

AS25-8

## Laparoscopic Repair of Inguinal Hernia using Phasix Mesh

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**Background and Aim:** Traditionally inguinal hernias are repaired using synthetic permanent mesh and synthetic complications may downgrade the mesh of the repair. Most of the post-operative recurrence occurred in the first year post-operatively. The introduction of phasix mesh (poly-4-hydroxybutyrate) which absorbable mesh in 14 months gives the chance to form layers of tissue to support the defect. Hereby, we report our initial experience of phasix in laparoscopic repairing of inguinal hernia.

**Methods:** Phasix mesh 15x15 is used to repair inguinal hernia laparoscopically in Medical City of King Saud University, Riyadh, Saudi Arabia.

**Results:** The techniques were done for 3 male patients in May 2016. The mesh is good to manipulate with good memory.

**Conclusions:** The mesh has the principal of tissue you need to use. Longer follow-up is needed to apply the phasix mesh repair in wider scale.

AS26-1

## Laparoscopic hernioplasty of large ventral hernia with transfascial sutures: Short term utility and outcome

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**Introduction:** The laparoscopic approach to repairing ventral and incisional hernias has gained increasing popularity worldwide. The approximation of the hernia defect during laparoscopic ventral hernia repair, prior to mesh fixation, provides a more physiologic and anatomic repair. We reviewed the experience of laparoscopic repair of large ventral hernia (diameter 5cm) at a university hospital in the Nepal with particular reference to patients with massive defects (diameter 15cm) transfascial closure.

**Methods:** A total of 72 patients underwent laparoscopic ventral (incisional or umbilical/paraumbilical) hernia repair between July 2014 and June 2016.

**Results:** The prevalence of conversion to open surgery was 4.2%. The prevalence of postoperative complications was 15.3%. Median postoperative follow-up was 18.2 months. A total of 9.7% cases suffered late complications and 2.8% developed recurrence. Forty-two patients underwent repair of defects 10cm in diameter with no recurrence. Three patients underwent repair of 'massive' incisional hernia (diameter 15cm) with a prevalence of recurrence of 1.4%. Ten patients with a body mass index (BMI) 30kg/m<sup>2</sup> (range, 32-35kg/m<sup>2</sup>) underwent laparoscopic repair without any recurrence.

**Conclusions:** Laparoscopic ventral hernia repair with transfascial suturing can be carried out safely with a low prevalence of recurrence. It may have advantages in obese patients in whom open repair would represent a significant undertaking. Laparoscopic ventral hernia repair may be used in cases of large and massive hernias, in which the risk of recurrence increases but is comparable with open repair and associated with low morbidity.

**Keywords:** Ventral hernia; Laparoscopic repair; Transfascial suture

AS26-2

## The decision about the mesh size in intraperitoneal onlay mesh Repair (IPOM-Plus)

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**Objectives:** This study aimed to evaluate whether before or after of hernia defect closure is thought to be best for the decision about the mesh size in intraperitoneal onlay mesh Repair (IPOM-Plus).

**Material and Methods:** The subjects were 11 patients receiving IPOM-Plus between June 2014 and February 2016, who were made a follow-up CT after surgery. Hernia defect was closed with non-absorbable suture (Size1 Ethibond) at 1-1.5cm intervals, using Lapa-Her-Closure. The mesh size was choiced so as to plus 5cm outward from the hernia defect before closure. We measured the maximum distance of rectus abdominis muscles at follow-up CT after surgery for the index of dilation.

**Results:** 11 patients were included, 3 were males and 8 were females. Their ages ranged from 31.6 to 84.1 years (mean 68.9). Their BMI ranged from 19 to 31.8 years (mean 25.8). The average follow-up period after surgery was 299 days. The average distance of rectus abdominis muscles was 5.8cm, which was just about the average width of hernia defect before closure 6.0cm. In addition, seroma was observed in 2 patients.

**Conclusions:** This study demonstrated that although the hernia defects were closed tightly, many of those were dilated after surgery. For this reason, the mesh size should be choiced with consideration for the size of hernia defect before closure not after. In addition, seroma was observed in 2 patients, although this complication was reported at lower risk in IPOM-Plus.

AS26-3

## Defect stabilization techniques in mesh repair of Ventral hernias

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This presentation focuses on hernia ring management in laparoscopic and open ventral hernia repairs.

To achieve a low recurrence rate, three principles should be followed-

A) Sublay mesh repair B) Adequate mesh size C) Stabilizing the hernia defect. The first two principles are usually taken care of but not the third. Defect ring stabilisation can be done in the following ways.

1. Defect upto 3cm -Primary tension free suture closure of the defect with continuous 2-0 Nylon sutures.

2. Defects between 3-7cm (circular or oval)- Hernia ring sutured to the underlying mesh with interrupted sutures placed circumferentially around the defect margin using a hybrid technique.

3. Defects more than 7cm especially large oval defects with transverse diameter more than 7cm and length of any size- In addition to fixing the circumference of the defect to the mesh, the ring should be loosely darned so as to form a scaffolding or support for the underlying mesh. This prevents the mesh from bulging out through the defect.

4 For multiple Swiss cheese defects, a combination of the above techniques is to be followed- small defects closed primarily; larger defect edges fixed to the mesh circumferentially.

Thus the choice depends on the defect size and the judged tissue tension. If a large ring is not fixed, the mesh will 'tent-out' with time. This leads to a gradual enlargement of the ring, leading to recurrence.

Adopting these principles in the past 15 years, our recurrence rate have improved from 12 to 5%.

AS26-4

## EXPERIENCE WITH CLOSURE AND NON CLOSURE OF DEFECT IN INCISIONAL /VENTRAL HERNIA REPAIR

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**Purpose:** Problems in laparoscopic ventral and incisional repair still persist. In addition to recurrence and postoperative pain there are certain issues still need to be tackled such as seroma and post-operative body image satisfaction. Therefore the study was taken up to compare the safety and efficacy in Laparoscopic Ventral and Incisional hernia repair with and without closure of the hernial defect.

**Methods:** We could select exclusively patients in each group after matching, parameters of age group, range of defect size and body mass index (BMI) and divided into two groups with 30 patients in each group. In one group of patients group A, we closed the hernial defect using partial thickness tension free technique before placing the mesh and in the other group B, we directly placed the mesh over the defect.

**Results:** The mean defect size in-group A was 31.2 sq. cm and 32.4 in group B. In-group A, 14 patients were satisfied with their quality of life and only one patient was not satisfied and this was the case that had developed seroma. In-group B only 3 patients were satisfied with their quality of life but 12 patients were not satisfied. 8 of these had postoperative seroma and 4 patients complained of persistent bulge.

**Conclusions:** We concluded that laparoscopic repair of incisional and ventral hernias with closure of defect followed by mesh reinforcement is an acceptable technique and superior to non closure of defect.

AS26-5

## Trans-Abdominal Pre-Peritoneal (TAPP) approach for ventral hernia repair: An innovative, simple, cost-effective laparoscopic technique

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Laparoscopic Ventral Hernia repair (LVHR) with intra-peritoneal onlay mesh (IPOM) is a well-established procedure for the treatment of ventral hernias. However, it is not without its draw-backs. The intra-peritoneal location of mesh placement has resulted in the use of expensive mesh technology involving a plethora of materials as well as anti-adhesion barriers and coatings. Yet the problem of adhesions to the mesh persists and its sequelae such as intestinal obstruction, mesh erosion, fistulization and mesh migration are still being reported. The cost of barrier meshes and fixation devices available is prohibitive especially in developing countries, and is often the factor responsible for the denial of the benefits of laparoscopic surgery to the economically weaker sections of society.

In this study, we compare an innovative technique for the laparoscopic repair of ventral hernia i.e. Trans-Abdominal Pre-Peritoneal (TAPP) approach, that combines the ideal site of mesh placement i.e. pre-peritoneal plane with a mesh material that has stood the test of time i.e. polypropylene with conventional IPOM. The use of polypropylene brings down the costs significantly while avoiding the risk of intra-abdominal adhesions as the mesh is completely covered by peritoneum.

AS26-6

### Long-term prognosis of laparoscopic ventral hernia repair and short-term results of hernia defect closure cases

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We underwent laparoscopic ventral hernia repair for 128 patients from April 2002 to July 2016. 35 men and 93 women, average age 70.2 years old. We conduct transfascial suture with non-absorbable thread and tacking fixation under 3 ports. Conversion to an open repair was required in 7 cases. The mean operation time was 129 minutes. The complications were 5 seromas that needed treatment, four bleeding, two intestinal injury, two ileus, two liver damage, one mesh infection, one severe asthma attack and upper gastrointestinal bleeding and one port-site recurrence. During a median follow up period of 57 months, recurrence was noted on 5 patients (3.9%).

We performed the hernia defect closure for 24 patients for the prevention of a seroma, mesh infection, a recurrence and bulging, for hernia orifice transverse diameter 8cm or less from October 2013. There was one case that fixation of the mesh was not possible enough because working space became small after a hernia defect closure. We experienced another case that oral intake did not advance to by the pain of the defect closure site postoperatively. Other than them, the complications with the hernia defect closure were absent. The observation period is short, up to 33 months, but there is not the recurrence case to date. It is necessary to observe about the long-term prognosis carefully.

AS26-7

### Laparoscopic primary ventral and incisional hernia repair - comparison of operative variables and outcomes

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**Introduction:** The superiority of laparoscopic repair of ventral and incisional hernia over open repair has been validated by many studies but there is paucity of literature comparing the outcomes of primary ventral versus incisional hernia repair by laparoscopic approach. The aim of our study was to review our experience of laparoscopic repair of primary ventral and incisional hernia and compare the operative variables and short-term outcomes.

**Materials and Methods:** We reviewed the clinical data of 121 patients who underwent laparoscopic ventral and incisional hernia repair from January 2014 to December 2015. Demographics, operative variables and short-term outcomes were compared by using independent sample t test and Chi-square test.

**Results:** Out of 121 patients, 46 (38%) underwent incisional hernia repair and 75 (62%) had primary ventral and recurrent hernia repair. Both groups were similar in terms of mean age, gender distribution and body mass index. Operating time ( $p < 0.017$ ), extent of adhesiolysis ( $p < 0.001$ ), and length of hospital stay ( $p < 0.011$ ) were significantly higher in patients with incisional hernia. Intraoperative complications were more frequent in patients with primary ventral hernias ( $p < 0.264$ ) while postoperative complications were more frequent in patients with incisional hernias ( $p < 0.061$ ), but the difference was not significant. No recurrence was observed in postoperative period.

**Conclusion:** Laparoscopic incisional hernia repair was associated with longer operating time, extensive adhesiolysis, and hospital stay as compared to primary ventral hernias. However, there was no significant difference in complications and short-term outcomes in both groups.

AS28-1

### Laparoscopic Transabdominal Preperitoneal Herniorrhaphy (TAPP) "How It Becomes the Better One"

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Two revolutions in the inguinal hernia surgery have occurred during the past two decades. The first was the introduction of tension-free open mesh repair (OMR) by Lichtenstein et al in 1989. The second revolution was the application of laparoscopic surgery during the early 1990s. A laparoscopic approach is particularly suited for the repair of bilateral or recurrent hernia. There are two standardized techniques for laparoscopic inguinal hernia repair (LIHR): (1) Trans-Abdominal PrePeritoneal (TAPP) and (2) Totally Extra-Peritoneal (TEP) repair. There are advantages and disadvantages of both TAPP and TEP procedures. The transabdominal preperitoneal (TAPP) approach provides an ideal opportunity to evaluate the contralateral side. Laparoscopic confirmation of normal inguinal anatomy without abdominal wall defects may avoid unnecessary anterior inguinal explorations. In addition, identification and repair of an occult contralateral defect can mitigate the need for subsequent herniorrhaphies should the patient become symptomatic. There is no statistically significant difference regarding postoperative complications, particularly recurrence rates and chronic groin pain. It is generally believed that TAPP is easier to teach and learn, although there is no level 1 evidence in the literature to support this belief. We need to generate more data comparing TAPP and TEP by conducting randomized, controlled trials.