



ORIGINAL RESEARCH PAPER

General Surgery

POST TRAUMATIC LUMBAR HERNIA

KEY WORDS: Post trauma, lumbar triangle, petit hernia

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ABSTRACT

Lumbar hernias are quite rarely encountered. Hence its awareness is essential to avoid mismanagement. Understanding the intricate anatomy of the region is essential for a good repair.

The most common site for the occurrence of lumbar hernias is in the superior lumbar triangle (Grynfeltt) and less commonly in the inferior lumbar triangle (Petit). Surgical treatment of lumbar hernias is always recommended because of the risks of entrapment and strangulation. There is controversy regarding which is the best surgical technique to be employed. We present an alternative double layer mesh technique for tension-free repair of lumbar hernias when the use of laparoscopy is not recommended especially in case of very large defects.

INTRODUCTION:

The superior lumbar triangle is described by Grynfeltt and the inferior lumbar triangle by Petit. The boundaries of the superior triangle are the posterior border of the internal oblique muscle anteriorly, the anterior border of the sacrospinalis posteriorly, the twelfth rib, and the serratus posterior inferior muscle superiorly. The floor is formed by the aponeurosis of the transversus abdominis and the roof by the external oblique and latissimus dorsi. The inferior lumbar triangle is formed by the external oblique anteriorly, by the anterior border of the latissimus dorsi posteriorly, and below by the iliac crest. The internal oblique constitutes the floor and loose fascia of the roof. Therefore the contents of a hernia arising from any of these triangles could be retroperitoneal fat, kidney, colon, and omentum. There is increased possibility of incarceration in these hernias.

Lumbar hernias can be classified into two types: congenital and acquired. Congenital hernias are very rare and are associated with multiple musculoskeletal anomalies in that region typically described as lumbocostovertebral syndrome. The acquired variety may be either primary or secondary. Primary variety is very rare with approximately 300 cases being described in literature. The acquired variety is usually seen after operations such as iliac bone graft harvesting or drainage of abscesses in that region or post traumatic.

The clinical presentation is quite straightforward with a bulge in the lumbar region which exhibits both a visible and palpable impulse on coughing. The bulge will disappear on lying flat in a lateral position and become prominent on standing up and coughing. Contrast enhanced CT scan is essential before a surgical repair. The only pitfall of CT scan is that retroperitoneal fat is invariably misinterpreted as omentum.

Surgical repair is the mainstay of treatment. The traditional open approach still holds true. With the advent of minimally invasive surgery, laparoscopic approach has gained popularity and is strongly advocated by some. Open repair has evolved over a period of time. Proper delineation of the defect followed by tension-free placement of a sublay mesh yields good results especially in primary lumbar hernias. However in acquired type or secondary type of acquired type of lumbar hernias, advanced muscle flaps may be required over and above the mesh to ensure complete coverage of the defect. Despite the best of surgical repair, failures have been described. They have been attributed to limited fascial

strength, weakening of the surrounding musculo aponeurotic structures, inadequate hold of sutures to weakened tissues, and bony edges. Laparoscopic repair may be done by either an extraperitoneal or transperitoneal approach with placement of a mesh. Laparoscopic repair confers certain advantages. Reduced operative morbidity, reduced pain, and early return to routine activity are established advantages. However long term outcomes with respect to morbidity and recurrence rates do not differ. Therefore management decision has to be made depending upon the site and size of the defect, contents of the sac, the attenuated state of the surrounding tissues.

CASE REPORT:

70 year old male presented with abdominal pain for 3 months and swelling in left loin for 3 months which aggravated on coughing and straining. Past history of traumatic injury to left loin 5 years back following bull gore injury for which flap coverage was done. On examination rhomboid scar noted in the left loin and left scapular region. A vague swelling of 10 x 8 cm below the left twelfth rib lateral to the scar in the left loin. Cough impulse was present. Swelling was partially reducible. CECT abdomen revealed a 6.5cm defect in the posterolateral abdominal wall with small bowel and omentum as the content. An open approach through a posterolateral lumbar incision overlying the swelling was adopted. The retroperitoneal fat and small bowel constituted the hernia. The content was viable and reduced manually. The defect was clearly appreciated and delineated. The herniation was through the inferior lumbar triangle. The loose lumbar fascia adjacent to the defect was dissected enough to create flaps for approximation. A prolene mesh was placed in the preperitoneal space. The fascia was approximated with interrupted Prolene stitches. The muscle flaps were approximated over the mesh. Another mesh was placed over the approximated muscle. Care was taken at every step to ensure a tension-free repair.

FIG 1 PREOPERATIVE PICTURE OF POST TRAUMATIC LUMBAR HERNIA



FIG 2 CECT ABDOMEN- FEATURES SUGGESTIVE OF LUMBAR HERNIA

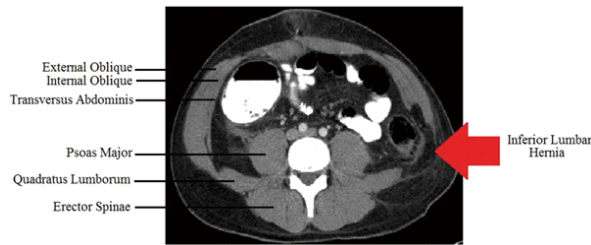


FIG 3 INTRAOPERATIVE PICTURE- OPEN LUMBAR HERNIA MESH REPAIR

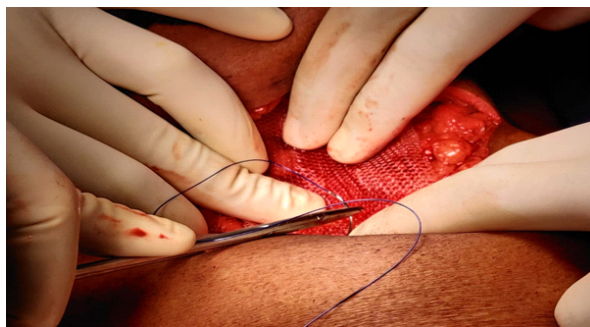
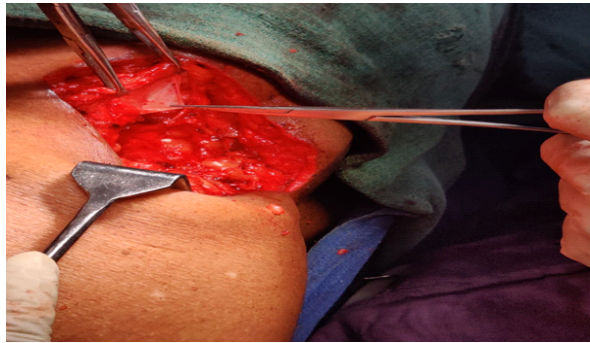


FIG 4 POSTOPERATIVE PICTURE OF OPEN MESH REPAIR OF LUMBAR HERNIA



DISCUSSION:

P. Barbette was the first to suggest 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 surgical treatment of a strangulated lumbar hernia in a pregnant woman. The description of the anatomical limits of the inferior lumbar space was made by Petit (1783) and a description of the superior space was made by Grynfeldt (1866). In 1890, J. Macready observed 25 cases. Two of those cases involved the superior lumbar space, which he called the "triangle of Grynfeldt-Lesshaft."

In 1916, Goodman pointed out the predominance of the inferior space as the most. but studies after 1920 show that the superior location is more common (Virgilio, 1925; Watson, 1948; and Thorek, 1950).

Defects in the lumbar musculature/aponeurosis may occur anywhere in this region and may be congenital, spontaneous, or traumatic. Congenital hernias are rare, are usually seen in infants, and are thought to represent arrested or abnormal musculoskeletal development. Spontaneous hernias represent approximately 50% of all lumbar hernias. Traumatic lumbar hernias represent approximately 25% of all cases and are caused by postoperative flank incisions as well as nonoperative factors including crushing or penetrating injuries, falls, or postinflammatory states. Both spontaneous and traumatic types show a predilection for the left side, are more common in men, and are most common in patients between ages 50 and 70. The differential diagnosis of flank pain or a bulge in a nonsurgical patient includes lipoma, fibroma, or other soft tissue tumor. A hematoma or an abscess may mimic a lumbar hernia as well. When muscular layers are intact, CT is the only radiographic method necessary for diagnosis. When hernias do exist, CT can show which fascial or muscular layers are involved and the content of the hernial sac. A normal CT of this region in a symptomatic patient enables the physician to confidently exclude a lumbar hernia and guide therapy away from dealing with a structural abnormality. This is especially important in symptomatic, postincisional patients. When pain is present and no hernia exists, intercostal nerve block often eliminates pain and obviates exploratory surgery to exclude a hernia.

CONCLUSION:

Lumbar hernias are rare. A good history and general physical examination can rule out most of the differential diagnoses. CT scan should be done as a routine prior to planning surgical approach unless the patient presents with life threatening complications. Even though the data available to us regarding the management of lumbar hernias are limited, current literature suggests laparoscopic approach is the best method of treatment. Open surgery should be reserved for patients who have very large defects or after failed laparoscopic approach. The operative technique should be planned depending upon the site and size of the defect, contents of the sac, the attenuated state of the surrounding tissues.

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