Appendicular abscess as an unprecedented cause of an inferior lumbar hernia

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ABSTRACT

Inferior lumbar hernias are uncommon hernias resulting from a defect in the abdominal wall. They can occur during infancy (congenital defect), albeit less frequently, or spontaneously after trauma or surgery with a lumbar incision. With fewer than 300 cases reported over the past 3 centuries, clinical diagnosis is often confusing owing to non-specific symptoms, relating to the gastrointestinal, genitourinary or musculoskeletal systems. We present a case of an inferior lumbar hernia following spontaneous rupture of a retrocaecally tracked appendicular abscess and a brief literature review.

KEYWORDS

Appendicular abscess – Inferior lumbar hernia – Inferior lumbar triangle – Rupture

Accepted 22 October 2016

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Also known as Petit's hernias, inferior lumbar hernias (ILHs) occur through congenital or spontaneous defects in the inferior lumbar triangle of Petit.¹ The clinical manifestations are vague and non-specific, and physical examination may not be helpful. This can lead to significant delay in presentation, which may be detrimental given that bowel incarceration has been reported in 25% and strangulation in 10% of patients.² Computed tomography (CT) aids in the diagnosis of ILHs as it shows the breach in the muscular layer and the exact nature of the contents of the hernial sac. A laparoscopic approach is usually successful for smaller defects while the open approach is reserved for larger defects.³

Case history

A 70-year-old woman presented with swelling in the right loin that had been gradually increasing in size for one year. It was insidious in onset and followed spontaneous rupture of an abscess at the same site, which resolved by itself. She had a history of occasionally passing loose stools. On clinical examination, a 15 cm × 15 cm swelling, with a scar at the centre, was noted in the posterolateral aspect of the right iliac fossa (Fig 1). There was an expansile cough impulse, which was completely reducible with a gurgle. A defect measuring approximately 4 cm × 4 cm was palpable just above the right iliac crest. Ultrasonography revealed a 4 cm × 4 cm defect in the parietal wall of the right lumbar region, with gas filled bowel loops herniating through it. This was confirmed on contrast enhanced CT (Fig 2).

A horizontal skin incision was made over the swelling, and the hernial sac was protruding visibly between the

external oblique muscle anteriorly and latissimus dorsi muscle posteriorly, just above the right iliac crest. The sac was adherent to the overlying skin at the scar site, and after dissecting and opening it, the appendix was found to be densely adherent but not inflamed (Fig 3). Appendectomy was avoided owing to the dense adhesions of the appendix to the hernial sac and the redundant sac was excised. Extraperitoneal mesh repair was carried out after approximation of the muscular layers. The patient has since been followed up regularly and there has been no recurrence.

Figure 1 Inferior lumbar hernia with scar at the site of rupture of appendicular abscess

Figure 2 Computed tomography showing the defect in the triangle of Petit and herniation of bowel into the hernial sac

Discussion

First reported by Croissant de Garengot in 1731, lumbar hernias are rare abdominal wall hernias. They occur through the defects of the parietal abdominal wall in the region of the superior triangle of Grynfeltt and the inferior triangle of Petit.¹ In 1783 Petit described a strangulated hernia emerging through the inferior lumbar triangle. Almost 100 years later in 1866, Grynfeltt described a hernia through the superior lumbar triangle, distinguishing it from hernias arising from the inferior lumbar triangle, and the existence of a separate superior lumbar triangle was confirmed independently by Lesshaft in 1870.

The triangle of Petit is upright, bounded by the iliac crest inferiorly, the external oblique muscle anteriorly and the latissimus dorsi muscle posteriorly. Its roof is formed by skin and superficial fascia, and the floor by the internal oblique muscle. Defects may be congenital, arise spontaneously or from trauma. Spontaneous and traumatic hernias are more frequent on the left side, in men in their sixth and seventh decade.² The clinical manifestations of ILHs are vague and

Figure 3 Intraoperative photographs showing the hernial sac between the external oblique and latissimus dorsi muscles (A), the appendix densely adherent to the sac wall (B), extraperitoneal mesh placement (C) and approximation of the external oblique and latissimus dorsi muscles (D)

non-specific; they include backache, flank pain, occasional nausea and a feeling of dragging. The swellings increase gradually in size and may assume large proportions.³ The differential diagnoses often include lipoma, fibroma or other soft tissue tumours that cause a flank bulge.

CT is exceedingly useful in the diagnosis of lumbar hernias as it can delineate the defect in muscular and fascial layers of the lumbar region, particularly in a clinically non-palpable swelling.⁴ Breach of the muscular layer and contents of the hernial sac can be determined on CT. In appendicitis, the intestinal coils and omentum tend to cover the appendix when it becomes gangrenous, forming an appendicular mass. The mass can further form an abscess, which usually follows rupture of a gangrenous appendix, but it remains limited by the adjacent viscus. In our case, a retro-caecal appendicular abscess had tracked to the parietal abdominal wall, eventually rupturing and predisposing to an ILH.

Lumbar hernias are rare and often difficult to diagnose clinically. The laparoscopic approach seems to be the best

option for treating small or moderate defects but open surgery can be used for large defects.

Conclusions

ILHs by themselves are rare and an untreated appendicular abscess tracking to the inferior lumbar region must be considered as a cause for this surgical condition. Meshplasty alone for the treatment of ILHs in such circumstances could be detrimental owing to mesh infection and the disastrous consequences of inadequately treated infective pathology.

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