

Laparoscopic repair of iliac hernia after obtaining autologous bone graft from iliac crest

Reparación laparoscópica de hernia iliaca tras la obtención de injerto óseo autólogo de la cresta iliaca

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Abstract

The iliac crest graft is the ideal source of autologous bone graft. It is a procedure that is associated with few complications. Iliac hernia is a rare complication that appears especially when full-thickness grafts are taken. It is more common in females and the main symptom is pain in the graft area. Surgical treatment is recommended due to the risk of incarceration as these hernias may contain abdominal viscera. There is no standard treatment for these hernias.

Keywords: Iliac hernia. Bone graft complication. Laparoscopic hernia repair.

Resumen

El injerto de cresta iliaca es la fuente ideal de injerto óseo autólogo. Es un procedimiento que se asocia con pocas complicaciones, siendo la hernia iliaca una complicación rara que aparece especialmente cuando se toman injertos de espesor completo. Es más frecuente en el sexo femenino y el principal síntoma es el dolor en la zona del injerto. El tratamiento quirúrgico es el recomendado por el riesgo de incarceración, pues estas hernias pueden contener vísceras abdominales. No existe un tratamiento estándar para estas hernias.

Palabras clave: Hernia iliaca. Complicación de injerto óseo. Hernia laparoscópica.

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Introduction

Bone grafting is a common procedure performed in orthopedics. Autologous grafts are safe and remain a standard treatment worldwide¹. Iliac crest grafting is the ideal source of autologous bone graft². It is a procedure that is associated with few complications; the frequency varies from 2% up to 49%³. The associated complications range from simple bone pain to a “sliding” hernia, especially when full-thickness grafts are taken⁴.

Clinical case

A 79-year-old woman with a pas medical history of hypertension, dyslipidemia, cervical myofascial syndrome, who underwent surgery for a left elbow fracture with a left iliac crest monocortical graft, after which she began experiencing left hip pain. Magnetic resonance imaging revealed the presence of a left lateral wall hernia with mesenteric content protruding adjacent to the iliac crest graft area (Fig. 1).

A laparoscopy is performed, and a 3 cm abdominal wall hernia is identified where the bone graft was taken (Fig. 2). A 4 cm x 4 cm titanized polypropylene mesh is placed in the preperitoneal space, fixed with absorbable tackers (Fig. 3). The intervention lasted 20 minutes and proceeded without incidents. The patient was discharged the next day.

Discussion

In 1945, Oldfield first described hernia through the iliac crest bone defect⁵. It is a very rare complication.

Some authors have described an incidence of 5% and 9%⁶. It is more frequent among women, with symptom onset ranging from 24 days up to 15 years after bone harvesting⁷. The patient usually presents with discomfort in the graft area. The contents of these incisional hernias can be loops of small intestine or colon, and there is a described case of hepatic herniation⁸. The definitive diagnosis can be made with a computed tomography scan showing the hernia and its contents⁹.

There is no standard treatment for these hernias. Cases of primary repairs, tissue flap use, and meshes, including laparoscopic, transabdominal, and retroperitoneal approaches, have been published¹⁰.

Conclusions

Iliac hernias are rare and occur after the removal of an iliac bone graft. It is an accepted fact that successful hernia repair requires proper mesh placement and appropriate fixation. Mesh fixation in the correction of this type of hernia is technically difficult. These defects often have little or no fascia to place the mesh. Additionally, muscle and fascial retraction does not allow defect closure. Laparoscopic repair requires less surgical time and enables faster and less painful recovery.

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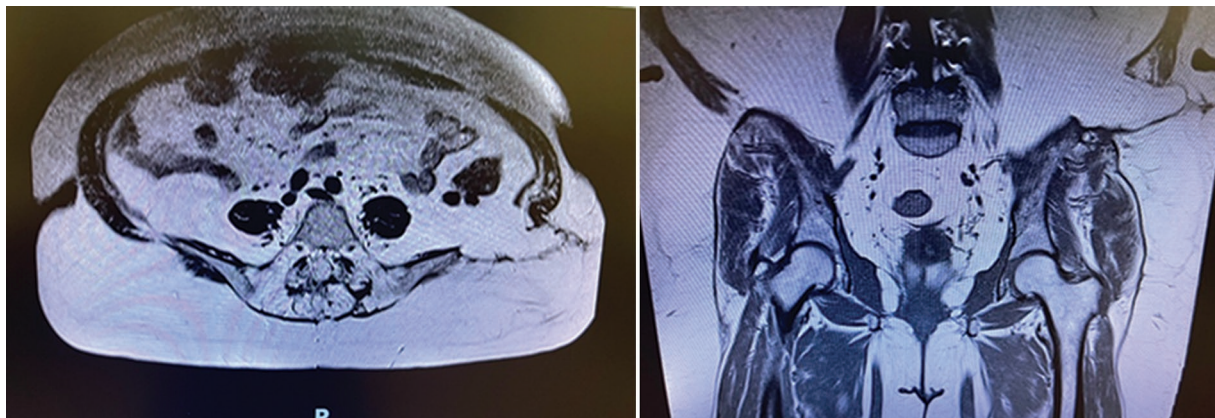


Figure 1. Magnetic resonance imaging showing a left lateral wall hernia with mesenteric content protruding adjacent to the iliac crest graft area.

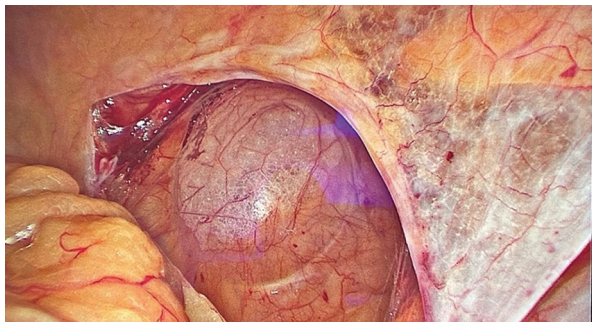


Figure 2. Surgical image showing a 3 cm abdominal wall hernia where the bone graft was taken.

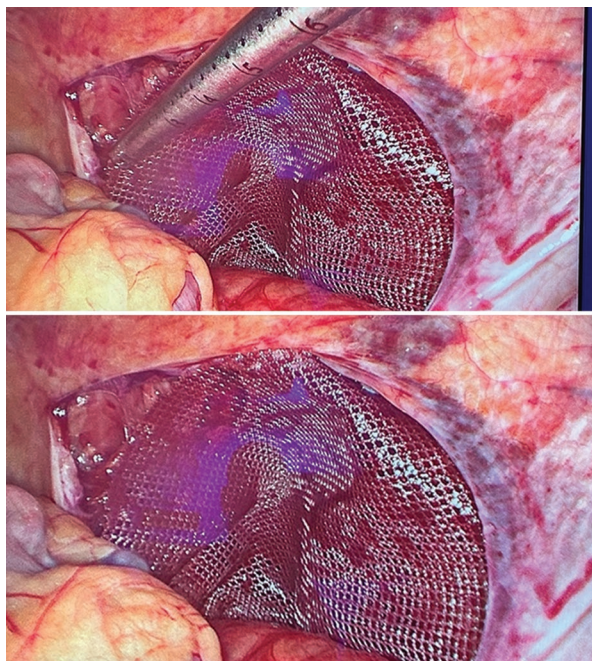


Figure 3. Images of the placement of the 4 x 4 cm titanized polypropylene mesh in the preperitoneal space fixed with absorbable tackers

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Conflict of interests

The authors declare that they have no conflicts of interest whatsoever.

Ethical considerations

Protection of Persons and Animals. The authors declare that no experiments on humans or animals have been performed for this research.

Confidentiality, Informed Consent and Ethical Approval. The authors have followed the confidentiality protocols of their institution, have obtained informed consent from the patients, and have the approval of the Ethics Committee. The recommendations of the SAGER guidelines have been followed, according to the nature of the study.

Declaration on the Use of Artificial Intelligence

The authors declare that they did not use any type of generative artificial intelligence for the writing of this manuscript.

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