

Laparoscopic transabdominal preperitoneal repair of lumbar hernia

A 78-year-old gentleman with a body mass index of 33 was referred by his general practitioner with persistent left upper quadrant pain. This pain became apparent following a period of recurrent coughing from a viral respiratory infection. The patient is otherwise well and consumes medications for management of cardiovascular risk factors as well as gastro-oesophageal reflux disease (GORD). The patient denied previous abdominal surgery and any history of blunt or penetrating abdominal trauma. Physical examination identified a mildly tender region in the left flank with a 'new' palpable lump with well-defined edges. These findings were suggestive of an uncommon lateral abdominal wall hernia—Lumbar hernia. A CT-scan was performed, and this identified a $51 \times 29 \times 71$ mm fat-containing sac herniating through a 33.5 mm fascial defect just inferior and lateral to the 12th rib (Fig. 1a). This was consistent with a superior lumbar hernia, otherwise known as the Grynfeldt-Lesshaft hernia that is bordered by the 12th rib superiorly, internal oblique (IO) laterally and Quadratus Lumborum

(QL) muscle medially.¹ With the patient in right lateral position, a diagnostic laparoscopy was performed employing a 12 mm umbilical Hasson-port and 3 \times 5 mm ports in the left hemi-abdomen. A transabdominal pre-peritoneal (TAPP) approach was used to identify the interparietal fat-containing sac herniating through the muscular layers by incising the peritoneum and creating a peritoneal flap in the left upper quadrant. The sac was easily identified based on the preoperative surface marking and reduced (Fig. 1b). The muscular aponeurotic fibres bordering the defect was closed primarily with a non-absorbable V-loc™ suture (Fig. 1c) and a sublay Laparoscopic Progrid Mesh™, mesh was placed in the extraperitoneal space (Fig. 1d). The peritoneal flap was then closed with absorbable V-Loc™ sutures (Fig. 1e). The patient made an uneventful recovery and was discharged the next day (Fig. 1f).

Lumbar hernia is a relatively rare defect of the posterior abdominal wall² with approximately 300 cases reported since it was first described

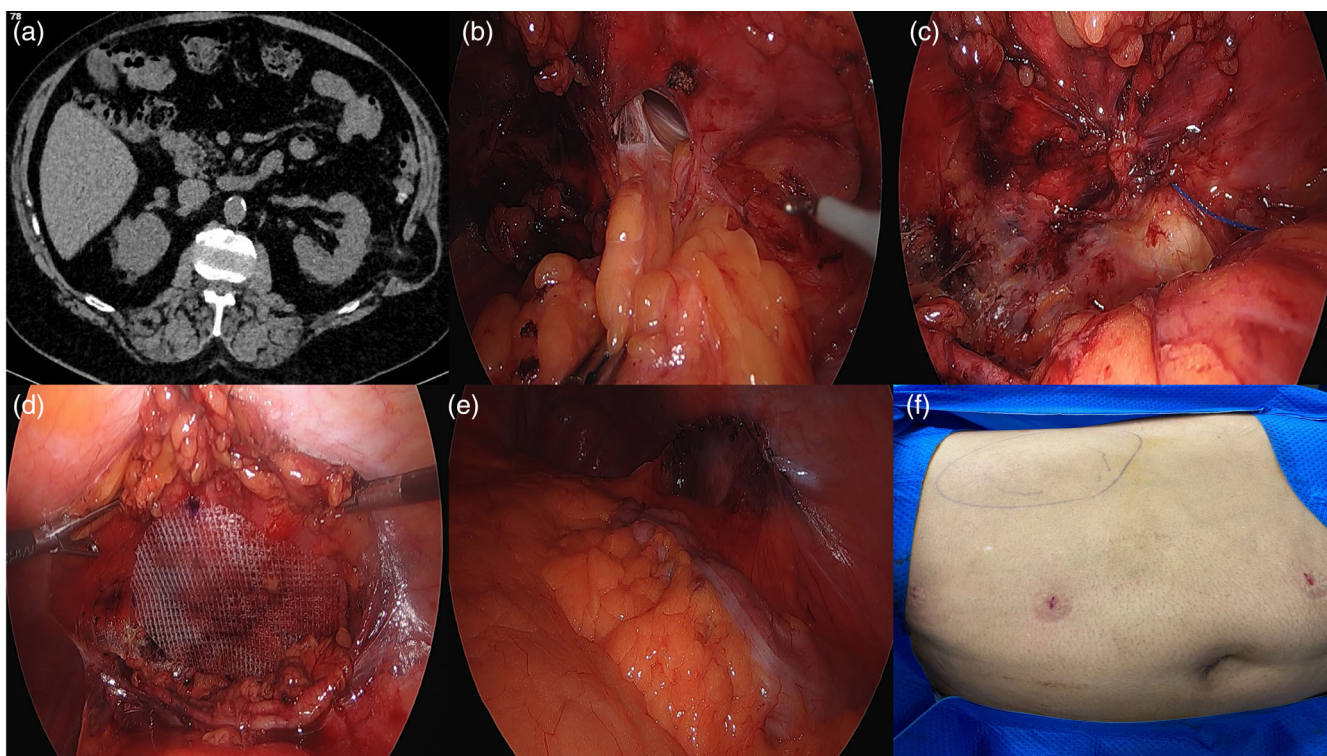


Fig. 1. (a) CT image demonstrating the hernia defect in the posterolateral abdominal wall. (b) Operative photograph of reduction of the fat containing hernia. (c) Defect closure to restore domain. (d) Placement of laparoscopic Progrid mesh. (e) Closure of peritoneal flap. (f) Table position of the patient and surface marking to demonstrate the hernia.

by Barbette in 1672.³ Two types of lumbar hernias exist— anatomically from the superior Grynfeldt-Lesshaft triangle and inferiorly—Petit's triangle.⁴ Various factors contribute to the risk of developing a hernia in this area. These are (1) size and form of the triangle, (2) length and angulation of the 12th rib; and (3) size of the quadratus lumborum and serratus posterior muscles. These hernias are more common in patients who are overweight, of short stature and possess anatomically larger triangles.⁵ The Grynfeldt-Lesshaft lumbar hernia is reportedly more common owing to the above factors and additionally the absence of external oblique muscle coverage of the transversalis fascia and penetration of the subcostal neurovascular bundle.^{2,6} Lumbar hernias occur more commonly in males, left side more than the right and commonly in the sixth and seventh decade.⁷ CT-scan remains the best imaging modality for diagnosis as this allows differentiation from soft-tissue masses, exclude hernia complications including incarceration, strangulation or obstruction and defining anatomy for surgical planning.² Operative repair is challenging as this hernia is rarely encountered. The minimally invasive approach described allows full visualization of the hernia sac and its contents, the defect, allowing closure of the defect to restore the domain and placement of a mesh in the retro-muscular plane following the traditional principles of hernia repair.⁸ We present radiological and operative images to demonstrate this unusual surgical pathology.


Informed consent was obtained from the patient for permission to present this case for an education purpose in an anonymous manner.


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