



Petit's Lumbar Hernia- a Double Layer Technique for Tension Free Mesh Repair

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Abstract

Since De Garengoet described first incarcerated hernia in 1731 Lumbar Hernia is relatively rare case, fewer than 300 cases reported in the literature. It occurs through the postero-superior lumbar triangle (Grynfeltt's) and less commonly in the inferior lumbar triangle (Petit's)^[1]. Surgical treatment is recommended because of the risk of entrapment and strangulation [4].the incidence rate is less than 1.5% among all hernia cases^[2]. patient with lumbar hernia can present with flank bulge accompanying with local discomfort and tenderness^[3]. There are several treatments as per the facial defect^[4]. For small defect direct approximation of muscle is sufficient. For larger defect facial flap or mesh fixation is essential {4, 5, and 6}. Nowadays laparoscopic Transabdominal extra peritoneal repair of lumbar hernia is ideal^[7].

Keywords: Onlay Mesh, Superior Lumbar Triangle (Grynfeltt), Inferior Lumbar Triangle (Petit's Triangle), Sublay Mesh, Anterior Approach, Laparoscopic Repair, Preperitoneal Space.

Case Report

A 60 yrs old male patient presented to the Surgery Department of VIMSAR Burla on 19.11.15 with a left side swelling of 6 month. He had history of (H/o) viral fever with herpes zoster (HZ) on left subcostal region about 1 yr back. After 6 month he noticed a swelling on left flank which enlarged progressively causing local discomfort. He had no H/o trauma, previous surgery and lifting heavy weight. On examination there was a round soft non tender swelling about 10 cm in diameter above the left iliac bone on left flank. It was reducible with visible and palpable cough impulse .the bulge above iliac crest is more marked during valsalve manoeuvre; it was reducible by manipulation with no sigh of strangulation and not possible to delimit the hernial ring.

Ultrasonography shows defect in abdominal wall on left postero-lumbar region with defect of 5.5x5.0 cm and herniation of small intestine and adipose tissue with this diagnosis Of Petit's Dorsal Hernia and surgical treatment was recommended. CT scan was not done as a CT scan facility was not available. So based on clinical findings and Ultrasonography diagnosis was confirmed.



Figure 1 lumbar hernia

Surgical Technique

Patient was placed in right lateral position; a transverse incision was made 7 cm above the left

iliac crest approximately and along the paraspinal musculature. Subcutaneous dissection revealed a large hernial sac protruding on the lower portion of latissimus dorsi muscle. The sac was superior to the edge of iliac crest and medial to the external oblique muscle.



Figure 2 hernial sac dissection

The hernial sac was completely dissected from its limit and reduced. A preperitoneal plane was created without harming the sac just below the muscle that delimits the petit's triangle. A Polypropylene Mesh was inserted in this space and it was fixed to the external oblique muscle and latissimus dorsi muscle with 2/0 polypropylene fixing stitches (SUBLAY MESH).



Figure 3 Sublay mesh placement

The edges of Petit's Triangle were then brought together to reduce the hernia defect. Then another mesh was put on the muscle i.e. ONLAY MESH which was stitched to iliac crest on layers, limited by several stitches.

A suction drain was left in subcutaneous position. The wound was closed with intradermal stitches to skin and pressure dressing was applied, drain removed on 2nd postoperative day and patient was discharged on 3rd postoperative day. The patient was followed till date without complication on healing of wound.

On latest check-up after 2 years; the appearance was satisfactory and there was no recurrence. The

patient has remained asymptomatic without hampering his daily activities.



Figure 4 post op 2 yrs later

Discussion

Lumbar Hernia can be subdivided into 2 categories: Congenital and Acquired, the later type is more common which may be primary and secondary sub category. This article presented a hernia of the lumbar lower triangle which is secondary and acquired. Because he had h/o HZ on left flank most probably 12 intercostals nerve had led to motor neuron paralysis. There are reports of cases of HZ infection leading to lumbar hernia due to muscle weakness.

Some authors^[8,9] had argument that surgical treatment of lumbar hernia should be based on the size of defect. Surgery is indicated in small defect, the repair of hernia should follow the trend of inguinal hernia like open tension free mesh repair i.e. on extraperitoneal space as like laparoscopy. The laparoscopic repair is namely Transabdominal Partial Extraperitoneal (TAPE) technique^[10,11]. After destruction of the orifice of triangle it becomes 3 dimensional spaces. The Sublay mesh should cover the entire defect and the distal limit should be at least 5 cm that it will protect the muscle and intramuscular spaces. Some authors agree that the intra abdominal pressure is enough to hold the mesh in space which obeys the principle of Pascal^[12,13]

As an alternative Carbonel et al^[14] presented the use of bone anchoring fixation by using Onlay mesh covering the defect crossing the edge of the iliac crest. But it causes postoperative pain in some cases.

Conclusion

We proposed Petit's Triangle Lumbar Hernia with a tension free repair by placement of two layer mesh. Sublay mesh placement is very important as like laparoscopy (TAPE).the another Onlay mesh placement increases protection on the lower edge of iliac crest whose placement is required in larger defect. It avoids separation of muscle from the triangle. HZ infection involving 12 intercostals nerve of left side may lead to weakness of the muscle and lead to lumbar hernia formation.

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