

8. Viñals JM, Rodrigues TA, Lopez CC, Payro JM, Porté JA, Sildenafil DP, et al. Outcomes of gastro-omental free flap reconstruction for salvage laryngopharyngectomy for pharyngeal and laryngeal cancer after concurrent chemoradiotherapy. *Ann Plast Surg.* 2014 [Epub ahead of print].
9. Patel RS, Gilbert RW. Utility of the gastro-omental free flap in head and neck reconstruction. *Curr Opin Otolaryngol Head Neck Surg.* 2009;17:258-62.
10. Vernik J, Singh AK. Omentum: Power to heal and regenerate. *Int J Artif Organs.* 2007;30:95-9.

Juan Maria Viñals Viñals<sup>Q1</sup><sup>a</sup>, Pau Tarrús Bozal<sup>a,\*</sup>,  
Jose Maria Serra-Mestre<sup>b</sup>, Oriol Bermejo Segú<sup>a</sup>,  
Julio Nogués Orpí<sup>c</sup>

<sup>a</sup>Departamento de Cirugía Plástica y Reconstructiva, Hospital Universitario de Bellvitge, L'Hospitalet de Llobregat, Barcelona, Spain

<sup>b</sup>Plastic and Reconstructive Surgery Department, Second University of Naples, Naples, Italy

<sup>c</sup>Departamento de Otorrinolaringología, Hospital Universitario de Bellvitge, L'Hospitalet de Llobregat, Barcelona, Spain

\*Corresponding author.

E-mail address: [pau.tarrus@bellvitgehospital.cat](mailto:pau.tarrus@bellvitgehospital.cat)  
(P. Tarrús Bozal).

2173-5077/

© 2017 AEC. Published by Elsevier España, S.L.U. All rights reserved.

## “Iliac Hernia”, an Original Form of Ventral Hernia That Is Probably not so Uncommon<sup>☆</sup>



### «Hernia transilíaca». Una original modalidad de eventración probablemente no tan infrecuente

The iliac wing is frequently used as a donor area for autogenous bone tissue for grafts in orthopedic surgery due to the quality and quantity of bone available and its easy accessibility. Herniation of the intra-abdominal viscera through the created bone defect is a potentially serious complication.

We present the case of a 76-year-old patient with metabolic syndrome (body mass index 36), who had been treated for bilateral coxarthrosis secondary to congenital dislocation of the left hip using a Müller-type bilateral prostheses at the age of 36. The patient required replacement of the left prosthetic socket due to de-cementation and replacement of the left prosthesis with autogenous bone graft of the iliac wing in the acetabular fundus at the ages of 48 and 53, respectively. The patient reported episodes of colic abdominal pain for several months, and physical examination revealed an irreducible swollen mass in the left gluteal region. Abdominal computed tomography showed a transiliac hernia and an umbilical hernia (Figs. 1 and 2). The surgical intervention consisted of: subumbilical midline laparotomy; incision of the left parietal peritoneum to mobilize and introduce into the abdominal cavity the segments of the descending and sigmoid colon that were herniated and incarcerated; access to the retroperitoneal space and implantation of a 20×20 cm polypropylene mesh, extended in retroperitoneal position to widely cover the hernia orifice and the adjacent musculoskeletal structures, without being in contact with the visceral peritoneum; the mesh was

affixed with several cardinal non-absorbable stitches and maintained in its correct position by the intra-abdominal pressure itself. The laparotomy was closed with a double continuous suture of slowly absorbable material and repair of the umbilical hernia. There were no postoperative complications. After one year of follow-up, physical examination has shown no hernia recurrence.

Obtaining autogenous bone graft from the wing of the ilium has a morbidity rate between 12% and 20%, which is even higher if the donor area is the anterior part of the iliac crest and not the posterior (23% vs 2%, respectively). Among the various postoperative complications,<sup>1</sup> the most important is “iliac hernia”, which is a term used in the literature to describe this condition, although it is occasionally classified as a lumbar hernia. This condition, described by Oldfield in 1945, is a poorly documented entity that is probably underestimated because fewer than 40 cases have been reported since its first publication<sup>2,3</sup>; however, its incidence is estimated from 5% to 9%.<sup>1,4</sup>

Its etiopathogenesis is a consequence of the surgical defect in the coxal bone, almost always related with having obtained a bone graft or, less frequently, after fractures,<sup>5</sup> debridement due to osteomyelitis, and on rare occasion due to a congenital bone defect.

Its appearance has been reported between the first days following the operation and up to 15 years after the bone

<sup>☆</sup> Please cite this article as: Martínez Rodenas F, Torres Soberano G, Hernández Borlan R, Moreno Solórzano JE, Llopart López JR. «Hernia transilíaca». Una original modalidad de eventración probablemente no tan infrecuente. *Cir Esp.* 2017;95:618-620.



**Fig. 1 – Axial abdominal CT scan: herniated colon through the bone defect of the iliac wing; umbilical hernia.**



**Fig. 2 – Sagittal abdominal CT scan: portion of extra-abdominal colon, suggesting transiliac hernia.**

defect.<sup>6</sup> This complication seems to be more frequent in women. The small intestine is the most commonly herniated organ, and there are reports of strangulation and torsion. Other organs, such as the liver, have also been reported.<sup>7</sup>

The diagnosis is suspected when a mass is confirmed in the gluteal scar, which may be difficult to assess in cases of obesity and more posterior locations. Differential diagnosis should include hematoma<sup>2</sup> or abscess and other less probable ailments, such as intra-abdominal neoplasms, renal cancer, muscle hernia, soft-tissue tumors and lumbosacral panniculitis. It is confirmed with abdominal computed tomography, which is the complementary test of choice as it demonstrates the herniated anatomy and contents.

Surgical treatment, which can be difficult, should be done with some urgency to avoid potential complications (risk of incarceration and strangulation are 25% and 10%, respectively<sup>8</sup>), although in one selected case that had emerged after bone resection due to chondrosarcoma, the approach was

“wait and see”.<sup>9</sup> Among the surgical options, the following have been proposed<sup>3,8</sup>:

- Repair with the adjacent soft tissue, mobilizing the iliac muscle, lumbar fascias and gluteus maximus (Dowd and Koontz techniques) or abdominal fascias, which are reinserted over the remaining bone.
- Bosworth technique: creation of an iliac “neocrest” by transposition of the anterior area of the iliac crest to the posterior, where the abdominal fascia is reimplemented.
- Closure of the defect with bone allografts or grafts with synthetic mesh, done laparoscopically in favorable situations.<sup>10</sup>

In the case described, surgical difficulty was expected due to the obesity of the patient and the large length of colon stuck through a ring of mainly bone. These factors led us to select a laparotomic approach, although laparoscopy can be indicated in less complex circumstances due to its lower early and late morbidity. Placement of a mesh directly over the hernia orifice by an extraperitoneal lateral approach could have a higher percentage of recurrence. To avoid this, we considered it best to use a large mesh of polypropylene or polyester (polytetrafluoroethylene or mixed if there is contact with hollow viscera) that, from the inside of the abdominal cavity and held by the intra-abdominal pressure, covered the hernia orifice.

Despite the curative intent of the various repair techniques mentioned above, the recurrence rate is high.

To prevent transiliac hernia, it is advisable to obtain a bicortical bone graft instead of tricortical, and large grafts should be avoided.<sup>7</sup> Some authors have assessed the possibility of placing a prophylactic mesh in the bone defect.<sup>1</sup>

#### REFERENCES

1. Forrest C, Boyd B, Manktelow R, Zuker R, Bowen V. The free vascularised iliac crest tissue transfer: donor site complications associated with eighty-two cases. *Br J Plast Surg.* 1992;45:89-93.
2. Velchuru VR, Satish SG, Petri GJ, Sturzaker HG. Hernia through an iliac crest bone graft site. Report of a case and review of the literature. *Bull Hosp Jt Dis.* 2006;63:166-8.
3. Prabhu R, Kumar N, Shenoy R. Iliac crest bone graft donor site hernia: not so uncommon. *BMJ Case Rep.* 2013;2013. bcr2013010386.
4. Audela J, Bianchi A, Tibau R, Rodriguez-Cano O. Hernia through iliac crest defects. *Int Orthop.* 1995;19:367-9.
5. Jiménez-Vega J, Recio G, González J, Gómez D. Hernia transiliaca postraumática. *Cir Esp.* 2014;92e19.
6. Verhengen P, Goffin R, Musin L. Hernia iliaque apres prelevement osseux substruction. *Acta Chir Belg.* 1965;64:1051-6.
7. Nodarian T, Sariali E, Khiami F, Pascal-Mousselard H, Catonné Y. Iliac crest bone graft harvesting complications. *Orthop Traumatol Surg Res.* 2010;96:593-6.
8. Michael V, Richardson WS. Lumbar incisional hernia repair after iliac crest bone graft. *Ochsner J.* 2012;12:80-1.
9. Juan-García E, Canales V, Peguero A, Herrera A, Martínez A. Abdominal hernia through a defect in the iliac bone after resection of a chondrosarcoma of the pelvis. *Acta Orthop Belg.* 2002;68:79-82.

10. Kawashita Y, Iwata T, Kanetaka K, Ono S, Matsuo M, Nagayoshi S, et al. Successful laparoscopic repair of a lumbar hernia occurring after iliac bone harvest. *Surg Laparosc Endosc Percutan Tech.* 2010;20:e38-41.

Francisco Martínez Rodenas\*, Gema Torres Soberano, Raquel Hernández Borlan, José Enrique Moreno Solórzano, José Ramón Llopart López

Hospital Municipal de Badalona, Badalona, Spain

\*Corresponding author.

E-mail address: fmrodenas@gmail.com (F. Martínez Rodenas).

2173-5077/

© 2017 AEC. Published by Elsevier España, S.L.U. All rights reserved.

## Incisional Tumoral Recurrence After Left Lung Videothoracoscopic Culmenectomy<sup>☆</sup>



### Siembra tumoral en herida quirúrgica tras culmenectomía pulmonar izquierda videotoracoscópica

Tumor seeding after a surgical procedure is an uncommon finding that occurs during the extraction of a surgical specimen or the introduction/extraction of surgical instruments through the incision during surgery. This is unlike skin metastasis, which is caused by infiltration of the skin or surrounding soft tissues through the lymphovascular pathway.<sup>1</sup>

The first tumor seeding in a surgical wound associated with laparoscopy was published in 1978, after ovarian cancer surgery.<sup>2</sup> The incidence varies between 0.6% and 1.6% and in lung cancer between 1% and 12%, with presentation between 14 days or several months after surgery.<sup>3</sup> The accepted mechanism is direct seeding of neoplastic cells during surgery.

The management of seeded tumors includes surgery, chemotherapy and radiotherapy. The use of intraoperative skin protection devices and extraction bags can reduce the risk of this complication.

We present the case of a 76-year-old male patient with a lung tumor in the left upper lobe (Fig. 1). Video-assisted thoracoscopy was carried out with 2 ports measuring 15 mm and 45 mm in the eighth and fifth intercostal spaces along the anterior axillary line, respectively. Culmenectomy was performed with lobe-specific lymph node dissection of lymph node stations 5, 7, 10 and 11. The pathology study reported an umbilicated lesion measuring 2×2 cm that was identified as a mucin-producing pulmonary adenocarcinoma with a predominantly acinar pattern (90%), and lymph nodes with mixed hyperplasia (T1a, N0, M0; stage IA). After 3 days of hospitalization, the patient was discharged with no postoperative complications and lung re-expansion of 100%.

During physical examination 18 months after surgery, a palpable mass measuring 6×4 cm was detected under the previous surgical port-site scar, adhered to adjacent tissue, fixed and painful, which the patient stated had increased in size in recent weeks. The CT scan (Fig. 2) showed a

heterogeneous multilobulated soft tissue tumor in the previous surgical wound.

A 6×4 cm lesion was completely resected with disease-free margins. The mass infiltrated the subcutaneous cellular tissue and the muscular plane, extending to the intercostal muscles. The pathology study identified the tumor as a mucin-producing adenocarcinoma in striated muscle; immunohistochemistry TTF1<sup>+</sup>, CK7<sup>+</sup> and CK20<sup>+</sup>. After the withdrawal of a subcutaneous drain on the second day, the patient was discharged without complications on the third day of surgery.

Downey et al.<sup>4</sup> surveyed 55 surgeons to determine tumor seeding after video-assisted thoracoscopy. The survey was completed by 48 participants, reporting 21 cases. The interval from surgery to cutaneous recurrence ranged from 14 days to 29 months (mean: 7.6 months). The incision was the most frequent recurrence site (14), including 6 adenocarcinomas, 3 squamous cell and 5 mesotheliomas. The study does not report the total number of patients, so the incidence cannot be determined. With regard to the techniques for preventing the contact of the removed tumor tissue with the skin, ports or

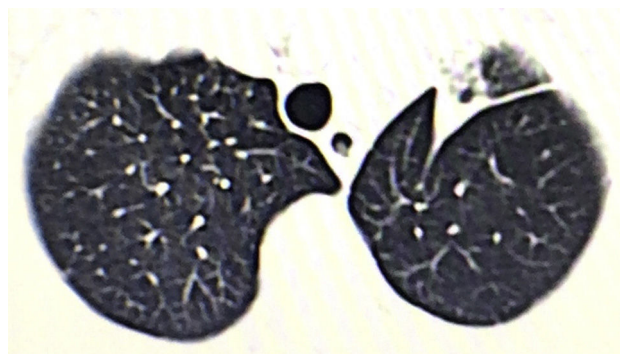


Fig. 1 – A semisolid lesion is observed in the left upper lobe.

<sup>☆</sup> Please cite this article as: Mier JM, Víctor-Valdivia Z, Ríos S. Siembra tumoral en herida quirúrgica tras culmenectomía pulmonar izquierda videotoracoscópica. *Cir Esp.* 2017;95:620-621.