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Primary Jean Louis Petit and Grynfeltt-Lesshaft concomitant hernias: A case report

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ABSTRACT

INTRODUCTION: Posterior abdominal wall hernias are rare, mainly post traumatic or post-operative. This case is particular first by its mechanism, it is a primary lumbar hernia and secondly it is a concomitant hernia of the Jean Louis Petit triangle and the Grynfeltt triangle.

PRESENTATION OF CASE: The patient was a 67 years old man, a former farmer. He complaint of a painful tumefaction on his back evolving for the last 2 years. After clinical examination, a diagnosis of lumbar hernia was retained. The CT scan which is the gold standard was not performed due to financial limitations. An hernioplasty with a porcine collagen mesh was done, in per operative we found a Jean Louis Petit hernia and a Grynfeltt-Lesshaft hernia. Any post-operative complications.

DISCUSSION: Lumbar hernia is not a common diagnosis, and most of time is misdiagnosed. Acquired primary lumbar hernia can be due to profession involving lumbar constraints leading to the weakness of muscles. This was the case of our patient. Another particularity was the double hernia, the upper and lower lumbar triangles. We already know the impact of his profession and may be 20 years of this led to the double hernia? An hernioplasty in open surgery was proposed for multiples reasons: the age of the patient, the weakness of the muscle, a large exploration of the hernia, to reinforce the posterior lumbar wall and to prevent a recidivism.

CONCLUSION: Jean Louis Petit and Grynfeltt-Lesshaft hernias are very uncommon. Few cases have been reported.

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1. Introduction

Lumbar hernia is the protrusion of intraperitoneal or extraperitoneal contents through a defect of the posterolateral abdominal wall. They are congenital or acquired (primary or secondary) [1].

The triangle of Petit is bounded above and medial with tendon node latissimus dorsi, and laterally and left back edge of the external oblique muscle of the abdomen, extending from the 12th rib, below with the iliac crest, the bottom is the internal oblique transverse abdominal muscles. The weakness of the fascia of this triangle bottom muscles and the defect of the aponeurosis of the latissimus dorsi muscle lead to the inferior lumbar hernia or Jean Louis Petit hernia [2].

The triangle of Grynfeltt is formed medially by the quadratus lumborum muscle, laterally by the internal abdominal oblique muscle, and superiorly by the 12th rib. The floor of the superior lum-

bar triangle is the transversalis fascia and its roof are the external abdominal oblique muscle [2] (Fig. 1) [3].

Primary lumbar hernias are rare, about 300 cases have been described in the literature [4]. Few studies data are available but none of homolateral double lumbar hernia [5]. The symptomatology of hernia depends on their content, it could be asymptomatic or symptomatic. The content of a hernia is principally made of the extraperitoneal organs and intraperitoneal organs [6].

Many techniques have been described to repair this hernia type, laparoscopy or open approach but without any consensus [7]. Tension-free repair is recommended [8].

This work has been reported in line with the SCARE guidelines [9].

2. Case presentation

The present case is a 67 years old patient, former famer after 20 years of manual labor force in agriculture. The patient came to consult for a painful swelling on his midback without traumatic history, evolving for 2 years without responding to analgesics. A first diagnosis of lipoma was made in a local health center. At the physical

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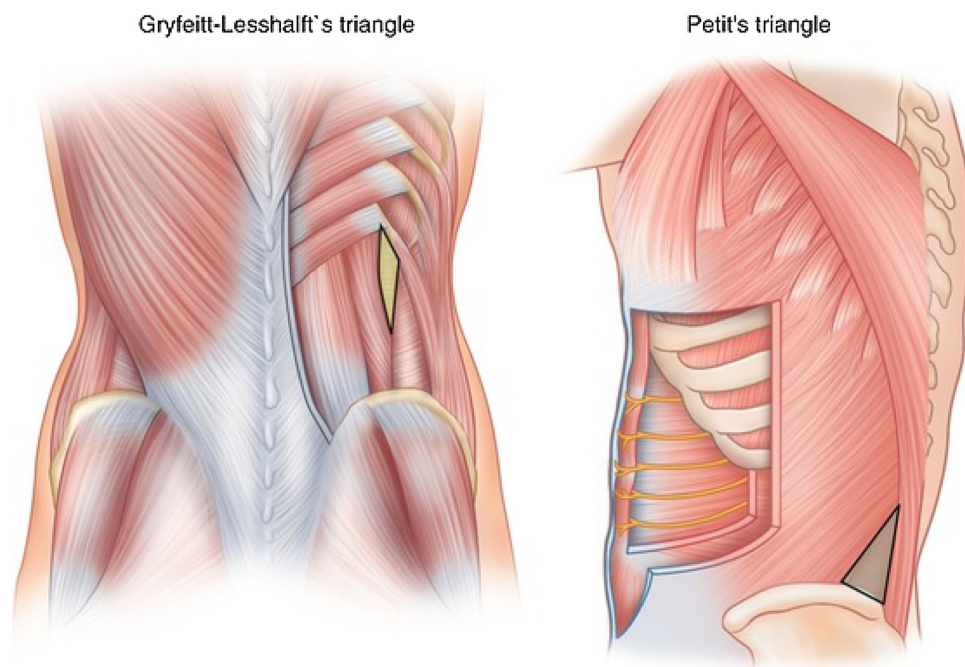


Fig. 1. Anatomy of lumbar triangles.

examination, in the seated position, there was a swelling located in the left lumbar fossae with 5 cm of diameter. The tumefaction was impulsive to cough and defecation, painful, soft consistency and reducible on palpation. The diagnosis of a lumbar hernia was retained, an abdominal computed tomographic scan was recommended for the confirmation and the anatomic location of the hernia. Due to financial limitation, neither an abdominal CT scan nor an ultrasonography were performed.

The surgical approach proposed to the patient was an hernioplasty. The reasons for choosing this operative technic were: the primary character of the hernia, the age of the patient, the prevention of a recidivism.

In the operative theater, the patient was installed in right lateral decubitus, asepsis and sterile drape after a general anesthesia with orotracheal intubation. An oblique incision of 8 cm of length, above the iliac crest, median to the tumefaction was done. After the skin, soft cutaneous tissue and the left latissimus dorsi muscle dissection, we found two different hernias, not strangulated. One hernia in the superior lumbar triangle with a hernial ring of 2 cm in diameter and a hernia in the inferior lumbar wall with a hernial ring of 1.5 cm in diameter (Fig. 2).

The hernia sacs contained both of them the peritoneal fat and the small intestine (Fig. 3). The hernia sacs were refouled, a continuous suture of the fascia transversalis was done with coated absorbable suture 2, the wall reinforcement with a porcine collagen mesh fixed on the quadratus lumborum and the internal oblique muscles, an interrupted suture for the latissimus muscle with a coated absorbable suture 2. A layered closure was done with absorbable thread and an interrupted suture with a non-absorbable suture thread for the skin (Fig. 4).

The post-operative management was oral analgics Acetaminophen 500 mg 2 tablets every 8 h and Diclofenac 50 mg 1 tablet every 8 h for 72 h. The evolution of the patient in post-operative was simple without any complication and favorable with preoperative pain amendment. The first wound dressing was done the fifth day post-operative and the authorized exit the sixth day post-operative. One month after the surgery, the patient came to his post-operative consultation without any complaint and a normal healing.



Fig. 2. Intraoperative content in the hernia.

3. Discussion

Lumbar hernias are rare less than 2% of abdominal wall hernias. The diagnostic of lumbar hernia is clinical and confirmed with a computed tomographic scan [10]. In this case, the financial difficulties of the patient limited the paraclinical explorations, the CT scan as the ultrasonography. All the material used for this repair was a donation. In the context of a district hospital in a tertiary country, diagnosis and operative indication are a real challenge. Most of the time we have to make indication without the paraclinical explorations.

This diagnostic is not the first one for a lumbar tumefaction without traumatic or operative history in the lumbar region, as the patient was first diagnosed a lumbar lipoma. Lumbar hernias have



Fig. 3. Peritoneal fat in the hernia.

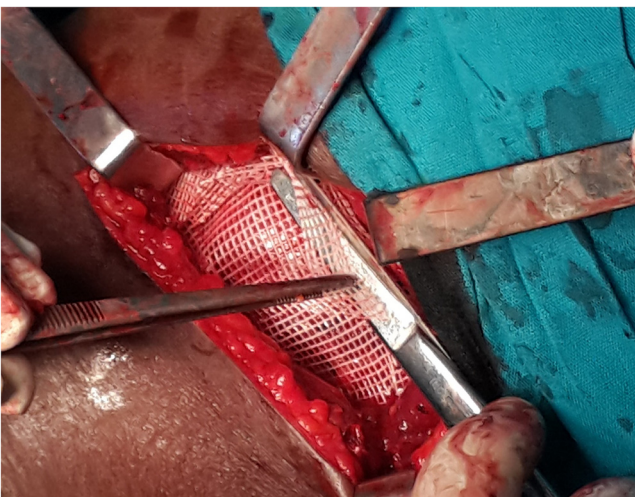


Fig. 4. Porcine Mesh.

most of time a lipoma-like clinical presentation [6]. This patient had a typical physical examination of a hernia confirmed per op.

The particularities in this case are:

- a primary hernia which is neither non-traumatic nor post-operative, it is an acquired hernia due to the weakness of the posterior abdominal wall
- a homolateral double hernia, one in the superior triangle (Grynfeltt) and one in the inferior triangle (Petit)
- the content of the hernia is intraperitoneal.

The risk factors were the manual labor force during 20 years and the age of the patient. The patient practiced a rudimentary agriculture, without using any machin. This physical effort participated to the weakness of the posterior abdominal wall. The principal risk

of these hernias was the strangulation of the content. The pain described by the patient was a hernia craze or a beginning of strangulation. Any lumbar hernia must be operated in order to reduce the risk of strangulation [11].

The surgical technique could be an open surgery or a laparoscopy. Studies have highlighted a preference for laparoscopy with a shorter hospital stay, minimal post-operative complications but with high probability of per-operative complications [5]. Because of the rarity of the lumbar hernias and a lack of management experience of them, there is no real consensus on the best repair.

The mesh repair was important in this case for the reinforcement of the posterior abdominal wall as the defect caused by the double hernia was large, the mesh would protect the musculature structure [8]; the prevention of a recidivism by reducing the tension of the repair [11]. There is no real consensus about the use or not of the mesh, but some studies revealed many advantages of their use. According to surgeon's experience, autoplasties or the use of mesh plugs should not currently be recommended because the quality of the affected tissues cannot be assessed reliably during surgery. Repair should always be done with the mesh extended [12]. The ideal mesh should have some specificities as easy incorporation, resist bowel adhesion formation, antimicrobial properties, retain strength to reinforce a fascial repair, maintain tissue compliance, and the cost [13]. Non-absorbable synthetic mesh is preferred for reconstruction [14] even if biologic meshes may have an advantage over synthetic mesh in contaminated wounds. The laparotomy in this case allowed a large exploration of the hernias and an hernioplasty with less difficulties, and will be safe in case of strangulation for a resection of non-viable organs [15].

4. Conclusion

Primary lumbar hernias are rare. Surgeons may encounter a primary lumbar hernia once in all their career [16]. Any consensus on the surgical repair of the lumbar hernia really exist, but some authors proposed a surgical approach based on a classification with six characteristics: the size, the location, the content, and the etiology of the hernia, a muscular atrophy and the existence of a precedent recidivism [12].

Conflict of interest statement

The authors declare no conflict of interest.

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Ethical approval

The ethical committee of the hospital gave the agreement to report this case.

Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images.

Author contribution

Frederica Jessie Tchoungui Ritz, Vanessa Kouam, Flobert Titcheu equally contributed to the conception, the written, the acquisition

of images. All authors have revised and agreed to the submission of this manuscript.

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References

- [1] D. Stamatou, J. Skandalakis, J. Skandalakis, P. Mirilas, Lumbar hernia: surgical anatomy, embryology, technique of repair, *Am. Surg.* 75 (3) (2009) 202–207.
- [2] Y. Myrzakhanov, Lumbar Triangle (Petit's Triangle) and It's Anatomical Characteristics, Semey State Medical University, 2014.
- [3] J. Suarez Grau, S. Bellido Luque, Anatomy of the abdominal wall, in: *Advances in Laparoscopy of the Abdominal Wall Hernia*, Springer, London, 2014, p. 7–22.
- [4] O. Baraket, A. Berriche, R. Zribi, A. Chokki, Les hernies lombaires, *Analyse de 3 cas. La Tunisie Médicale* 89 (7) (2011) 644–646.
- [5] S. Suarez, J. Hernandez, Laparoscopic repair of a lumbar hernia: report of a case and extensive review of literature, *Surg. Endosc.* 27 (9) (2013) 3421–3429.
- [6] J. Zadech, J. Buicko, C. Patel, R. Kozol, M. Lopez-viego, Case report grynfeltt hernia: a deceptive lumbar mass with a lipoma-like presentation, *Case Rep. Surg.* 2015 (2015), 954804.
- [7] D. Cesar, M. Valdao, R. Murrahe, Grynfeltt hernia: case report and literature review, *Hernia* 16 (1) (2012) 107–111.
- [8] A. Bigolin, A. Rodrigues, R. Pelegrini Coral, Petit lumbar hernia—a double layer technique for tension-free repair, *Int. Surg.* 99 (5) (2014) 556–559.
- [9] R. Agha, A. Fowler, A. Saeta, I. Baira, S. Rajmohan, D. Orgill, et al., The SCARE statement: consensus-based surgical case report guidelines, *Int. J. Surg.* 34 (2016) 180–186.
- [10] U. Ngabou, J. Owono Mboungou, H. Nyamatsiengui, D. Nguete, Traitement laparoscopique de la hernie lombaire, note technique, *Le journal de la Coelio-chirurgie* 88 (2013) 31–32.
- [11] C. Claus, L. Nassif, J. Coelho, Laparoscopic repair of lumbar hernia (Grynfeltt): technical description, *Arq. Bras. Cir. Dig.* 30 (1) (2017) 56–59.
- [12] A. Moreno-Egea, E. Baena, M. Calle, J. Martinez, J. Albasini, Controversies in the current management of lumbar hernias, *Arch Surg.* 142 (1) (2007) 82–88.
- [13] K.S. King, F.P. Albino, P. Bhanot, Biologic mesh for abdominal wall reconstruction [Internet], *Chronic Wound Care Manag. Res.* (2014) [cited 2018 Jul 6], Available from <https://www.dovepress.com/biologic-mesh-for-abdominal-wall-reconstruction-peer-reviewed-fulltext-article-CWCMR>.
- [14] A. Mismar, M. Al-Ardah, N. Albsoul, N. Younes, Underlay mesh repair for spontaneous lumbar hernia, *Int. J. Surg. Case Rep.* 4 (March (6)) (2013) 534–536.
- [15] M. Fokou, P. Fotso, M. Ngowe Ngowe, A. Essomba, M. Sosso, Strangulated or incarcerated spontaneous lumbar hernia as exceptional cause of intestinal obstruction: case report and review of the literature, *World J. Emerg. Surg.* 9 (2014) 44.
- [16] S. Sundaramurthy, H. Suresh, A. Anirudh, A. Prakash Rosario, Primary lumbar hernia: a rarely encountered hernia, *Int. J. Surg. Case Rep.* 20 (6) (2016) 53–56.

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