CASE OF THE MONTH

***"Primum non nocere"*—first, do no harm**

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History

A 66-year-old male presented with non-specific acute abdominal pain, central abdominal tenderness and guarding. A CT scan performed for further evaluation showed characteristic features of acute appendicitis, a diagnosis confirmed during subsequent laparoscopic surgery. CT also revealed an incidental abnormality in the left lower lumbar region (Figure 1). What is the diagnosis and what is its aetiology?

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Figure 1. Coronal CT image of the abdomen and pelvis depicting an incidental abnormality in the left lower lumbar region.

Diagnosis and aetiology

This patient has an iliolumbar hernia containing retroperitoneal fat and part of the descending colon (Figure 2). Close inspection of the left iliac crest reveals a surgical defect, through which the iatrogenic hernia protrudes. The defect is the site of previous corticocancellous bone graft harvesting, performed to repair a non-united odontoid peg fracture some years before.

Discussion

The iliac crest is one of the most common sites for autologous bone grafts. The crest can be easily accessed and provides a large supply of corticocancellous bone, but graft harvest from this site has a recognised morbidity. One large series reported a minor complication such as dysaesthesia in 39% of cases, and major complications such as seroma or scarring requiring revision in 10% of cases following iliac crest bone graft removal [1]. Other recognised complications include arterial, neural or ureteric injury, bowel ileus, gait disturbance,

Figure 2. IV and oral contrast enhanced axial CT image of the pelvis at the level of the iliac crest showing left iliolumbar hernia containing retroperitoneal fat and part of the descending colon.

chronic pain, fracture, pelvic instability, heterotopic bone formation and infection [2].

Herniation of abdominal contents through the surgical defect, such as in the case described, is a rare complication that has only been described sporadically, but is important to recognise because herniated bowel or other abdominal viscera can clinically simulate post-operative haematoma or seroma and precipitate inappropriate surgery [3]. Bone graft site herniae have been reported to contain retroperitoneal fat, small or large bowel, kidney, spleen and liver [4]. Presentation may occur pre-operatively or be delayed for many years. Patients may complain of a tender loin swelling but others are asymptomatic as the hernial orifice is wide and the risk of strangulation or incarcination is small [5].

Multiplanar CT will quickly and accurately define the contents and anatomical relationships of a post-operative hernia and distinguish it from a haematoma or other soft-tissue mass, but other cross-sectional imaging techniques such as ultrasound or MRI could also be used for this purpose. Surgical repair using synthetic mesh is reported to be the treatment of choice in symptomatic patients [2, 6].

True lumbar herniae can also occur, and two types are described: the Grynflett-Lesshaft hernia, through the superior lumbar triangle, and the Petit hernia, through the inferior lumbar triangle.

The boundaries of the Petit hernia comprise the external oblique muscle anteriorly, the iliac crest inferiorly and the latissimus dorsi muscle posteriorly, and this entity can be mimicked by an iliac crest bone graft site hernia [7].

In conclusion, a hernia through an iliac crest bone graft donor site is an unusual post-operative complication, with a spectrum of imaging findings. Such herniae can cause

post-operative pain, but are also important as they mimic true lumbar herniae and can simulate a more common post-operative pathology such as haematoma, with the potential for misdiagnosis and incorrect treatment.

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