

AS2-7

An investigation about incisional hernia repairs for 5 years

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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

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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

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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.

AS3-3

Laparoscopic repair with transcutaneous closure of defect for large midline incisional hernia extended to bilateral subcostal margins: report of a case

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Laparoscopic repair for incisional hernia extended to subcostal margin may be considered difficult, because it is anatomically adjacent to both rib and diaphragm.

We herein report a case of such patient for whom laparoscopic repair using mesh with transcutaneous closure of defect was successfully carried out.

An 85-year old woman was diagnosed with symptomatic incisional hernia after open cholecystectomy. The physical examination revealed 18cm bulging mass that extended to the bilateral subcostal margin. The computed tomography visualized 14x10 cm fascial defect, and that was confirmed intraoperatively with direct measurement.

The patient was placed in a supine position, and four trocars were introduced (two 5-mm and two 12-mm trocars). Following adhesiolysis, a monofilament thread for closure of defect was transcutaneously fashioned from the left to the right side of the defect using a suture passage device. The interval of each thread was 1 to 1.5cm. All sutures were sequentially tied and the knots were buried subcutaneously.

A 25x20cm composite multifilament polyester mesh was selected in order to obtain 5cm overlap. Mesh fixation was performed by absorbable tacks with additional full-thickness sutures using non-absorbable monofilament.

The postoperative course was uneventful and the patient discharged home.

Follow-up evaluation was done at 1, 3, 6 and 12 months. Computed tomography was performed at 3 and 12 months. There were no clinically or radiographically significant seroma, mesh bulging, or hernia recurrence at each follow-up.

Our proposed surgical technique is safe and suitable for large incisional hernia extended to bilateral subcostal margins.

AS3-4

Laparoscopic IPOM plus- better method for lateral incisional hernia repair

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Lateral incisional hernia repair poses a challenge to any surgeon. The repair is not only the reduction of contents and closure of the defect, but a challenge to deal with the bulge following the weakness of the muscles. In open surgery, it is very difficult to place a sublay or inlay mesh due to proximity of the bony prominences, nerves in the same plane and have an appropriate closure of the defect.

We operated 176 patients with lateral incisional hernia. There were 63 males. Age range was between 22 to 76 years. Primary surgery of open appendectomy was done in 62 patients, LSCS and other gynaecological procedures in 87 patients. 3 patients had hernia following iliac crest graft, 5 urology surgery, one following donor hepatectomy.

All surgeries were done in general anaesthesia. Port placement was decided as per the defect. Careful adhesiolysis was done following which the defect was sutured with intracorporeal continuous nonabsorbable sutures. Dual mesh was used to reinforce the hernia, the size calculated with 3 cms on either side of defect in a nonapproximated defect. External compression was given to the patient with appropriate counselling. Follow-up of month, six months and an year was kept which showed much better cosmetic results. There were no wound infection, recurrence, except of 2 patients forming seroma which were treated conservatively.

AS3-5

Minimally Invasive Approach to Supra-pubic and Non-Midline Lower Abdominal Incisional Hernia an Extended Indication of TAPE Technique

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Objective: TAPE technique has been described for the repair of supra-pubic midline incisional hernia with satisfactory outcome. Our aim is to study the feasibility and safety of repairing non-midline lower abdominal hernia as an extended indication for TAPE technique.

Method: Patients with IPOM ventral hernia repair in all affiliated hospitals of the University of Hong Kong were reviewed. Prospectively collected data were retrospectively analyzed.

Surgical Technique: Peritoneal incision was created just below the defect with pre-peritoneal dissection. Non-adhesive mesh then placed partially intra-peritoneally to cover the defect, and partially cover the whole extra-peritoneal space prepared. Meshes were fixed by tackers for intra-peritoneal part, most inferior fixation points were at peritoneal incision line. Extra-peritoneal part of meshes covered up by the peritoneal flap. Fixation of this part of the meshes was facilitated by the peritoneal flap and subsequent fibrosis and adhesion to the extra-peritoneal structures.

Results: From 1.2008 to 6.2016, among 123 patients reviewed, 3 with lateral lower abdominal hernia requiring extended TAPE repair were included for the analysis with 1 right lower paramedian and 2 post-TRAM flap donor site incisional hernia. All are female patients with mean age of 49.7 years old, mean size of defect was 123.3 cm² and mean follow-up time of 22.2 months. All patients recovered uneventfully and no morbidity or recurrence noted.

Conclusion: Repair of lateral lower abdominal incisional hernia with this novel modified technique is safe and feasible. A larger case series and longer follow-up is required for validation.

AS3-6

Laparoscopic Management of Post operated lower abdomen incisional hernia

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Lower abdomen hernia either after Pfanelstrial incision or midline lower incisional hernia in not uncommon. The management of these hernias are quite challenging and need different approach. Laparoscopic management by making\ creating a peritoneal flap like in TAPP and fixing the mesh at pubic bone is feasible.

AS4-1

Clinical results of Kugel repair for inguinal hernia on 2718 consecutive cases

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Kugel repair is the minimally invasive open transinguinal preperitoneal approach for inguinal hernia. In my series from January 2003 to July 2016, 2718 patients (2389 males and 329 females, average age 55±15) and 2949 lesions with inguinal hernia underwent Kugel repair. The mean operation time was 23±13 min (median 20 min) and the operation time in patients with recurrent hernia (n=150, 40±28 min) was significantly longer than that in patients with primary hernia (n=2799, 22±11 min, p<0.001). Overall, 21 patients (0.7%) recurred after Kugel repair. With respect to complications, intraoperative urinary bladder injury occurred in five cases, massive bleeding in one case, postoperative intestinal obstruction in one case, mesh infection in one case and chronic neuralgia in one case. Four of five cases with urinary bladder injury and one case with postoperative intestinal obstruction were patients with recurrent hernias after preperitoneal prosthetic repairs. Using preperitoneal self-expanding mesh, Kugel repair can cover the entire myopectineal orifice. All types of primary inguinal hernias and recurrent hernias after conventional and Lichtenstein repairs can feasibly be treated by Kugel repair. However, patients with previous preperitoneal prosthetic hernia repairs or a history of prostate cancer surgery should avoid Kugel repair because of the risk of complications due to preperitoneal adhesions.

AS4-2

Mesh fixation with glue versus suture for recurrence and pain in Lichtenstein inguinal hernioplasty

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Objectives: To determine whether glue can reduce postoperative chronic pain, without increasing the recurrence rate, compared with sutures for mesh fixation in Lichtenstein hernia repair.

Methods: We searched The Cochrane Central Register of Controlled Trials, MEDLINE, EMBASE, Web of Science with no language restrictions. Reference lists of identified papers were also checked. All randomised and quasi-randomised controlled trials were considered for inclusion.

Results: Twelve trials with a total of 1987 patients were included in this review. The overall postoperative chronic pain in the glue group was reduced by 37% (OR 0.63, 95% CI: 0.44 to 0.91; low quality of the evidence) compared with the suture group. Hernia recurrence was similar between the two groups (OR 1.44, 95% CI: 0.63 to 3.28; low quality of the evidence). Fixation with glue was superior to suture regarding duration of the operation (SMD -0.37, 95% CI -0.52 to -0.23; moderate quality of the evidence); haematoma (OR 0.52, 95% CI: 0.31 to 0.86; moderate quality of the evidence); and recovery time to daily activities (SMD -0.81, 95% CI: -1.05 to -0.58; moderate quality of the evidence). There were no significant differences between the two groups regard to the adverse events, superficial wound infection, mesh/deep infection, seroma, persisting numbness, postoperative length of stay.

Conclusions: Glue may reduce postoperative chronic pain and not simultaneously increase the recurrence rate, compared with sutures for mesh fixation in Lichtenstein hernia repair.