

AS2-1

## Using UHS to repair small and middle abdominal incisional hernia: a report of 24 cases

Pei-ge Wang, Xin-gang Peng

Department of Emergency General Surgery, Affiliated Hospital of Qingdao University, China

**Objective:** To summarize the clinical experiences of UHS repair on small and middle abdominal incisional hernia.

**Methods:** The clinical data of 24 cases of small and middle abdominal incisional hernia treated in our hospital from February 2011 to October 2015 were retrospectively analyzed.

**Result:** All cases were healed with no severe complications, 24 cases were followed up and no recurrence during 4-60 months.

**Conclusion:** UHS repair is an ideal surgical procedure for abdominal incisional hernia.

AS2-2

## Double circular suturing technique for large abdominal wall defects

Ying-han Song<sup>1</sup>, Yan-yan Xie<sup>2</sup>, Hong-sheng Ma<sup>1</sup>, Wen-zhang Lei<sup>2</sup>

<sup>1</sup>Day surgery center, West China Hospital of Sichuan University, China

<sup>2</sup>Hernia Center of Department of Gastrointestinal Surgery, West China Hospital of Sichuan University, China

**Background:** It is always difficult to close hernia ring in repairing large incisional hernias and to reconstruct abdominal wall following tumor resections. This study reviews our experience of double circular suturing technique with large abdominal wall defects.

**Methods:** 253 patients with large incisional hernias and 62 patients with abdominal wall tumors underwent surgery from October 2004 through November 2015. Herein, we presented our experience in closure of large abdominal wall defects using a technique in which we fix hernia mesh with double circular sutures. The variables recorded were classified as patient-related (gender, age, obesity, cough, constipation, diabetes mellitus, and abdominal surgical history) and operation-related factors (size and location of defect, recurrence, wound infection, hematoma, and duration of hospital stay).

**Results:** All patients who underwent abdominal wall reconstruction using double circular suturing technique were included in the series. Patient-related demographics were analyzed. The mean size of incisional hernia defect was 15.3±4.9 cm and that of abdominal wall defect following tumor resection was 10.4±3.6 cm. The mean time of operation was 80.8±37.6 and 73.2±31.4 minutes. The mean hospital stay was 5 (3 to 14) days. Nine patients had recurrence and two patients had infected mesh removed in incisional hernia group. One patient had recurrence in abdominal wall tumor group. The mean follow-up period was 6.4 (0.5 to 12.1) years.

**Conclusion:** The double circular suturing technique can be successfully used for large abdominal wall defects with acceptable morbidity.

AS2-3

## Early experience with new composite mesh for ventral hernia repair of small defects by open approach

Hrishikesh P Salgaonkar<sup>1,2</sup>, Karen Chan<sup>1,2</sup>, Sujith Wijerathne<sup>1,2</sup>, Eva L S Clara<sup>1,2</sup>, Lynette M A Loo<sup>1,2</sup>,  
Rajeev Parmeswaran<sup>1,2</sup>, Davide Lomanto<sup>1,2</sup>

<sup>1</sup>Minimal Invasive Surgery Centre, Department of Surgery, National University Hospital Singapore, Singapore

<sup>2</sup>Yong Loo Lin School of Medicine, National University Singapore, Singapore

Recent advancements in ventral hernia repair in past decade have focused on the development of mesh technology. It is debatable if defects < 3 cm should be repaired with laparoscopy or by using mesh as many surgeons still repair small defects without mesh. This has led to development of composite mesh specifically designed for small ventral hernia repair by open technique. There is lack of evidence for their outcomes in literature. Our objective was to verify the safety and feasibility of Parietex Composite ventral patch (Covidien, USA) a composite mesh design made of polyester, covered with hydrophilic absorbable collagen film on surface to minimise tissue adhesions. This is a prospective observational case series. This mesh was used in 15 consecutive patients who opted for open ventral hernia repair for defect size < 3 cm. Patient demographics, operative findings, mesh size, postoperative complications were recorded and compared with 12 patients who opted for standard laparoscopic mesh repair by IPOM technique for similar defect size. Pain scores observed at 6, 12 hours, at discharge, 1 week, 1, 3 and 6 months. Visual Analogue Scale (VAS) used for pain assessment. In open repair group mean operative time was 61.7 mins (27106 mins). No significant pain or recurrence noted within the mean follow-up 6 months, 1 patient developed seroma treated conservatively. These findings were comparable with laparoscopy group. Our initial experience showed the safety and efficacy of this new biomaterial. A RCT may be required for further assessment of this novel mesh.

AS2-4

### Tailored ventral and incisional hernia repair: The clinical outcomes of 584 consecutive patients with different mesh materials and repair methods

Ching-Shui Huang<sup>1,2</sup>

<sup>1</sup>Surgery, Cathay General Hospital, Taiwan

<sup>2</sup>surgery, Taipei Medical University, Taiwan

---

The choice of mesh and repairing method for VIH depends on the size and location of the hernia, patient's risk factors, surgical experience, mesh materials available and the costs. The clinical outcomes of 584 tailored repairs will be presented. Methods: Among the 584 VIH repaired by author from 2004 to 2015, 154 received laparoscopic IPOM repair, 430 received open repair, the later included 143 IPOM (Kugel-Composix, Ventrío ST, Proceed), 94 sublay (retrorectal/ preperitoneal Kugel, Ventrío ST, Proceed), 39 bilayer repair, 57 onlay/interstitial mesh and 35 tissue to tissue repair, 24 IPOM (Ventralex/ PVP) and 38 plug repair (PerFix-light) for small VIH < 2cm. Results: In a follow-up period of one to 11 years, the events rate, recurrence rate and mesh extraction rate of the laparoscopic group were 11%, 6.3% and 1.4%. Open IPOM were 6%, 9.4%, and 3.4%. Sublay were 2.1%, 2.1%, and 1.1%. Double layer were 6%, 0%, and 3%; For small VIH, Ventralex IPOM were 0%, 4.2%, and 0%; Plug group were 15.8%, 5.3%, and 5.3%; Tissue repair group were 5%, 25%, and 0%. Conclusions: Tissue repair has highest recurrence. Sublay augmentation has the lowest recurrence. Laparoscopic IPOM had similar results as open IPOM, both have high events rate with modest recurrence. Events and recurrences may occur late, even 10 years after repair. For small VIH < 2cm, both preperitoneal double layers and IPOM with Ventralex/ PVP were better than plug repair.

AS2-5

### The outcome of laparoscopic repair of an abdominal incisional hernia and our hybrid method of incisional hernia repair

Seiichiro Etoh, Takuo Hasegawa, Mamoru Ishiyama, Masaichi Ogawa, Kazuhiko Yoshida

Department of Surgery, The Jikei University, Katsushika Medical Center, Japan

---

**Background:** We started to perform laparoscopic repair since June 2012. To evaluate the outcome of laparoscopic repair, we compared the outcome of laparoscopic repair and that of open repair in our institutions.

**Method:** We retrospectively reviewed 57 patients who underwent laparoscopic repair (n=21: 37%) or open repair (n=36: 63%) between January 2008 and July 2016. The outcome such as age, gender, size of hernia, operating time, length of hospital stay (LOS), blood loss, morbidity and recurrence were reviewed comparatively.

**Results:** There were no significant differences in terms of age, gender, size of hernia, operating time and LOS. Blood loss is significantly less in laparoscopic repair (P<0.0001). As the morbidity, 2 patients (4%) had surgical site infection (SSI) and 1 patient (2%) had postoperative hemorrhage in open repair, whereas nobody in laparoscopic repair. A recurrence occurred in 3 patients (5%) in open repair and 2 patients (4%) in laparoscopic repair.

**Conclusion:** The outcome of laparoscopic repair is not inferior to that of open repair in short-term follow-up. Laparoscopic repair may be considered as a choice of the procedure, and hybrid method which is combination of laparoscopic and open repair may also be useful.

AS2-6

### A comparison study between Laparoscopic repair and open surgery for curing ventral incisional hernia

De-xin Kang, Wei Liu, Lei Zhang, Hongliang Yu, Ning Ma, Bin Wei

Department of General Surgery, Daqing Oilfield Hospital, China

---

**Objective:** To compare the efficacy and safety between laparoscopic and open surgery of incisional hernia.

**Methods:** A retrospective analysis of 31 patients with abdominal wall incisional hernia from Daqing Oilfield Hospital was initiated including 15 cases in the laparoscopic group and 16 cases in the open group.

**Result:** No significant statistical difference in operation time, hospitalization cost, retention of urine, intestinal injury, postoperative infection and recurrence rate was observed. however, Blood loss, length of stay, postoperative pain in the laparoscope group were significantly superior to the open group. there was statistical difference between two groups. In terms of hospitalization costs, the laparoscopic group was significantly higher than that in the open group, with statistical significance.

**Conclusion:** Operations of both groups are safe and effective, while Laparoscopic surgery has obvious advantages in shorter hospital stay, less intra-operative bleeding and less postoperative pain.

AS2-7

### An investigation about incisional hernia repairs for 5 years

Kei Fujii, Yu Sato, Takehiro Nishiki, Tomonari Kobara, Hiroki Toma, Gen Naritomi, Ichio Hirota, Toru Eguchi

Department of Surgery, Harasanshin Hospital, Japan

**Backgrounds:** Recently many surgeons perform repair of abdominal wall hernias by tension-free technique using various prosthesis in open or in laparoscopic surgery. And operations in consideration of various situation, such as the size of an hernia orifice or the degree of adhesion are demanded. We investigated outcomes of abdominal wall hernia repair in our hospital and considered an operation strategy.

**Methods:** Medical records of patients undergoing incisional hernia repair at Harasanshin Hospital between April 2011 and July 2016 were reviewed. Type of repair technique and prosthesis (mesh), complications and hernia recurrence were recorded.

**Results:** Thirty four patients' (14 males, 20 females) notes were reviewed. Median age was 63 years (range 34-89 years). The average maximum size of the orifice was 11.1cm (range 1.5-20cm). Median operation time was 132 minutes (range 29-415 minutes). The operative methods were various, such as the simple closure method for 4 patients and the tension-free methods for 25 patients (2 Composix meshes, 5 Prolene Soft meshes, 5 C-qur meshes, 13 Parietex Progrid meshes). Laparoscopic repair technique using PCO meshes were performed for 4 patients. A complication of hematoma was admitted for a patient and none of the patients have recurred.

**Conclusion:** An appropriate operation needs to be chosen according to the size of the hernia orifice. We used various meshes, but the frequency of the complication or operation time showed no significant difference. Many cases will be piled from now on, and it's necessary to consider the technique which can be a standard operation.

AS3-1

### Choosing hernioplasty method due to localization and size of hernia defect in case of treatment of postoperative ventral hernias

Tamaz Gvenetadze

Department of Surgery, Acad. O Gudushauri National Medical Center, Georgia

**Background:** Surgical treatment of PVH still appears to be urgent problem due to frequent relapses (30-55%) and high mortality (1-7%) after planned operations.

**Material & Methods:** We chose the hernioplasty method due to localization and size of hernia defect. 125 were operated in 2011-2015 due to PVH of different localization and size. Types of operations performed: "On lay" technique in 68 cases, "Sub lay" - 32 cases, "In lay" - 21 cases, "Sandwich" and Ramires - 4 cases of giant sized PVHs. In case of lumbal hernia we enhanced the size of mesh and fixed it to spinal wide muscle, to inferior edge of costal arch, and to medial edge of rectal muscle at the level of upper spine of ileac bone.

**Results:** Delayed results were studied in 89 patients within 1-5 years. Only in one case we had to remove the mesh due to suppuration of wound and delayed wound healing. Relapse of hernia were found in 2.

**Conclusions:** "On lay" technique is used frequently by many surgeons. This method is believed to be universal as it can be employed during any forms and sizes of PVH. This method can be performed easily but it often results in seroma. Localization of implant by technique of "sub lay" or "in lay" is indicated in case of hernia of little or middle size, located at epi/mezogastric region, and also in case of umbilical hernia. In case of giant hernia "Sandwich" and Ramires technique of localization of implant is indicated.

AS3-2

### Repair of Ventral Hernia Locating on the Abdominal Border

Hiroshi Hirukawa

Department of Surgery, Tachikawa General Hospital, Japan

**Purpose:** To assess the outcomes of our surgical approach to the incisional hernia of the abdominal border.

**Methods and patients:** A defect closure (IPOM plus) was performed in the laparoscopic approach. We employed large mesh at least 5-7cm extending from the edge of incisional hernia in all direction. The mesh extended deep under the diaphragm for subxiphoidal and subcostal hernia and was fixed. A total of 19 consecutive incisional hernia of the abdominal border were operated in the last 5 years in Tachikawa General Hospital, Department of Surgery. Operative procedure, mesh selection, morbidity, mortality and recurrence rate were evaluated.

**Results:** The hernias were located in subxiphoidal (n=3), subcostal (n=9), suprapubic (n=5), right suprainguinal (n=1), and left suprailiac (n=1). Thirteen patients underwent laparoscopic hernia repair, but 2 patients required open procedures because of intra-abdominal dense adhesion. IPOM plus were performed in 10 patients with subxiphoidal (n=3), subcostal (n=2), and suprapubic hernia (n=5). In other 5 patients, Ponsky-Lin technique (n=3), Rives Stoppa technique (n=1), or transverse abdominis muscle (n=1) were performed. After surgery, seroma was developed in 2 patients (10.5%). However, no mesh infection, no mortality, nor morbidity was observed during the follow up period of 750 days (ranging 40-1847 days). The recurrence was observed in 2 (10.5%) patients with subcostal hernias which was repaired by light weight mesh.

**Conclusion:** IPOM plus using large mesh is a safe and effective for ventral hernia repair located on the abdominal border. The use of heavy weight mesh would be recommended for large hernia.