

Sandwich technique for repair of Primary lumbar hernia: A new method

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Abstract:

Lumbar hernia is a rare entity. It occurs through posterolateral abdominal wall defects. It can be congenital or acquired. We report a 60 years old female patient who presented to our hospital with a right upper lumbar hernia. She underwent repair with a new sandwich technique and had a smooth postoperative course. There is no recurrence during 1 year of follow up. It is a novel idea to strengthen the defect by new technique of sandwiching two prolene mesh between layers of abdomen.

Introduction : Lumbar hernias are quite uncommon as compared to other ventral abdominal wall hernias, with fewer than 300 cases reported over the past 300 years, accounting for less than 1.5% of all abdominal hernias.^(1,2) It is the protusion of intraperitoneal or extraperitoneal contents through a defect of the posterolateral abdominal wall.

In 1672, Barbette first suggested existence of lumbar hernia. Garangeot reported the first case of lumbar hernia in 1731. Petit and Grynfeltt delineated the boundaries of the inferior and superior lumbar triangles in 1783 and 1866, respectively. 20 percent of lumbar hernias are congenital. The remaining are either primarily or secondarily acquired.⁽³⁾ The management of such patients constitutes a surgical challenge. Surgical

treatment depends largely on the type and size of the hernia and both open and laparoscopic techniques can be used with good results.⁽⁴⁾ In our case we have encountered an old lady with primary small lumbar hernia which was managed successfully by a new sandwich technique. Sandwich technique is used to provide strength to the defect because of lack of sufficient anatomical structures for repair of this type of hernia.

Case report : A 60-year-old female patient, presented to the surgical department in DVVPF's Medical college and Hospital with gradually increasing painless and reducible swelling in the right flank for the past 7 years. There was no history of trauma, previous surgery, hematuria, or altered bowel habits. Over the past 3 years, the swelling had become irreducible and painful. On admission, there was a 10x8 cm, non-tender, non-pulsatile and irreducible swelling in the right lumbar region with an expansile cough impulse (Fig.1). The examination of rest of the abdomen, left flank, back and hernia orifices was normal. Ultrasonography revealed a mass of 10x10 cm herniating through defect measuring 1.3 cm noted on the posterior aspect on the right side. A diagnosis of an irreducible right lumbar hernia was made and patient was taken up for surgery. The patient was placed in left lateral position (Fig. 2). The swelling was explored through right flank incision. The retroperitoneal fatty globular mass suggestive of omentum was seen emerging through a narrow constricting ring through superior lumbar triangle (Fig.3). The constricting ring was released and omentectomy was done. First a prolene mesh of 7x5 cm was placed extraperitoneally and fixed (Fig. 4) . Another overlay of 7x5 cm prolene mesh was placed over the latissimusdorsi muscle and fixed (Fig. 6). Skin and subcutaneous tissue was closed after giving negative suction drain (Fig. 7). The immediate postoperative was uneventful. Oral feeds were started on second postoperative day. Drain was removed after 4 days. The patient recovered satisfactorily and was discharged after removal of skin sutures on 10th postoperative day. During the follow-up visit after one month, the operative scar was found to be well healed and the patient was

absolutely asymptomatic. No recurrence during last 1 year of follow up.



Figure 1: External appearance of lumbar hernia



Figure 2: How it looked on OT table prior to surgery



Figure 3: Protuded omental mass before excision



Figure 4: Repair of the defect after excision of omentum, underlay mesh fixation under progress



Figure 5: Apposition of latissimus dorsi muscle after underlay



Figure 6: Overlay of mesh complete



Figure 7: Skin closure with drain in situ

Discussion : Lumbar hernia are relatively rare. They occur commonly in males and are twice more common on the left than the right side. Patients are usually between 50 to 70 years old.⁽⁵⁾ In our case patient was 60 years old ,female and the lumbar hernia occurred on the right side which is uncommon. The lumbar region is an area defined superiorly by the 12th rib, inferiorly by the iliac crest, medially by the erector spinae muscle group and laterally by the posterior border of the external oblique muscle as it extends from 12th rib to iliac crest.⁽⁶⁾ A lumbar hernia occurs most commonly at two sites superior lumbar triangle and inferior lumbar triangle.⁽⁷⁾ The superior lumbar triangle is bounded superiorly by the 12th rib, inferiorly it is bounded by the superior border of the internal oblique muscle, and posteriorly by the lateral border of the sacrospinalismuscle. The deep margin of the superior lumbar triangle is the transversus abdominis muscle and the superficial margin is the latissimus dorsi muscle.^(8,9) According to Hume, the hernia lies beneath latissimus dorsi muscle.⁽¹⁰⁾ In our case, hernia was limiting to superior lumbar triangle of Grynfeltt and pushing latissimus dorsi externally giving rise to bulge.

Surgical repair is the treatment of choice. Various surgical approaches have been described including primary repair, tissue flaps and mesh repair including laparoscopic trans-abdominal and retroperitoneo-scopic approaches.⁽¹¹⁾ In our case, right upper lumbar hernia was successfully managed by interposition of two prolene mesh. One in extraperitoneal space and the second over the latissimus dorsi, respectively. This is known as sandwich technique.

In the view of the relatively rarity of these cases, open approaches to surgery, no procedure has been shown to have a definite advantages over others. Surgical repair of lumbar hernia is difficult and challenging for surgeons. Difficulty in defining the margin of fascial defect, weakness of the involved structures and lack of surgical experience are all taken into consideration during surgical planning. For repair of lumbar hernia, very less literature is available on using sandwich technique.⁽¹²⁾ In our case, we have provided strength to the defect by new technique of

sandwiching two prolene mesh between layers of abdomen and got good result.

Conclusion : Repair of lumbar hernia by sandwich technique is easy and safe. It is required to strengthen the weak muscles of abdominal wall. However, it needs further study to have long term result of sandwich technique in the management of lumbar hernia.

Ethical approval : Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of written consent is available for review by the Editor-in-Chief of this journal.

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