

A Case of Petit's Hernia Presenting as Bilateral Lipomata of the Back

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We aim to add to the literature regarding Petit (inferior lumbar) hernias. The presence and location of lower back masses may have a deeper origin than initially apparent. We urge the surgical community to keep in mind the differential diagnosis of lumbar hernia, although rare, when evaluating subcutaneous masses and lipomata in this region. Simple excision may address the mass but not the cause and will lead to early recurrence of the presenting problem.

Keywords: lipomata; petit hernia; lumbar triangle; lumbar hernia

INTRODUCTION

With only approximately 300 reported cases in the literature, lumbar hernias are notably rare.¹ Lumbar hernias are generally categorized as either superior (Grynfelt) or inferior (Petit), with inferior being the less common of the two.¹ An inferior lumbar hernia is a protrusion of either extraperitoneal fat or intraperitoneal contents through the inferior lumbar triangle.² The inferior lumbar triangle is anatomically defined by the iliac crest inferiorly, the external oblique muscle anteriorly, and the latissimus dorsi muscle posteriorly.

Because of their rarity, lumbar hernias are frequently misdiagnosed as lipomas, fibromas, hematomas, or abscesses.¹ Wrongful diagnosis can cause a delay in or lack of appropriate treatment, which can then lead to further complications. Lumbar hernias slowly expand in size over time, increasing repair difficulties, risk of incarceration to 25%, and risk of strangulation to 8%.^{3,4} Early diagnosis is integral to prevent ischemia of herniated intestine, which may lead to death.

Lumbar hernia patients are typically between 50 and 70 years old.⁵ They occur more commonly in males than females at a ratio of 3:1 and are found more commonly on the left than the right (2:1 ratio).⁵ Lumbar herniation is rarely bilateral.⁶ Approximately 20% of lumbar hernias are congenital; the more common form of lumbar hernia is acquired, which compose approximately 80% of cases.⁷ Acquired hernias can be attributed to either spontaneous origin (primary, 55%) or secondary origin such as trauma,

surgery, or inflammation (25%).⁵ Spontaneous herniation is usually because of increased intra-abdominal pressure, which may result from risk factors such as muscle atrophy, obesity, old age, or debilitating disease. Importantly, patients are often asymptomatic although may report lower back pain or colic.⁵

CASE PRESENTATION: BILATERAL PETIT'S HERNIAS PRESENTING AS BILATERAL LIPOMATA REMOTE FROM THEIR POINT OF ORIGIN IN THE LUMBAR TRIANGLE

After the removal of the skin and superficial fascia during a cadaveric dissection, two masses were identified in the right and left lumbar regions. Initial evaluation showed each of these to be located in the superficial fascia extending laterally, superficial to the latissimus dorsi muscle and its fascia.

The right-sided mass was dissected first. It was traced deeper and laterally into the posterolateral body wall. Eventually it was seen to be emerging from deeper tissue bounded by the iliac crest inferiorly, the external oblique anteriorly, and the latissimus dorsi posteriorly – Petit's triangle (Figure 1). Dissection was then performed on the left mass, showing that this adipose tissue had also gained access to the subcutaneous region via Petit's triangle (Figure 2).

DISCUSSION

Lumbar hernias are a rare condition that are commonly misdiagnosed as lipomas, fibromas, abscesses, or

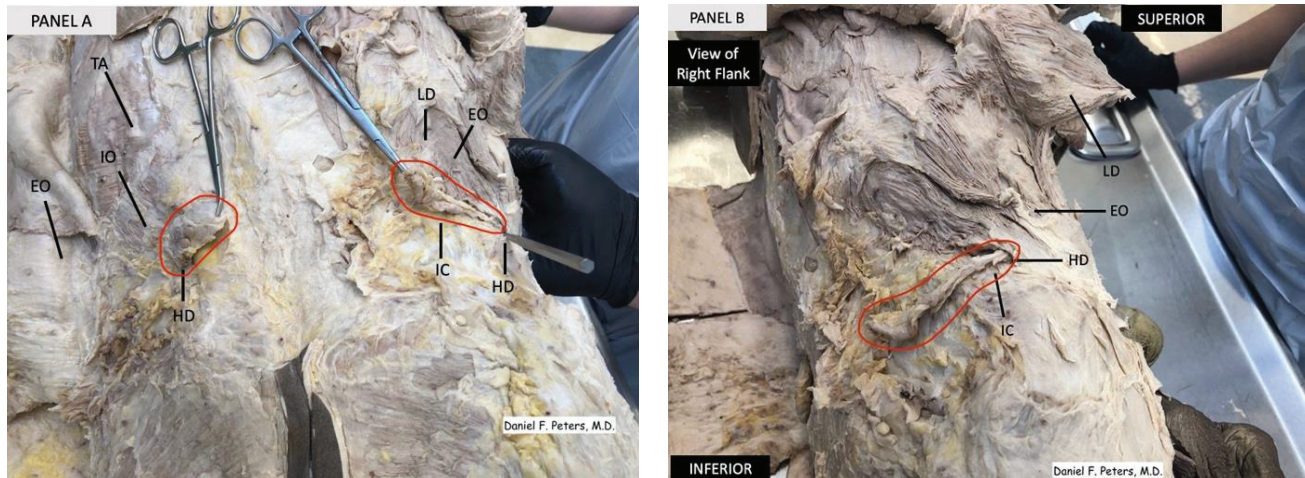


Figure 1. Panel A: Posterior view of bilateral hernia defect. Panel B: View of the right flank. EO = external oblique; HD = hernia defect; IC = iliac crest; IO = internal oblique; LD = latissimus dorsi (partially removed); TA = transversus abdominis.

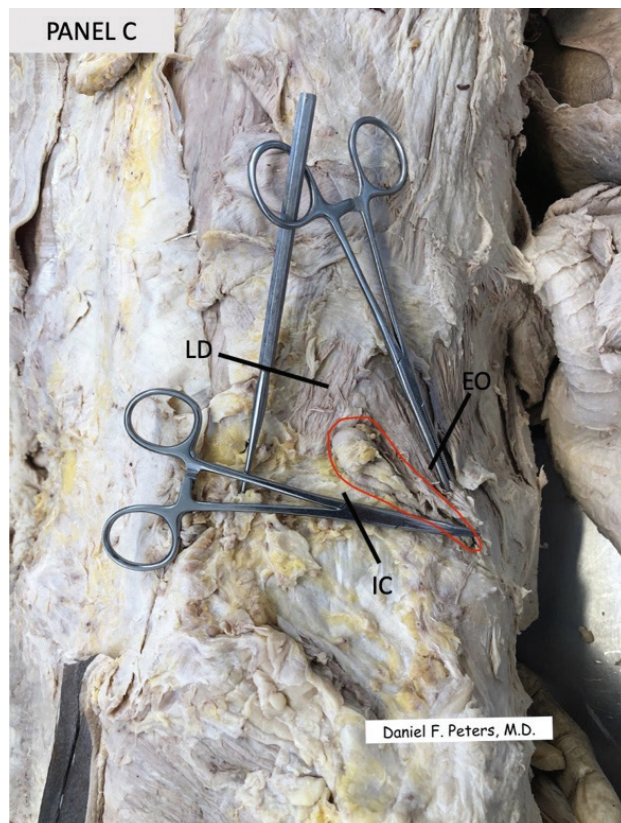


Figure 2. Panel C: Magnified view of inferior lumbar triangle. EO = external oblique; IC = iliac crest; LD = latissimus dorsi (partially removed).

hematomas. A major difficulty in diagnosing lumbar hernias is that they are often either asymptomatic or present with non-specific symptoms, such as low back pain. Generally, patients undergo surgery to remove a suspected lipoma.⁸ Simple excision will indeed remove the mass but does not address the underlying defect in the muscular body wall. A localized lipoma would be indistinguishable from fat herniated through the body wall on pathologic examination. Although they rarely become incarcerated or strangulated, misdiagnosis can lead to a delay in treatment, increased morbidity, and early recurrence post simple excision. When dealing with a mass in this area, CT scan, which is the standard test for diagnosis of Petit hernias, can identify the location of the defect. It can also help determine the nature of any contents protruding through the defect. In addition, there are other diagnostic criteria that can be of help in determining a Petit hernia such as the deep positioning of a hernia compared with a lipoma, as well as its larger surface area.^{8,9}

Lumbar hernias will increase in size with straining or coughing, unlike other more common pathologies. While there are several surgical techniques, none have been deemed significantly superior to another owing to the rarity of the condition and the anatomical location that may limit exposure. Moreover, the proximity of the hernia to bone complicates the closure process. As in other types of hernias, the proper use of mesh may provide a more tension-free repair decreasing the chances of a recurrence.⁹

Petit hernias such as those seen in this case are incredibly rare. A general surgeon may only see one Petit hernia in their entire career, and they are almost exclusively unilateral. Our findings in this case serve to alert the operating surgeon to the possibility that masses in this region may require more extensive workup as they may be indicative of deeper pathology. Simple excision may treat the symptom but not the cause of the condition.

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The authors have no conflict of interest relevant to this publication.

REFERENCES

1. Moreno-Egea A, Baena EG, Calle MC, Martínez JA, Albasini JL. Controversies in the current management of lumbar hernias. *Arch Surg* 2007; 142(1): 82–8. doi: 10.1001/archsurg.142.1.82
2. Vagholkar K, Vagholkar S. Open approach to primary lumbar hernia repair: a lucid option. *Case Rep Surg* 2017; 2017: 5839491. doi: 10.1155/2017/5839491
3. Heniford BT, Iannitti DA, Gagner M. Laparoscopic inferior and superior lumbar hernia repair. *Arch Surg* 1997; 132(10): 1141–4. doi: 10.1001/archsurg.1997.01430340095017
4. Watson LF. *Hernia*. 3rd ed. St Louis, MO: CV Mosby Year Book Inc; 1948, pp. 443–6.
5. Hide IG, Pike EE, Uberoi R. Lumbar hernia: a rare cause of large bowel obstruction. *Postgrad Med J* 1999; 75(882): 231–2. doi: 10.1136/pgmj.75.882.231
6. Orcutt TW. Hernia of the superior lumbar triangle. *Ann Surg* 1971; 173(2): 294–7. doi: 10.1097/0000658-197102000-00018
7. Stamatiou D, Skandalakis JE, Skandalakis LJ, Mirilas P. Lumbar hernia: surgical anatomy, embryology, and technique of repair. *Am Surg* 2009; 75(3): 202–7. doi: 10.1177/000313480907500303
8. Kadler B, Shetye A, Patten DK, Al-Nowfal A. A primary inferior lumbar hernia misdiagnosed as a lipoma. *Ann R Coll Surg Engl* 2019; 101(4): e96–8. doi: 10.1308/rcsann.2019.0009
9. Claus CMP, Nassif LT, Aguilera YS, Ramos EB, Coelho JCU. Laparoscopic repair of lumbar hernia (Grynfelt): technical description. *Arq Bras Cir Dig* 2017; 30(1): 56–9. doi: 10.1590/0102-6720201700010016