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Petit's hernia: Combined open repair improves outcome

Majd Nawash Alhaddadin, Mahmoud Adulkareem Al Abed

ABSTRACT

The surgeon can be submitted to stress in any difficult abdominal wall hernia surgery, especially those arising from the lumbar area. Because of their rarity, complex anatomical location and the lack of surgical experience, lumbar hernias repair can pose a formidable challenge even for the most experienced surgeons. Petit's hernia is an extremely rare type of lumbar hernias, it is so infrequent that only occasional surgeon has the opportunity of seeing and repairing one through the course of his career.

We present the case of a young male patient who presented with right lower lumbar swelling of six months duration with no other symptoms. He was diagnosed clinically as low back lipoma and the radiological study was omitted. Intraoperatively, he was found to have a Petit's hernia. The hernia was repaired by a combined modality of mesh hernioplasty and overlapping myoplasty.

Keywords: Combined open repair, Lumbar hernia, Petit hernia

How to cite this article

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Majd Nawash Alhaddadin[1], Mahmoud Adulkareem Al Abed[2]

Affiliations: [1]General Surgery Senior Specialist, Al Hammadi Hospital, Riyadh, Saudi Arabia; [2]General Surgery Resident, Al Hammadi Hospital, Riyadh, Saudi Arabia.

Corresponding Author: Majd Nawash Alhaddadin, General Surgery Senior Specialist, Al Hammadi Hospital, Riyadh, Saudi Arabia; Email: majd.alhaddadin@alhammadi.com

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INTRODUCTION

Hernias protruding from the lumbar areas were not known until 1672 when Barbette suggest the existence of lumbar hernias for the first time. But it took more than 50 years to do the first case report of lumbar hernia by Garangeout in 1731. Almost 50 years later Petit delineated the boundaries of the inferior lumbar triangle in 1783 and Gryenfelt described and delineated the boundaries of the superior lumbar triangle in 1866 [1].

The lumbar hernias area classified into congenital hernias and account for less than 20% of cases and the rest are acquired hernias which could be primary or secondary. The primary lumbar hernias are spontaneous, without a causal factor such as surgery, infection, or trauma. On the other hand the secondary acquired hernias may be caused by blunt, penetrating, or crushing trauma; fractures of the iliac crest; surgical lesions; hepatic abscesses; infections in pelvic bones, ribs, or lumbodorsal fascia; or infected retroperitoneal hematomas [1–3].

CASE REPORT

A 30-year-old male patient who visited the outpatient department complaining of right lower back swelling since six months. The swelling was found incidentally, it was not changing in size or varying in consistency and was not associated with a significant symptom rather than discomfort. The patient had no previous medical or relevant past surgical history.

Physical examination revealed right lower back swelling 6×5 cm, irregular, attached to the surrounding structures, non-reducible and painless. The rest of physical examination was normal.

The initial clinical diagnosis was a low back non-capsulated lipoma.

We decided to do surgical excision of the low back lipoma based on the physical examination and the radiological investigation was omitted. Routine blood investigation and preoperative anesthesia assessment was requested.

On the day of the surgery the patient underwent spinal anesthesia. In prone position, skin incision done over

the swelling, the planes were dissected until we reached the mass and it was found to be a hernia sac containing retroperitoneal fat with no other herniated organs. The sac was dissected completely and reduced back (Figure 1). The hernia edges were identified and found to be a Petit's hernia (inferior lumbar triangle hernia) (Figure 2).

Petit's hernia was repaired by inserting a prolene mesh in the submuscular space and overlapping myoplasty to close the inferior lumbar triangle. The myoplasty was done by suturing of the medial edge of the external oblique muscle to the undersurface of the latissimus dorsi muscle and the lateral edge of the latissimus dorsi muscle to the upper surface of the external oblique muscle closing completely the inferior lumbar triangle (Figure 3).

The patient had a satisfactory post-operative course and was discharged in the next day in a good general condition. After three years of follow-up, the patient has no hernia recurrence and has no symptoms.

Figure 1: Hernia orifice after sac reduction.

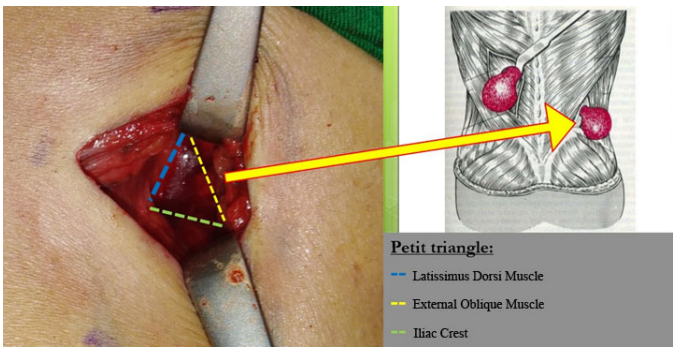

Figure 2: Delineation and identification of the edges of the right inferior lumbar triangle.

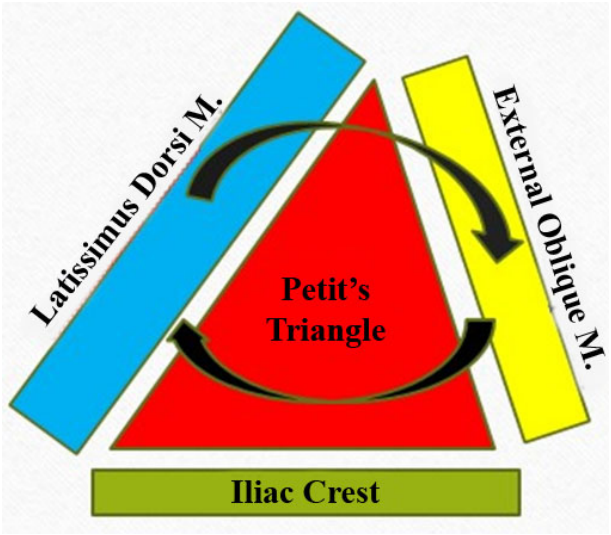

Figure 3: Overlapping myoplasty.

DISCUSSION

Petit's hernia is the protrusion of intraperitoneal or extraperitoneal contents through the inferior lumbar triangle or Petit's triangle which is delineated by the latissimus dorsi muscle, the external oblique muscle and the iliac crest [2, 3].

Despite that Petit's hernia is very uncommon and the related complications like strangulation or incarceration of the herniated organ is extremely rare, the early surgical repair is advised to avoid such devastating and difficult management complications [2, 4].

To do a proper diagnosis of lumbar hernia, the surgeon should have a high index of suspicion and do not forget that the lumbar area is the site of hernia protrusion although it is rare [5]. If the diagnosis is not clear, the computed tomography (CT) scan could be of great value in making diagnosis and further surgical plan [4, 5]. Unfortunately, it was not the situation in our case where we omitted the radiological investigation and depended only on the physical examination, the thing that leads to an initial wrong diagnosis and inadequate surgical planning.

Because of it is extreme rarity, the vast majority of surgeons have no experience in the surgical management of primary lumbar hernias, especially Petit's hernias. Many surgeons even did not have the opportunity to repair one during their career [6, 7]. So, we cannot judge which surgical technique is advised over other.

With the evolution of the laparoscopic and robotic assisted surgery, the outcomes of surgical repair of lumbar hernias seem to improve and could be promising [5, 8–10]. But, we cannot deny that open repair has an excellent result in the repair of hernias with no significant difference in hernia recurrence compared with the laparoscopic and robotic surgery [4, 6, 8].

In this case report we used an open approach, it was a combination of the known mesh hernioplasty with

added myoplasty previously described, with the objective to close the lower lumbar triangle and to reinforce the hernioplasty. After three years of follow-up, the patient is asymptomatic and there is no hernia recurrence.

Comparison between the different techniques could be quite difficult because of the small number of patients and the variety of surgical approach and repair [4, 7]. But, combined open repair (hernioplasty and overlapping myoplasty) seems to improve the outcome.

CONCLUSION

Petit's hernias are rare type of lumbar hernias and need high index of suspicion to be diagnosed. Computed tomography scan is the best modality to diagnose a lumbar hernia and is helpful in the further surgical plan. No surgical technique is advised over other. But, combined open mesh repair with overlapping myoplasty seems to be improve the outcome.

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Author Contributions

Majd Nawash Alhaddadin – Conception of the work, Design of the work, Acquisition of data, Analysis of data, Interpretation of data, Drafting the work, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Mahmoud Adulkareem Al Abed – Acquisition of data, Analysis of data, Interpretation of data, Drafting the work, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

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Written informed consent was obtained from the patient for publication of this article.

Conflict of Interest

Authors declare no conflict of interest.

Data Availability

All relevant data are within the paper and its Supporting Information files.

ABOUT THE AUTHORS

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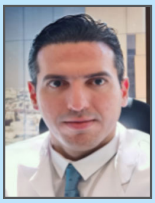
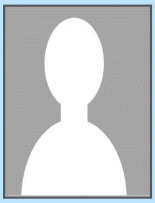


Majd N Alhaddadin is a General and laparoscopic Surgeon at Al Hammadi Hospital, Riyadh, Saudi Arabia. He has the Membership of the Royal College of Surgeons and has the Fellowship of the American College of Surgeons. He earned the undergraduate degree Doctor of Medicine from Universidad de Ciencias Medicas de Camaguey, Cuba and postgraduate degree form Jordanian Board and Arab Board from Jordan Hospital, Amman, Jordan. He has published four research papers in national and international academic journals and authored books.
Email: majdhaddadin85@gmail.com



Mahmoud Adulkareem Al Abed has the Membership of the Royal College of Surgeons. He earned the undergraduate degree Doctor of Medicine from Al Maarefa University, Riyadh, Saudi Arabia.