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Rare Case of Hip Pain: Transiliac Lumbar Hernia

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Introduction

Bone grafts are essential to achieving a solid spinal fusion by encouraging osteoblastic activity and providing a scaffold to guide bone remodeling. The iliac crest in particular, is a common site for autologous bone grafting and is still considered the gold standard due to its ease of access to cortical and cancellous bone [1]. However, autologous iliac crest bone grafting (ICBG) can be associated with significant morbidity especially when full thickness tricortical grafts are harvested. Common complications include donor site pain, hematoma, thigh dyesthesias, pelvic instability or fracture [2]. Gastrointestinal herniation on the other hand is a much rarer complication with an incidence of 5% to 9% [3]. Here we report a case of iliac graft site herniation presenting as hip pain and difficulty ambulating more than 15 years post operation

Case Presentation

An 83-year-old morbidly obese female presented to the emergency department with progressively worsening atraumatic right hip pain for the past week causing her to be unable to walk. She was previously ambulatory with a cane but has since been bed-bound. The pain is sharp and associated with movement but relieved by lying supine. She denies numbness or paresthesia to her lower extremities, constipation or urinary incontinence. Past medical history was significant for coronary artery disease, congestive heart failure, atrial fibrillation on apixaban, hypertension, chronic obstructive pulmonary disease, stage 3 chronic kidney disease and rheumatoid arthritis. Past surgical history was notable for L3-L5 laminectomy and fusion with autologous ICBG.

Vital: Temp 99.1°F, BP 171/143, HR 95, RR 16, O2 94% on RA

On physical exam, her right hip was tender to palpation. No erythema or open wounds were noted. A soft mass protrudes from her right posterolateral hip in the right lateral recumbent position. Right hip and pelvic x-rays were obtained demonstrating a large bone defect involving the right iliac wing with associated degenerative arthritic changes [Figure 1]. Abdominal and pelvic computed tomography (CT) revealed a right posterior lateral abdominal wall hernia through the deformity of the iliac crest containing non-obstructed colon and ileum [Figure 2]. The patient was referred to a tertiary care center for plastics and orthopedic reconstruction.

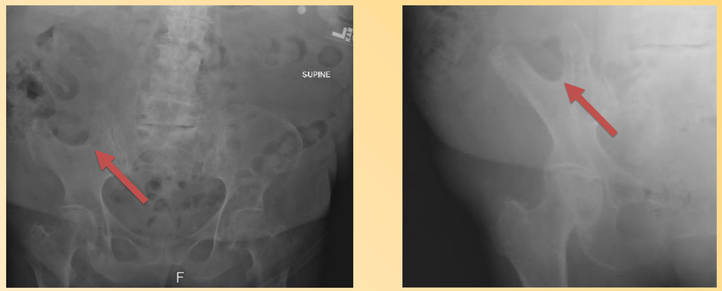

Figure 1. *Pelvic x-ray (left) and right hip x-ray (right) demonstrating a deformity in the right iliac wing from autologous iliac crest bone graft. Post-surgical changes from prior lumbar fusion can also be appreciated at L3-L5.*

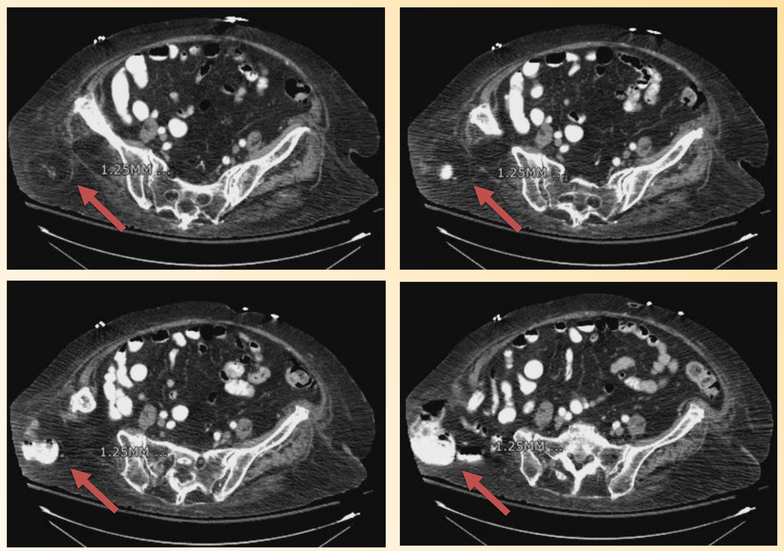

Figure 2. *CT abdomen pelvis at various transverse cuts demonstrating a large defect in the right iliac wing with large bowel present in the extraperitoneal space and posterior lateral herniation of large and small bowel through the iliac crest defect.*

Discussion

Lumbar hernias are rare with only approximately 300 reported cases in the literature worldwide [4]. A small portion of these hernias are secondary to postsurgical complications, one being ICBG for the repair of bone defects in spinal surgery. Full-thickness tricortical ICBG creates a large defect in the iliac crest augmenting the risk for herniation of gastrointestinal contents through the weakened abdominal wall [5]. Predisposing factors include obesity, advanced age, structural weakness of abdominal wall musculature, bone harvesting from the middle portion of the iliac crest and defect size exceeding 4 cm [6, 7].

A minor complication of ICBG involves post-surgical pain at the harvest site. This is the most frequently reported complication although rates are highly dependent on the study design and population [7]. Abdominal wall hernia however, is a more concerning complication due to the risk for intestinal obstruction, incarceration and strangulation. Clinical features typically present as a semi-spherical soft bulge that worsens with increased abdominal pressure and may disappear when lying down [8]. Patients may present with varying degrees of pain and discomfort.

Although there have been reported cases of herniation through an iliac defect caused by ICBG, no reported cases of ambulatory dysfunction as the primary presenting symptom currently exists in the literature. Given our patient's history and physical exam findings in conjunction with this large bony defect on x-ray, an abdominal and pelvic CT was obtained to further delineate the primary pathology and confirm the diagnosis. CT was essential in characterizing the extent, location and contents of the hernia which can help surgeons appropriately manage the disease and plan a course of action in the operating room. More importantly, it can assist in excluding incarceration which occurs in 25% of cases and strangulation which occurs in 10% of cases [9]. *Nodarian, et al.* even described a case of liver herniation through the bone defect caused by ICBG [10]. Management of transiliac abdominal hernias is similar to other hernias and involve primary surgical repair with or without mesh support.

Complications of ICBG is probably more prevalent than described and likely underestimated in the literature. The diagnosis may be more difficult in obese patients and may present as vague symptoms such as nausea, vomiting, abdominal discomfort, difficulty ambulating and pain at the surgical incision site. Therefore, a high index of suspicion for graft site herniation is necessary for patients with history of autologous ICBG.

Conclusion

Autologous ICBG will remain the gold standard for many orthopedic procedures despite the associated morbidity. Here we report a case of a patient primarily presenting to the Emergency Department with hip pain and difficulty ambulating. Thus, a high degree of vigilance is necessary for all patients and the health care providers participating in their care to monitor for early signs of complications.

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