

A Rare Case of Lumbar Hernia - A Case Report with Review of Literature

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Abstract: Hernia is undoubtedly one of the most common cases dealt by surgeons all over the world. Of the various type of abdominal hernias, the most unique are arguably the lumbar hernias. Lumbar hernia is an extremely rare variety of hernia with approximately only 300 cases reported in the literature. This unusual situation is relatively a rare defect of the posterior abdominal wall. This article presents a case study of this rare variant reported for the first time in the department of surgery of this district teaching institution. The pre-surgical diagnosis of primary Grynfeltt-Lesshaft type of Lumbar hernia — Type A was made in our reported case. This article is presented for the rarity of the case and for the documentation of types and discussion of management of this rare entity.

Keywords: Lumbar hernia.

I. Introduction

Lumbar hernias are quite uncommon as compared to all other ventral abdominal wall hernias, accounting for less than 1 5% of the abdominal hernias with approximately only 300 cases reported in the literature over the past 300% years (4). According to Hafner et al(1), a general surgeon will only have the opportunity to repair one lumbar hernia case in his or her life time. This unusual situation is relatively a rare defect of the posterior abdominal wall. This article presents a case study of this rare variant — reported for the first time in the department of surgery of this district teaching institution. Clinical diagnosis of this entity is difficult due to non- specific symptoms.

II. Case Report

A 47 year — old thin built gentleman without relevant pre-medical history and without history of previous surgeries or history of trauma presented to the outpatient department with pain left lower and left side of back since 6 months and a sensation of a growing mass on his lower left back since 6 years. At admission, he had stable vital signs and a painless, reducible pyriform swelling of 5x3cms in the left lumbar region without skin changes. (Fig.1)

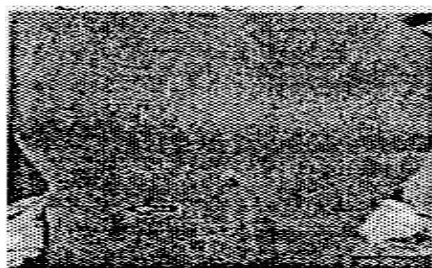


Figure I —Pre-operative presentation of left lumbar Hernia

Cough impulse was present — Pre — Abdominal examination revealed no mass, no scar: malgaigne's bulges and per-rectal examination was normal. Inguino-sorotal regions and external genitalia were normal. His complete haemogram, blood sugar and renal function tests showed normal values. His ECG, X-Ray Chest PA view and Plain X-Ray Abdomen erect were within normal limits. Ultrasound left lumbar region revealed the herniation of omental contents in the inter-muscular region with the demonstration of cough impulse. CT scan of the abdomen showed a mass in the left posterolateral abdominal wall—specifically, a herniation of fat between the erector spinae muscle group and internal oblique muscles through aponeurosis of the transversalis muscle (Grynfeltt hernia,) (Fig 2).

A provisional pre — operative diagnosis of "primary Grynfeltt- Lesshaft type of Lumbar hernia — Type A (Refer Table)" was made. Differential diagnosis such as lipomas (soft. mobile tumors not attached to muscle

layers), fibromas (attached to fascia or muscle : firm, neither reducible nor painful, moving with contraction of the muscle group), hematomas (suspected by the existence of a history of trauma and local ecchymosis; irreducible and common in athletes or in those being treated with anticoagulants), abscesses (with associated pain, edema, cellulitis, fever, and leucocytosis), kidney tumors (irreducible, dull on percussion and not painful), muscle hernia (very rare; disappearing when the muscle is relaxed), panniculitis (a more widespread process associated with manifestations of rheumatism and occasionally a history of repeated episodes of multiple small nonsuppurative subcutaneous nodules), and pannicular lumbosacroiliac hernia (herniation of the subfascial fat, which can cause lumbar pain but disappears with regional infiltration of local anesthetics) have been ruled out in our case."³⁾He was therefore scheduled for elective surgery "Left Lumbar Hernioraphy/Plasty" after anesthetic assessment and obtaining the informed consent for surgery. He was taken to the operating room and the approach was through the left lumbar region and [Fig 3].

A defect of 3 cms was seen in the superior lumbar space with congested omentum as its content.

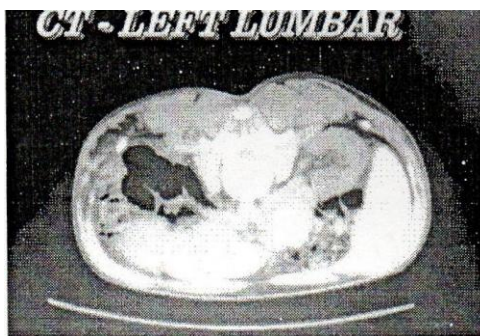


Figure 2 - CT Left lumbar region showing lumbar hernia

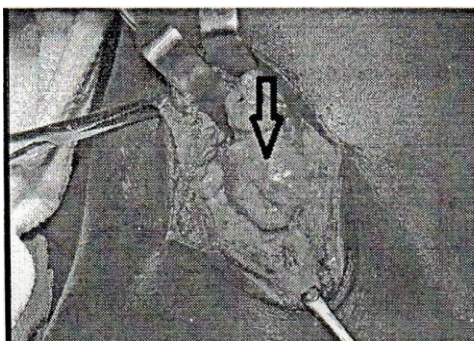


Figure 3 - Per-operative view showing herniated omental content

As the omental content appeared congested, mesh repair was not advocated for fear of infection and hernioraphy was done by suturing sacrospinalis with internal oblique after omentectomy. Post-operative period was un-eventful. He was followed up in our OPD after one week and his wound scar looked healthy. Further monthly follow ups didn't reveal any recurrence.

III. Discussion

A detailed description of historical background of this rare disease is dealt by Alfredo Moreno-Egea et al ⁽⁴⁾ P. Barbette was the first to forecast the existence of these hernias in 1672, but the first publication was by R.J.C. Garangeot in 1731. In 1750, H. Ravaton performed the first surgery for a strangulated lumbar hernia in a pregnant woman. The Surgical Anatomy of the inferior lumbar space was made by Petit in 1783 and a description of the superior space was made by Grynfeltt in 1866. In 1890, J. Macready observed 25 cases. Two of those cases involved the superior lumbar space, which he called the "triangle of Grynfeltt-Lesshaft." In 1916, Goodman pointed out the predominance of the inferior space as the most common site of lumbar hernias, but studies after 1920 show that the superior location is more common (Virgilio, 1925; Watson, 1948; and Thorek, 1950)²

The lumbar region is defined superiorly by the 12th rib, medially by the erector spinae muscle, inferiorly by the crest of the iliac bone, and laterally by the external oblique muscle. Knowledge of the layers of the abdominal wall at this level is important for a proper orientation both during open surgery and in the laparoscopic approach. Superior Lumbar Triangle or The Grynfeltt-Lesshaft triangle is an inverted space bordered at the base by the 12th rib and lower edge of the serratus posterior inferior muscle; the posterior side is formed by the sacrospinal muscle; the anterior is formed by the internal oblique muscle; the roof is formed by

the external oblique and latissimus dorsi; and the floor consists of the transversalis fascia and aponeurosis of the transversalis muscle of the abdomen. Three areas of weakness can be found in this space: immediately below the rib where the transversalis fascia is not covered by the external oblique muscle, in the area of fascial penetration of the 12th dorsal intercostal neurovascular pedicle, and between the inferior edge of the rib and the ligament of Henle.

Lumbar hernias may be congenital and acquired. Predisposing factors in spontaneous acquired lumbar hernia are age, obesity, extreme thinness, chronic debilitating disease, muscular atrophy, intense slimming, chronic bronchitis, wound infection, and postoperative sepsis. They are also usually associated with strenuous physical activity. It seems that the loss of fatty tissue facilitates the rupture of the neurovascular orifices that penetrate the lumbodorsal fascia; situations related to increased intra-abdominal pressure would act as factors that trigger the appearance of these hernias. In our case, this intensely thin person has been indulging in manual cutting of hard rocks.

Alfredo Moreno-Egea et al proposed a classification with a therapeutic aim, which identifies 4 types of hernia based on 6 criteria: size, location, contents, muscular atrophy, origin, and existence of previous recurrence (Table 1). The presence of 2 criteria is sufficient to define the type of hernia.,

Table : Classification of Lumbar hernias^[43]

| CHARACTERISTICS | TYPE A | TYPE B | TYPE C | TYPE D |
|-------------------|--------------------------------------|-----------------------------------|------------------|--------------------|
| DEFECT SIZE (CMS) | < 5 cms | 5 to 15 cms | >15 cms | |
| LOCATION | Superior | inferior | Diffuse | |
| CONTENTS | Extra peritoneal fat | Visceral | Visceral | |
| ETIOLOGY | Spontaneous | Incisional | Traumatic | |
| MUSCULAR ATROPHY | No | Mild | Severe | Severe |
| RECURRENCE | No | Yes | Yes | |
| TREATMENT OPTION | Open Hernioraphy/Laparoscopic EP/TEP | Open/ IP Laparoscopic mesh repair | Open mesh repair | Double Mesh repair |

(EP-Extra peritoneal; IP- Intra peritoneal; TEP- Totally Extra peritoneal)

Diagnosis of Lumbar hernia needs a high clinical suspicion. Lumbar hernia usually presents with nonspecific lower chest pain as in our case. A palpable mass that increases with coughing and strenuous activity, usually reducible and tending to disappear with the patient in the decubitus supine position. Occasionally it can grow to a large size and alter the symmetry of the patient's torso.⁽⁵⁾The patient usually reports unspecific abdominal discomfort, fatigue, or back pain along the area of distribution of the sciatic nerve. According to Light,⁽⁶⁾ it is a diagnosis to consider in young women and athletes with back pain. Bowel obstruction manifests itself with nausea, vomiting, abdominal distension, and palpation of an irreducible mass. Radiology can reveal the presence of air-fluid levels. Strangulation is uncommon but can occur with constriction of the neck of the sac; may also be caused by volvulation of the contents.^(7,8,9,10) If the contents are renal, patients can experience urinary symptoms such as hematuria, oliguria, and colicky pain.^(11,12) Other rare forms of manifestation reported in publications are pelvic mass and retroperitoneal and gluteal abscess.^(13,14,15)

Muscular Atrophy or Pseudohernia (Type D) is a condition of muscular atrophy of the posterior lateral abdominal wall, in which parietal thinning may bring about a deformity simulating hernia(with bowel contents) and local discomfort during ambulation and physical exercise. This muscular atrophy behaves physiologically like a hernia and only a proper imaging study (CT) will confirm diagnosis. Some authors have published cases of patients who underwent surgery in error for lumbar hernia to reveal muscular atrophy during the operation. 16. 17) Baker et al⁽¹⁸⁾ and certain other authors^(19,20,21,22) demonstrated the utility of CT in the diagnosis of lumbar hernia for reliably assessing the anatomical relationships of the lumbar area, differentiating muscular atrophy from a real hernia and identifying the contents.

The optimal goal of Hernia repair is to eliminate the defect. A wide variety of techniques have been described for repair of lumbar hernia. These include Anatomical closure, "Overlapping of the aponeurosis of musculofascial flaps, Prosthetic meshes and Laparoscopic mesh repair. Consistent use of the appropriate method of treatment has well been described by Moreno-Egea et al .⁽⁴⁾ (Refer table) .

IV. Conclusion

This case-study is presented for

- It's absolute rarity and for awareness of this clinical entity in pre-operative evaluation and
- For documentation of types and discussion of management of this rare entity.

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