

Bilateral Lumbar Hernias with an Associated Large Bowel Obstruction: A Case Report

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Abstract

Background: There are very few cases in the literature of bilateral lumbar hernias with associated bowel obstruction, owing to the rarity of this clinical condition. In addition, lumbar hernias are often misdiagnosed or diagnosed late due to their frequent asymptomatic presentation and difficulty detecting on physical exam. However, prompt recognition and repair, as in this case, is critical to avoid bowel incarceration, obstruction, or strangulation.

Case: The patient was an 87-year-old woman with relevant past medical history of diverticulosis who presented with several days of diffuse abdominal pain, obstipation, nausea, and bilious emesis. The physical exam was notable for diffuse abdominal tenderness and distension, but no palpable hernias. Upon CT (Computerized Tomography) imaging, she was found to have bilateral lumbar hernias and associated large bowel obstruction requiring emergent surgical repair. The flank hernia containing bowel was repaired via an open approach, and bowel was reduced without need for resection. The decision was made to allow time for the bowel to decompress before undergoing repair of the fat-containing hernia later. The patient recovered appropriately and was discharged on post-operative day two. A few months later, she underwent elective laparoscopic mesh repair of the other lumbar hernia with no post-operative complications.

Conclusion: Clinical suspicion must remain high for lumbar hernias being the root cause of a patient presenting with signs of bowel obstruction. When discovered, symptomatic lumbar hernias should be repaired promptly to reduce viscera, if present, and to avoid bowel strangulation. Given the rarity of bilateral lumbar hernias, especially with bowel obstruction, there is no consensus on the best management modality. Both open and laparoscopic repairs have been found to be safe and effective for the treatment of lumbar hernias. The optimal approach should be tailored to the patient's presentation and comorbidities as well as the surgeon's expertise. It may be appropriate to undergo a stepwise approach to surgical repair to address emergent risk of strangulation first, and electively repair the other lumbar hernia later.

Keywords

Bilateral lumbar hernias, Large bowel obstruction, Case report

Introduction

Lumbar hernias are remarkably rare with less than 400 cases reported in the literature, and only a handful of cases with associated bowel obstruction [1, 2]. Anatomically, they are characterized as either Grynfeltt-Lesshaft or Petit

hernias. Grynfeltt-Lesshaft hernias are bounded medially by the quadratus lumborum muscle, laterally by the internal abdominal oblique muscle, and superiorly by the 12th rib. Petit hernias, also known as inferior lumbar hernias, are bounded by the latissimus dorsi muscle posteriorly, the external oblique muscle anteriorly, and the iliac crest inferiorly [3]. About 20% of lumbar hernias are congenital, with the rest being acquired [1]. Primary lumbar hernias are acquired spontaneously, with increased risk from obesity, age, extreme weight loss, and respiratory conditions that increase intraabdominal pressure. Secondary lumbar hernias are caused by precipitating factors such as trauma, surgery, or infection [4].

The first case of a bilateral lumbar hernia was published in 2002, with very few cases reported worldwide since then [5]. Herniation of abdominal contents through a lumbar hernia occurs 25% of the time, with associated bowel obstruction only reported in less than 40 cases [6]. Bilateral lumbar hernias with an associated obstructing hernia are a particularly uncommon finding—both of which we highlight in this case report. This is one of a handful of reported cases of such a finding, and to the best of our knowledge, the first case report describes a two-step approach of surgical repair of bilateral lumbar hernias with large bowel obstruction. Prompt recognition and repair is critical to avoid incarceration, obstruction, and potential strangulation or perforation. Currently, there is no standard of care for treatment of bilateral lumbar hernias with or without bowel obstruction given their clinical rarity. This case report has been reported in line with the SCARE criteria [7].

Case Report

The patient was an 87-year-old woman with a history of diabetes, hypertension, chronic kidney disease, diverticulosis, and herniated discs L3-S1 who self-presented to the emergency department at a tertiary academic hospital after four days of diffuse, cramping abdominal pain associated with obstipation, nausea, and bilious emesis. Review of systems was otherwise negative. Her past surgical history was notable for partial mastectomy due to ductal carcinoma *in situ* twelve years prior. Her current medications were atorvastatin 20 mg daily, carvedilol 6.25 mg BID, and losartan-hydrochlorothiazide 50-12.5 mg daily. She was allergic to penicillin, clindamycin, and sulfa antibiotics (causing rash). Family history was unremarkable. She denied any prior or current substance use and denied current alcohol use. At baseline, she was independent in her activities of daily living and ambulated without assistance.

Her vitals upon presentation were within normal limits. On the physical exam her abdomen was significantly distended with mild tenderness throughout. No hernias were appreciated at that time, and she had no skin changes of the abdomen or bilateral flanks. Her labs were significant for a leukocytosis of 11.78 and a hemoglobin of 10.2. Her BUN was 33 and creatinine was 1, which was her baseline. A CT abdomen and pelvis were quickly obtained; it demonstrated bilateral lumbar hernias (Figure 1). The right side was fat-containing, and the left-sided hernia contained colon with findings concerning for large bowel obstruction (Figure 2). She was ultimately diagnosed with large bowel obstruction. There was concern for



Figure 1: CT abdomen and pelvis transverse view demonstrating bilateral lumbar hernias.



Figure 2: CT abdomen and pelvis sagittal view demonstrating left-sided lumbar hernia containing colon.

bowel strangulation given the length of time of obstruction and leukocytosis, though her physical exam was reassuringly negative for peritoneal signs. A nasogastric tube was placed for bowel decompression, and she was made NPO.

The patient was taken to the operating room urgently for an open repair of the flank hernia, with possible bowel resection. In the operation room, she underwent general anesthesia and was positioned in right lateral decubitus. A 10 cm incision was made over the left hernia and carried down using electrocautery. The hernia sac was dissected out circumferentially and opened to assess for bowel viability. The colon appeared viable

and, after closing the sac, it and its contents were reduced. The facial defect was approximately 4 cm and was closed with 0 polydioxanone suture (PDS) in a buried, interrupted fashion. The area was washed out and 8 cm myocutaneous flaps were created bilaterally to allow for the placement of an absorbable mesh (Phasix), which was anchored to the fascia with PDS. The muscle and fascia of the obliques were closed over the mesh using a running 0 PDS and skin was closed with staples.

On post-operative day 0-1 the patient felt well and had multiple bowel movements. Her nasogastric tube was removed, and she tolerated clear liquids. Her diet was advanced, she remained hemodynamically stable, pain was well-controlled under a multimodal pain regimen, and she was ambulating without assistance. She was discharged on post-operative day 2. A few months later, she underwent elective laparoscopic mesh repair of the fat-containing lumbar hernia without complications. She was well on her post-operative visit one month later without recurrence of hernia or signs of obstruction and was advised to return to clinic as needed.

Discussion

Lumbar hernias are one of the least common abdominal wall defects. Likely due to anatomic proximity, the most common viscera to herniate through a lumbar defect is the colon [6]. Several cases have been reported of large bowel obstruction occurring from unilateral lumbar hernias; they are commonly repaired via an open approach with mesh placement [8, 9]. Although strangulation is uncommon given the wide dimensions of the lumbar region, large bowel obstruction can be a surgical emergency, especially in the setting of a competent ileocecal valve, and should be addressed promptly upon diagnosis [10]. Bilateral lumbar hernias are also a small subset of cases; thus, the combination of obstruction with the finding of bilateral lumbar hernias is exceptionally rare.

Partially because of its rarity, the diagnosis of lumbar hernia is often delayed. Lumbar hernias are most frequently diagnosed in males ages 50-70 [11]. Patients are often asymptomatic, but an astute clinician may recognize this diagnosis when patients may present with symptoms of back pain, bowel or urinary obstruction or a dragging sensation across the back with or without an associated mass [12]. On exam the diagnosis may prove elusive due to patient body habitus, failure to assess the flank and back area during the abdominal exam, or difficulty in palpating a fascial defect even when a flank mass is found. The differential includes musculoskeletal etiologies, herniated disc, lipoma, fibroma, or genitourinary causes of costovertebral angle tenderness. CT imaging can reliably diagnose lumbar hernia and should be utilized if this diagnosis is suspected to assess contents and the size of the defect, as in this case [6].

Several operative approaches may be employed to repair lumbar hernias, the choice of which depends on patient presentation and features of the hernia on imaging. Generally, a laparoscopic preperitoneal approach is recommended for patients with smaller hernias whereas an open approach may be more appropriate for larger, more complex cases, especially those involving possible bowel strangulation [13]. In this case

our patient's presentation with incarceration and bowel obstruction prompted an open repair due to our desire to assess the bowel for viability prior to reduction. Due to her acute presentation, the decision was made at this time to repair the symptomatic side only and allow for time for the bowel to decompress prior to repairing the side that was only fat-containing and asymptomatic. Ultimately, this stepwise approach resulted in symptomatic improvement and positive postoperative outcomes for the patient, and bowel resection was avoided. Separating the bilateral lumbar hernia repair into two operations at different time points addressed the emergent issue of potential bowel strangulation while avoiding complications associated with repair of dilated bowel, like inadvertent bowel injury. In addition, allowing time for the bowel to rest led to a laparoscopic, rather than open, mesh repair of the other lumbar hernia, which is associated with lower chance of hernia recurrence [14]. However, should bowel have been resected due to necrosis, the operative plan may have changed and she may have required a primary repair and a return to OR at a later time for unilateral or bilateral mesh repairs to reduce the risk of recurrence and/or to repair the other side on a different admission. The main limitation of this case is that it lacks a generalizable recommendation for repair as all repair plans are dependent on operative findings.

It is generally agreed that lumbar hernias should be treated early to avoid risk of strangulation [4]. Until recently, open repair has typically been employed for both unilateral and bilateral lumbar hernias and the decision to perform primary suture repair or a mesh repair is based on size of the defect [15]. Primary repair tends to be difficult for lumbar hernias due to inadequate fascia around the defect; thus, tensionless repair is challenging. So, mesh is frequently utilized instead [4]. Laparoscopic repairs through a transabdominal preperitoneal approach (TAPP) or total extraperitoneal (TEP) approaches for lumbar hernias have also been found to be safe and have been applied to bilateral lumbar hernias, including those containing bowel [16]. Given the low incidence of bilateral lumbar hernias, there is a lack of consensus and evidence on the best approaches to a bilateral lumbar hernia repair and no recommendations when obstruction is present. Only a handful of cases in the literature describe surgical repair of bilateral lumbar hernias containing bowel. One case reported by Cheng and Chan underwent an elective open sublay mesh repair of both lumbar hernias. They found one hernia to contain fat and the other to contain colon; notably, the patient presented with bilateral loin swellings for one year and no symptoms of bowel obstruction [17]. In another case, a patient presenting with symptoms of acute bowel obstruction was found to have bilateral lumbar hernias, one of which contained strangulated small bowel. He underwent an emergent exploratory laparotomy, necrotic small bowel was resected, and the lumbar hernias were both repaired primarily [2]. Finally, two of the three cases of bilateral lumbar hernias reported by Huang et al. contained colon and underwent successful TAPP laparoscopic repair; neither of the cases had symptoms of bowel obstruction [16].

Conclusion

In conclusion, bilateral lumbar hernias with associated

bowel obstruction are markedly rare entities and are often diagnosed late, and there is no commonly agreed upon treatment modality due to their rarity. The operative approach for bilateral lumbar hernias with or without bowel obstruction should be decided based on the patient's comorbidities, clinical presentation, anatomy, and surgeon comfort with repair techniques. If there is concern for bowel strangulation, it may be appropriate to urgently repair the bowel-containing lumbar hernia first and allow time for decompression before repair of the other side, as was done in this case.

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None.

Conflict of Interest

There are no conflicts of interest to declare on behalf of the authors of the manuscript.

Informed Consent

Efforts were made to contact the patient via phone, though the patient was ultimately unable to be reached to provide verbal informed consent.

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