

A primary inferior lumbar hernia misdiagnosed as a lipoma

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ABSTRACT

Lumbar hernias can be superior (Grynfelt) and inferior (Petit). Inferior lumbar hernias are extremely rare and, therefore, are associated with diagnostic difficulty. We present a case of a primary spontaneous inferior lumbar hernia in a 79-year-old woman that was initially diagnosed as a large lipoma on ultrasound. The first operation was abandoned and an open mesh repair was conducted. Lumbar hernias can be primary acquired (55%), secondary acquired (25%) or congenital (20%). Cross-sectional imaging by CT or MRI appears to be the gold standard in diagnosis as ultrasound may lead to misdiagnosis. Strangulation, incarceration and obstruction are recognised complications, requiring prompt surgical intervention. There are currently no guidelines for surgical managements, although laparoscopic surgery may give the best results. In view of the scarcity of published cases, we aim to add to the literature to raise the index of suspicion and to promote prompt surgical management of lumbar hernias.

KEYWORDS

Hernia – Lumbar hernia – Prosthetic mesh repair – Misdiagnosis

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Introduction

The first reported case of lumbar hernia was reported by Garangoet in 1731. Further classification and description of boundaries was done by Petit (1785) and Grynfelt (1866) into inferior and superior triangles, respectively.^{1–5} With approximately 300 case reports published, lumbar hernias are extremely rare and are often encountered only once in the career of a hernia surgeon. In view of the sparsity of cases and associated diagnostic difficulty, a high index of suspicion is required to correctly diagnose this condition. We present a case of a primary spontaneous inferior lumbar hernia that was initially misdiagnosed as a large lipoma, despite ultrasound investigation.⁴

Case history

A 79-year-old African-Caribbean woman presented with a four-month history of a painless mass on her right loin. It arose spontaneously, causing occasional discomfort, with no history of heavy lifting or trauma and was noticed while looking in the mirror. The mass was not associated with fever, erythema, change in bowel habit or vomiting. Her past medical history included sarcoidosis, paraproteinaemia, chronic kidney disease, osteoarthritis, hypertension

and hypercholesterolaemia. She had no surgical history and had two boys born by vaginal delivery.

The patient had initially been referred to general surgery for removal of a large lipoma. Preoperative ultrasound was in keeping with a lipoma and the patient was scheduled for excision of the latter under local anaesthesia (Fig 1). Intraoperatively, the superficial part of the lesion was delivered out of the wound, but a deeper portion was seen to be herniating through a small opening in the lumbar musculature with evidence of the sac extending into the pelvis. A diagnosis of lumbar hernia was suspected and the decision was made to abandon the operation at this point and schedule the patient for hernia repair under general anaesthesia. Subsequent computed tomography revealed a large hernia containing fat with prominent vasculature through the right Petit triangle (Fig 2).

On the day of the hernia repair, clinical examination revealed an 8 cm × 8 cm, non-tender irreducible mass above the right hip with a positive cough impulse. The patient was in the kidney rest lateral decubitus position.

The linear incision from the previous operation was opened and extended. The herniated extraperitoneal tissue was dissected from its surroundings. The neck, found in the Petit triangle, was traced to allow the herniated tissue to

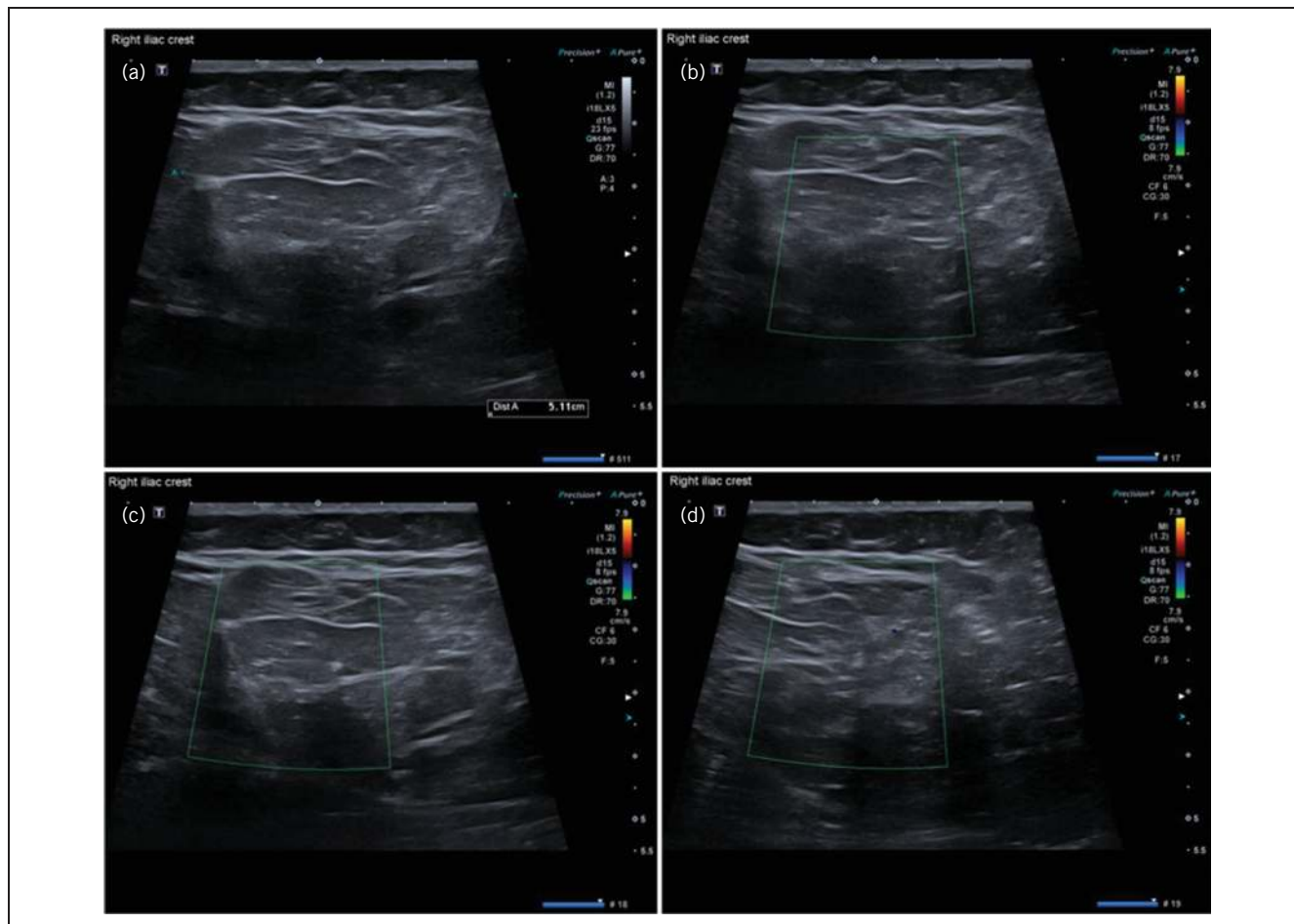


Figure 1 A series of ultrasound images requested to investigate the loin lump; A – D show, in different views, the striated nature of the lumbar hernia and evidence of omental fat.

be reduced. An extraperitoneal plane was created with blunt swab dissection. A sublay mesh repair was carried out using a 15 cm × 15 cm Ultrapro mesh (Ethicon). The mesh was secured to the abdomen and iliacus muscle using Absorbatack (Covidien). The edges of the defect were sutured to the mesh using interrupted 2-0 prolene. The wound was then closed in layers and clips were applied for skin closure. The patient recovered well postoperatively and was discharged the following day. healthy, with no evidence of recurrence five months postoperatively.

Discussion

The lumbar triangle is defined as the space between the iliac crest (inferiorly), erector spinae (medially), 12th rib (superiorly) and external oblique (laterally). Within this triangle are two distinct triangles, the superior and inferior lumbar triangles (Fig 3).⁵

Protrusion of extraperitoneal fat or intraperitoneal contents through either of the two triangles constitutes a lumbar hernia. Protrusion through the aponeurosis of the internal abdominal oblique constitutes an inferior lumbar, or Petit,

hernia.⁶ The clinical manifestation of this herniation is extremely rare and inferior lumbar herniation is rarer still.⁷ This is thought to be due to the deeper position of the superior triangle and its larger surface area. Such hernias are more common in men aged 50–70 years and are usually unilateral. Some 55% of cases are primarily acquired (atraumatic), 25% are secondarily acquired, precipitated by injury or surgery and 20% are congenital.^{10,11} Prompt treatment of lumbar hernias is essential, as 25% will progress to become incarcerated and 8% will be strangulated and may contain bowel susceptible to perforation.^{12,15}

Bowel obstruction is a recognised complication of lumbar hernias as 9% obstruct, although less than 10% of patients presenting with lumbar hernia present as an emergency.¹⁴ The challenge in diagnosis stems from a lack of awareness and scarcity of cases.⁷ There is a large range of differential diagnoses for a loin lump, which include haematomas, fibromas, sarcomas, abscesses and renal masses. The most published misdiagnosis, however, is a lipoma. There are documented cases of lipoma extraction by surgery followed by a consistent mass being explained as a lumbar hernia.

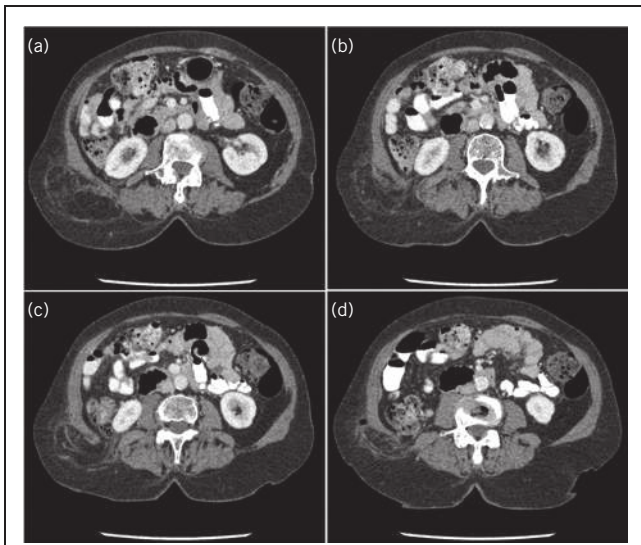


Figure 2 A series of limited post-contrast abdominal computed tomography images taken preoperatively showing a large lumbar hernia; A – D show axial abdominal views moving inferiorly.

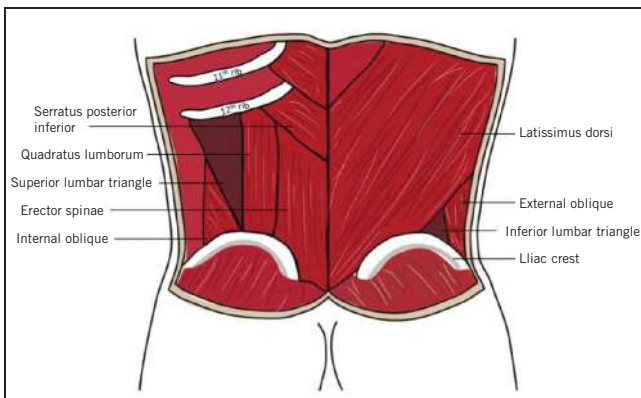


Figure 3 The posterior abdominal wall and the borders of the superior and inferior lumbar triangles.

Superficial imaging techniques such as ultrasound do not adequately demonstrate the contents of the lump and their relation with the abdominal wall.¹⁴ A high index of suspicion must be taught when examining masses in the lumbar region, as good clinical examination should rule out most differentials and cross-sectional imaging (magnetic resonance or computed tomography) is the gold standard in diagnosis and enables the surgeon to plan their approach.¹⁵

The first recorded open repair was conducted in 1888 using gluteus major and medius as flaps.⁸ The recurrence rates after this approach were high, owing to poor strength of the fascia.¹⁵ Currently, open prosthetic mesh repair is

the most commonly used technique for this rare presentation, although laparoscopic technique has been shown to be more favourable on a small cohort of secondary lumbar hernias because of shorter operating time, shorter hospital admissions, less postoperative pain and similar recurrence rates.^{16,17}

Conclusion

Inferior lumbar hernias occur through the Petit triangle and are extremely rare. They often present spontaneously as asymptomatic lumps in the loin and therefore occupy a less well-known part of the differential diagnosis. Good clinical examination and cross-sectional imaging should result in a diagnosis and an opportunity to plan the approach for prompt surgical reduction. There are currently no guidelines as to how the operation should be carried out, but recent literature suggests that a laparoscopic approach improves results. We aim to add to the few cases of inferior lumbar hernias in the literature to raise a higher index of suspicion for clinicians when faced with a lumbar mass.

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