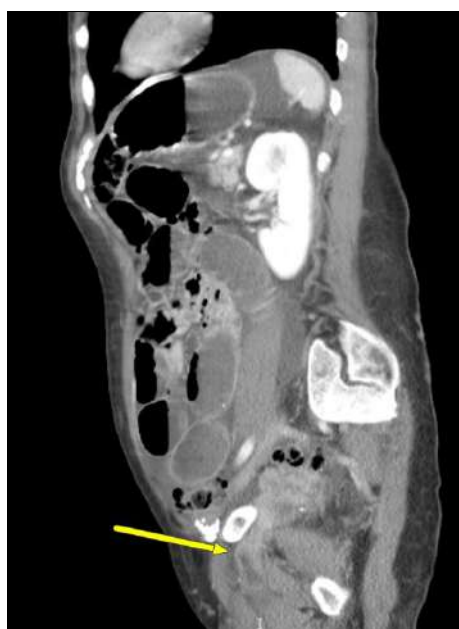


Fig 2: Sagittal view of left incarcerated obturator hernia. Note loop of small bowel passing posterolateral to the left pubic tubercle.



Fig 3: Coronal view of left incarcerated obturator hernia. Note loop of small bowel extending inferior to the superior pubic rami with dilated small bowel proximal.



Fig 4: Laparoscopic view of small bowel entering the left obturator hernia defect. Note the dilated loop of small bowel (blue arrow) with mesentery (yellow arrow) entering the obturator foramen.



Fig 5: Intraoperative photograph of small bowel showing the successfully reduced Richter's hernia.

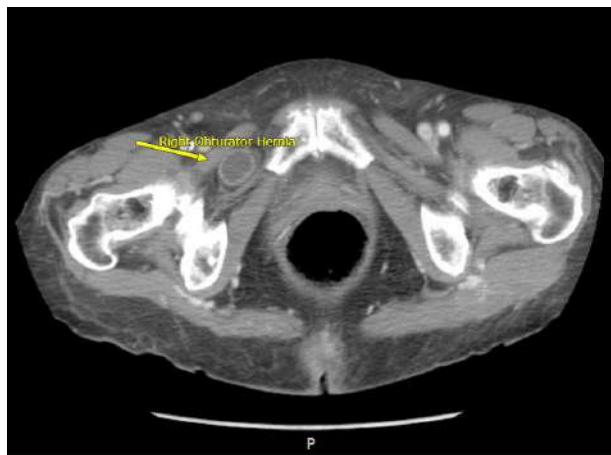


Fig 6: Transverse view of right obturator hernia. Note the loop of small bowel immediately inferior to the right superior pubic rami.



Fig 7: Coronal view of right obturator hernia with loop of small bowel inferior to the right superior pubic rami.

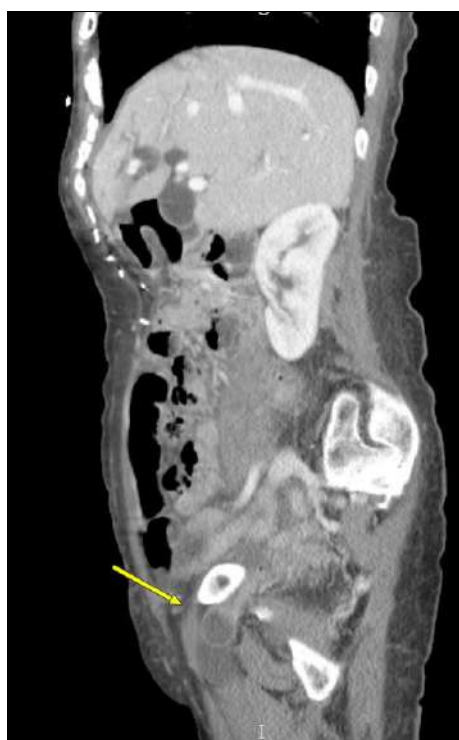


Fig 8: Sagittal view of right obturator hernia with loop of small bowel traveling inferior and lateral to the pubic tubercle.

Discussion

Obturator hernia is a rare entity that a practicing general surgeon must be aware of, given the acute presentation of bowel obstruction with the potential for strangulation. The largest case series reported in the literature consists of 61 patients, of whom 41 (67%) patients required a bowel resection, and 35 patients (57%) were found to have a Richter's type hernia ^[9]. This case highlights the importance of examining both obturator foramen during exploratory laparotomy to avoid missing a potential future contralateral incarcerated hernia.

The pathophysiology of an obturator hernia is weakening the pelvic floor, specifically the fascia encircling the obturator foramen. Factors associated with a weak pelvic floor, such as advanced age, multiparity, increased intra-abdominal pressure, and malnutrition, place patients at risk for obturator hernia. Concomitant conditions that increase intra-abdominal pressure, such as chronic obstructive pulmonary disease, ascites, and chronic constipation, predispose to obturator hernia ^[10]. Obturator hernia may occur on either side or, in some cases, bilaterally. Most patients present with signs and symptoms of bowel obstruction. The hernia itself is not palpable on physical examination because of its deep location between the pectineus and adductor longus muscles ^[11]. Diagnosis is either established intra-operatively but is more frequently diagnosed with preoperative CT. Surgical repair of the hernia is the standard of care for these patients. Minimally invasive hernia repair with or without bowel resection (either laparoscopic or robotic) can be safely performed in the hands of an experienced minimally invasive surgeon ^[12]. If no bowel resection is required, mesh can be used to reinforce the pelvic floor with a preperitoneal or intraperitoneal mesh placement. More frequently, the repair is performed through a lower midline incision which will facilitate adequate exposure in the event of bowel resection ^[13].

Regardless of the repair approach, a thorough evaluation of both obturator foramen is critical to ensure there is no contralateral hernial defect. In our case, at laparoscopic exploration during the first operation, we identified an incarcerated hernia and felt it was unsafe to attempt laparoscopic reduction. Of note, in figure 4, no clear contralateral hernia is easily visualized with the laparoscope. Upon conversion to an open operation, the defect was identified after reduction by palpation primarily. A mistake was made in not palpating the contralateral side to rule out bilateral obturator hernia. Regardless of the operative approach (minimally invasive or open), the clinician must thoroughly evaluate the contralateral obturator foramen when repairing an obturator hernia.

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