Case Report

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Recurrent petit traumatic hernia plasty: case report

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ABSTRACT

Lumbar hernias are very infrequent posterior abdominal wall defects. They are usually located in the upper lumbar triangle and represent approximately 1.5-2% of all hernias of the abdominal wall. In fact, there are few cases described in the literature and most of the large hospital centers have published only 2 or 3 cases. This is a 34 year-old female, who suffered a car accident, in which bilateral femoral fracture and left humeral fracture, after recovery of said fractures has asymmetry of flanks with the appearance of volume increase in the left abdominal flank, computed tomography was performed evidencing left lower lumbar hernia (Petit's Hernia) so, it was protocolized for open lumbar hernia repair with placement of mesh by anterior approach, later one year later, it presented recurrent left lumbar hernia, therefore, a protocol and surgical procedure of open lumbar plasty was performed again with mesh placement by lumbotomy approach in 2016. After a year of the surgical procedure, a pelvic abdominal control CT scan was requested, where a proper prosthesis placement was observed without protruding tissues. This was the first case of recurrent post-traumatic Pettit hernia in this institution. There are few cases reported in the universal literature, the treatment was surgical when performing the diagnosis, either laparoscopically or openly with decision and according to the experience of the surgeon.

Keywords: Mesh, Petit's hernia, Traumatic lumbar hernia

INTRODUCTION

The existence of a lumbar aponeurotic defect was first described by Barbette in 1672 followed by other authors, Dolec in 1703 and Budgen in 1728 (who detailed the first congenital lumbar hernia), Garangeot in 1739 described a lumbar hernia imprisoned as a finding during an autopsy and Ravanton (1950) is credited with the first surgical reduction of a lumbar hernia. But it was not until 1774 that Petit first defined the anatomical limits of the triangle

where this hernia originates.² Lumbar hernias are very infrequent posterior abdominal wall defects. They are usually located in the upper lumbar triangle and represent approximately 1.5-2% of all hernias of the abdominal wall of these 20% are congenital and 80% acquired in the case of the latter, 55% are spontaneous and the remaining 45% are secondary to trauma, infection or previous surgery. In fact, there are few cases described in the literature and most of the large hospital centers have published only 2 or 3 cases, Hafner et al, they even stated

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that a surgeon could perhaps repair a case of this type of hernia in the course of his professional life.^{3,4}

CASE REPORT

This is a 34year-old female, who suffered a car accident in May 2011, in which she presented bilateral femoral fracture and left humerus, which required open reduction plus internal fixation, subsequent recovery, in 2013 it presented asymmetry of the flanks with the appearance of an increase in volume in the left abdominal flank.

Computed Tomography (CT) was performed (Figure 1 and 2), evidencing a left lower lumbar hernia (Petit's Hernia) for open lumbar hernia repair with placement of mesh by previous approach in 2015, one year later, pain in left lumbar area accompanied by volume increase, pelvic abdominal control CT was performed (Figure 3 and 4), evidencing lumbar hernia recurrent left, so a surgical protocol for open lumbar plasty was again performed with mesh placement by lumbotomy approach in 2016.

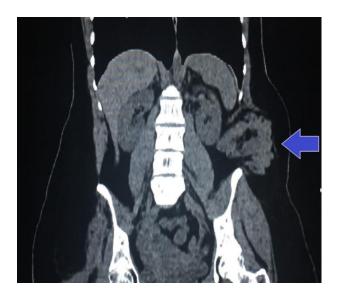


Figure 1: CT scan of lumbar hernia (coronal view) (blue arrows).

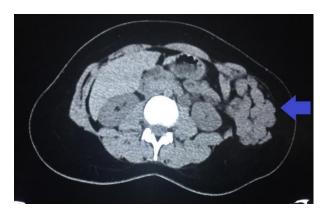


Figure 2: CT scan of lumbar hernia (axial view) (blue arrows).

The patient was operated on electively, a left lumbar oblique incision was made parallel to the twelfth rib, identifying a 6x4x2cm hernia sac, which was dissected from the muscular walls, until a hernia defect of 3x3cm was found approximately, a hernia sac was opened containing omentum and a previous plasty mesh with abundant fibrotic tissue adherecyclysis was also performed and the mesh placed in the previous plasty was removed, the hernia sac was confronted and reintroduced to the abdominal cavity, hernia repair was performed with points of May with prolene 1-0 and posteriorly it was placed supra-aponeurotic polypropylene mesh (Figure 5 and 6), fixing it with prolene 2-0 to the aponeurosis of the external oblique and latissimus dorsi muscles, as well as to the superior posterior iliac crest, suction closed drainage was placed, subcutaneous cellular tissue and skin are confronted, terminating the surgical act.



Figure 3: CT scan of lumbar hernia (coronal view) (blue arrows).

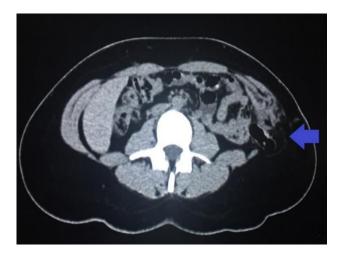


Figure 4: CT scan of lumbar hernia (axial view) (blue arrows).

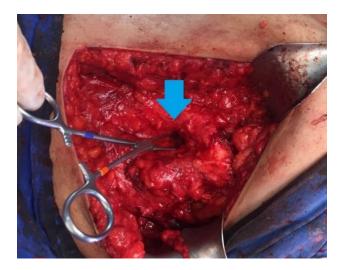


Figure 5: Herniary defect after dissection of the subcutaneous tissue (blue arrows).

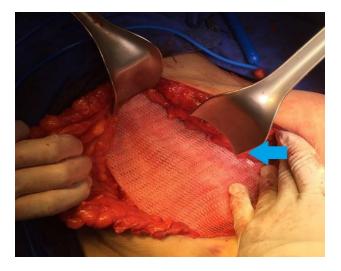


Figure 6: Final aspect after placement of onlay mesh (blue arrows).



Figure 7: CT scan of lumbar plasty (blue arrows).

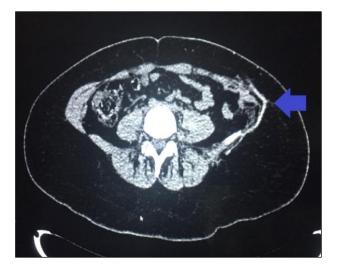


Figure 8: CT scan of lumbar plasty (blue arrows).

The patient evolves favorably and restarts diet progressively, was discharged at 48 hours, with reincorporation to his usual life.

After one year of the surgical procedure, a pelvic abdominal control CT scan is requested (Figure 7 and 8), where proper prosthesis placement was observed without protruding tissues, currently without recurrent hernia.

DISCUSSION

Lumbar hernias are usually caused by a sudden force in the abdomen, which leads to an increase in intraabdominal pressure. Both the upper and lower lumbar triangle are considered areas of weakness in the posterolateral abdominal wall. These areas of weakness combined with an increase in intra-abdominal pressure can produce defects of the abdominal wall such as lumbar hernias. Car accidents account for approximately 70% of traumatic lumbar hernias.⁵

The triangle of Petit or lower lumbar is a triangle whose base is formed by the inferior iliac crest, its medial edge by the free margin of the latissimus dorsi and its lateral edge by the free margin of the greater oblique muscle, the anterior part of the triangle is made up of the skin and the subcutaneous cellular tissue, while the posterior wall is made up of the lumbodorsal fascia that continues with the aponeurosis of the oblique and transverse muscles of the abdomen. ^{1,6}

Petit's hernia is described as a herniated retroperitoneal fat through the aponeurosis of the internal abdomen, however, they may contain colon and small intestine.^{5,6} There is a risk of subsequent imprisonment and strangulation of hernia contents in up to 25 and 10% of cases, respectively.⁷

The differential diagnosis should include renal tumors, muscle contractures, soft tissue tumors (lipoma), bruises and abscesses.⁸ The study of choice is computed

tomography, as it provides additional information (such as the content of the hernia) and specifies the limits of the aponeurotic muscle defect, however, ultrasound and magnetic resonance are also useful.^{8,9}

Surgery remains the mainstay of treatment at the time of diagnosis, however, the method of repair remains controversial and often constitutes a challenge for the surgeon, preferring repair techniques with synthetic mesh (open or laparoscopic) or with the rotation of muscular flaps, always following the principles of tension-free surgery, likewise the placement of double mesh with open approach, both in the preperitoneal space and supraaponeurotic.^{10,11}

CONCLUSION

Lumbar hernias are rare, can be divided into upper and lower lumbar hernia (Grynfeltt and Petit), which can be congenital or traumatic. This was the first case of recurrent post-traumatic Pettit hernia in this institution, there are few cases reported in the literature, the treatment was surgical when performing the diagnosis, according to the experience of the surgeon, the approach can be open or laparoscopic.

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