Answer

Lumbar Hernia in the Triangle of Petit

Because of recurrent left-sided renal infections, the patient needed a left nephrectomy prior to renal transplant. In one operative session, both the nephrectomy and the correction of the lumbar hernia with prosthetic mesh were performed. The patient is currently awaiting renal transplant and is symptom free.

Lumbar hernias are rare, comprising less than 2% of all abdominal wall hernias. Since the first reports in the 17th century, approximately 300 cases have been described in the literature and no trials have been performed.[1] The largest series have been described by Moreno-Egea and colleagues[2] and Zhou and colleagues,[3] who reported a series of 27 and 11, respectively. Lumbar hernias appear as smooth reducible masses in the flank, and they increase in size with coughing or straining. They can be either painless or give discomfort in the flank. Lumbar hernias are classified as congenital (about 20% of cases) or acquired.[4] Congenital hernias are often diffuse and thought to result from an abnormal or arrested development of both the abdominal and costovertebral musculature.[5] Acquired lumbar hernias account for 25% to 30% of lumbar hernias and can be caused by any surgery performed through a flank incision (eg, bone graft harvesting) as well as from traumatic injuries and infectious states.[4,6,7] Primary lumbar hernias (50%-55%) occur spontaneously but are favored by predisposing factors such as increasing age, excessive weight loss, and increasing intra-abdominal pressure. These hernias occur predominantly on the left side with a left to right ratio of 2:1.[2,8,9] Lumbar hernias form through either the superior lumbar triangle of Grynfeltt or the inferior lumbar triangle of Petit. The Grynfeltt triangle is bounded by the 12th rib superiorly, the quadratus lumborum and latissimus dorsi muscles medially, the internal oblique muscle laterally, and the transversalis fascia and aponeurosis of the transverses abdominus muscle form the floor. The Petit inferior lumbar triangle lies directly above the iliac crest and is bounded by the latissismus dorsi medially and the external oblique muscle laterally, with the internal oblique muscle as its floor. The lumbar hernia through the superior triangle of Grynfeltt appears to be the predominant lumbar hernia.[2,4]

Why there is a predominance of the left-sided lumbar hernia has been much debated. Guillem et al[10] stated in their anatomical study that the deep opening of the superior lumbar triangle is more or less open, depending on the position of the kidney. The right kidney is displaced inferiorly by the liver and is therefore more inferior than the left one. Dissection of the superior lumbar triangle confirmed that the peritoneum is separated from the abdominal wall by the kidney on the right side and only partially on the left side. The higher position of the left kidney explains the predominance of left-sided lumbar hernias as the kidney is only partially interposed between the abdominal wall and the peritoneum on the left side.

Of all primary lumbar hernias, 24% become incarcerated and 18% are strangulated with signs of bowel obstruction or strangulation requiring urgent surgery.[2,3]

Risk factors for the occurrence of lumbar hernias include hard labor, especially heavy lifting, age older than 60 years, and morbid obesity.

The indication for surgery remains controversial, with some advocating an aggressive approach because of the risk of strangulation, while others advocate a more tailored approach depending on patient characteristics.[2] When an operation is indicated, a laparoscopic approach is preferred for small and moderate defects, with open repair reserved for large defects and when laparoscopy fails.[2]

To distinguish lumbar hernias from other causes of lumbar mass and/or pain and to get a clear understanding of the boundaries of the hernia, especially prior to surgery, computed tomographic scanning is essential.[2,8]

Accepted for Publication: July 11, 2011.
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Author Contributions: *Study concept and design:* Hemmer. *Acquisition of data:* Hemmer and van Leeuwen. *Drafting of the manuscript:* Hemmer. *Critical revision of the manuscript for important intellectual content:* van Leeuwen. *Administrative, technical, and material support:* Hemmer. *Study supervision:* van Leeuwen.
Financial Disclosure: None reported.

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