AS23-5

Laparoscopic transabdominal preperitoneal repair versus mesh plug repair for bilateral primary inguinal hernia: a retrospective observational study

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Background: A few studies comparing laparoscopic and open techniques reported that an open repair with mesh is the optimal operation for unilateral primary hernia. The aim of this study is to compare the outcome of laparoscopic transabdominal preperitoneal repair (TAPP) versus mesh plug repair (MP) for bilateral primary inguinal hernia.
Methods: This was a retrospective study of 102 patients with bilateral primary inguinal hernia between January 2008 and July 2016. Of these patients, 43 underwent TAPP under general anesthesia, while 59 underwent MP under local anesthesia. Clinical characteristics and surgical outcomes were compared between TAPP and MP.
Results: In the TAPP group, patients were significantly younger (64 ± 13 vs 74 ± 10 years, p<0.001) and there were less patients with comorbidity (40 vs 64%, p=0.013). There was no difference in the operation time (101 vs 92 min, p=0.082) and the incidence rate of postoperative complications (12 vs 12%, p=0.97) between the two groups. Recurrence occurred in 1 patient (1.2%) in the TAPP group and 5 patients (4.2%) in the MP group (p=0.17). Wound infection occurred in 1 patient (0.9%) in the MP group. At one month after surgery, there were less patients with pain in the TAPP group (16 vs 31%, p=0.093) and less patients with medication of analgesics (4.7 vs 15%, p=0.074).
Conclusion: TAPP for bilateral primary inguinal hernia is a safe and feasible procedure without increase in operation time, and rates of complication and recurrence.

AS23-6

A prospective comparison of preperitoneal tension-free open herniorrhaphy with laparoscopic preperitoneal herniorrhaphy for the treatment of femoral hernias

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Objective: Though many techniques exist for hernia repair, controversy still exists as to the best management of femoral hernias. Thus, we compare the open preperitoneal approach with the laparoscopic technique for the surgical treatment of femoral hernias.
Methods: In this prospective study, 70 patients with primary unilateral femoral hernias were assigned randomly to a open preperitoneal group (n = 35; 8 males, 27 females) and a laparoscopic group (n = 35; 10 males, 25 females). EasyProsthesis MESH-D10 and EasyProsthesis MESH 15×15 (TransEasy Medical Technology Co., Ltd., China) were used, and all operations were performed by the same surgical team. Patients demographics, recurrence rate, duration of hospital stay, and complications were recorded. The duration of follow-up ranged from 6 months to 24 months.
Results: There were no differences between the groups with respect to surgical time, recurrences, postoperative duration of stay, or wound infection rate. There were no postoperative pain (visual analogue score>4, lasted 3 months) in the laparoscopic group, whereas there were 3 cases (8.6%) in the open group. In the laparoscopic group, there were 5 cases (14.3%) of seroma that occurred 3 and 7 days after operation and lasted 1 month. In the open group, 1 case (2.9%) of seroma occurred 7 days after operation.
Conclusions: Laparoscopic preperitoneal herniorrhaphy appears to be associated with a decreased postoperative pain and a major incidence of seroma formation compared with the open technique in the repair of femoral hernias.

AS24-1

The influence in chronic post-herniotomy pain and quality of life with fixation versus no fixation of mesh in TAPP hernia repair

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Aim: To demonstrate the influence in chronic post-herniotomy pain and quality of life (QOL) with fixation versus no fixation of mesh in TAPP repair. The incidence of chronic post-herniotomy pain and recurrence rate in the follow-up after 6 months were evaluated.
Methods: 72 adult patients with uncomplicated inguinal hernia were randomized into fixation group or non-fixation group. Data analysis included all patients who underwent inguinal hernia surgery at our surgical department within the period from October 1, 2015 to July 31, 2015, who fulfilled the inclusion criteria. Standard surgical technique was used. Return to activity, chronic groin pain and recurrence rates were assessed. QOL was assessed in all patients pre-operatively and at 6 months post-operative follow-up. SF-36 version2 questionnaire was used for QOL assessment.
Results: Seventy-two completed follow-up of 6 months, 40 in non-fixation group and 32 in fixation group. The incidence of moderate to severe chronic groin pain (which was taken as a VAS score ≧ 3) was less in non-fixation group than in fixation group at 6 months post-operative. There was no difference in QOL scores at pre-operatively. But QOL scores was higher in non-fixation group than in fixation group at 6 months post-operative, there was no recurrence in the two groups.
Conclusion: Fixation of the mesh for TAPP repair unnecessary. TAPP repair with no mesh fixation is safe, reduce the incidence of postoperative chronic pain and improve the quality of life.

AS24-2

Chronic Post-Operative Pain Strongly Correlates With Patch Fixation Method Used in Tension-Free Inguinal Hernias Repair Under Local Anesthesia

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Objective: To identify factors associated with post-operative chronic pain in tension-free inguinal hernia repair under local anesthesia.
Methods: The data of 2875 cases of tension-free inguinal hernia repair under local anesthesia, performed in our Hospital from January 2013 to May 2015, were retrospectively analyzed.
Results: A month later, among the 2875 cases, a total of 83 (2.89%) patients reported post-operative pain; Three months later, only 2 cases sill have pains, and the occurrence rate is 0.69%. All the patients with pains have not last over 6 months. Age, gender, type of hernia, occurrence of complications and pre-existing underlying diseases showed no correlation with chronic post-operative pain, while the patch suture fixation method showed significant correlation (P<0.001). Four fixation methods were used: 7-stitch patch fixation (729 cases), 5-stitch patch fixation (622 cases), 3-stitch patch fixation (743 cases), and 0-stitch (bio-gel) patch fixation (718 cases). There were 41, 23, 15, and 4 post-operative pain cases in these groups, corresponding to incidences of 5.62%, 3.36%, 2.02% and 0.56%, respectively. Significant differences in post-operative pain incidence was found among the groups (P<0.001 for 7-stitch group vs. 3- and 0-stitch groups; P<0.001 for 5- or 3-stitch group vs. 0-stitch group). The stitch-free method did not increase postoperative complications.
Conclusion: Multiple factorial analyses demonstrated that patch fixation method is an independent risk factor for chronic pains after tension-free inguinal hernia repair under local anesthesia. Therefore, selection of appropriate patch suture fixation could reduce the incidence of chronic pain.

AS24-3

Treatment of patients with chronic pain after inguinal hernia repair with ultrasound guided radiofrequency ablation: a retrospective analysis of 6 cases

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Objective: To explore the value of clinical application of ultrasound guided radiofrequency ablation in the treatment of chronic pain after inguinal hernia repair.
Methods: To review and analyze the clinical results and follow-up results of 6 patients with chronic pain after inguinal hernia repair, who were treated by ultrasound guided radiofrequency ablation from January 2015 to July 2016.
Results: 6 patients with chronic pain after inguinal hernia repair were treated by ultrasound guided radiofrequency ablation. Pain in 5 cases of them were significantly relived. Complications of hematoma appeared in 1 case, and then operation was performed to remove the hematoma and to place drainage. The pain was significantly relieved at last.
Conclusion: Patients with chronic pain after inguinal hernia surgery can be treated with ultrasound guided radiofrequency ablation, which can reach a curative effect. Complications such as hematoma need to be noticed.

AS24-4

A Meta-Analysis of Postoperation Chronic Pain in Inguinal Hernia Repair Used Material Reduced Mesh Based on Chinese Data

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Objective: To investigate the influence of the material reduced mesh on the postoperation chronic pain in inguinal hernia repair based on Chinese date.
Methods: We retrieved the data from Chinese Knowledge Resource Integrate Database and China Science and Technology Journal Database (between January 1989 and May 2016), such as database and cross check the documents, sieved into Chinese literature at the beginning of 217, which compared material reduced mesh group and highweight mesh group used in inguinal hernia repair. The Meta-analysis was performed using RevMan 5.0 software.
Results: A total of 2006 patients from 14 articles, were included into the study. The incidence of postoperative chronic pain was 14.0% (172/1226) in the highweight mesh group, was significantly higher than the material reduced mesh group (5.9%, 78/1313), Close and the OR value of 0.31 (95% CI: 0.23 ~ 0.43), difference have statistical learning means (P < 0.00001).
Conclusion: Use of lightweight mesh in selection inguinal hernia repair was associated with reducing the incidence of postoperative chronic pain.

AS24-5

The causes and prevention of chronic pain after inguinal hernia repair

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Background: Patients' chronic pain (CP) has become the most important outcomes after hernia surgery.
Methods: We searched data regarding the cause and prevention of CP from Pubmed.
Results: Neuropathic pain is the most important factor. It was reported the classical described nerve course in textbook was present in only about 50% patients. And one of the three important nerves absent is also not uncommon. Several methods have been proposed for the reduction of chronic pain. And the update guideline showed no difference in the development of postoperative chronic pain between ilioinguinal nerve cutting and sparing; Nerve neurolysis may cause pain in Lichtenstein repair. Less chronic pain was associated glue fixation method in open procedure, furthermore, the penetrating fixation methods, such as suture, tack or staple may increase the incidence of chronic pain. However, self-gripping mesh failed to confirm the advantage of this mesh in terms of chronic pain. The use of lightweight mesh was reported to be associated with less postoperative pain, and without increase the incidence of recurrence, although some reports failed to prove this result.
Conclusion: Surgeons should acknowledge and identify the anatomical variation of the vital nerves, use the surgeon's most experienced technique and choose the proper mesh to accomplish the procedure.

AS24-6

Lightweight or Middleweight? A retrospective study on the choice of mesh in the open hernia repair

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Objective: To compare the therapeutic benefits of the light-weight and middle-weight mesh used in the open hernia repair.
Methods: A total of 145 cases of inguinal hernia repair with non-stress in our department from 2011 to 2014 were retrospectively investigated. Two kinds of operations using the lightweight or the middleweight mesh were performed. At 3 mo., 6 mo. and 1 yr after operation, the patients were assessed for chronic pain, foreign body sensation, groin discomfort, uncomfortably pulling sensation by questionnaire and clinical examinations.
Results: The recurrence rates in the LWM group and the MWM group were respectively 1.67% and 1.09%. At 3 and 6 mo. after operation, no significant difference could be respectively identified in the incidence of chronic pain, groin discomfort, uncomfortably pulling sensation and foreign body sensations. At 1 yr after operation, between the LWM and MWM group, there was no significant difference in the VAS score, the incidence of chronic pain (8.51% vs 12.50%), foreign body sensation (4.26% vs 12.50%) and uncomfortably pulling sensation (6.38% vs 5.35%). The incidence of discomfort in inguinal region in the light-weight mesh group was significantly lower than the middle-weight mesh group (P = 0.021).
Conclusion: This study showed that the application of LWM was safe and effective in the open hernia repair, and it could significantly reduce the incidence of discomfort in the inguinal region at 1 year's follow-up. The pore size of the mesh might play a greater role than the weight did.

AS25-1

Are non-crosslinked biologic mesh effective for laparoscopic inguinal hernia repair: Results of a multicenter, non-randomized controlled study

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Introduction: The effectiveness of non-crosslinked biologics for laparoscopic inguinal hernia repair (IHR) is under controversies and most surgeons usually treat them in accordance with the principles to non-absorbable prosthesis. We aimed to determine the long-term hernia recurrence and other clinical data, as well as the preferred implantation position following use of small intestinal submucosa (SIS) compared to lightweight polypropylene for laparoscopic IHR.
Methods: Multicenter, non-randomized controlled study was performed from 05/2012 to 04/2015. 724 hernias, including patient and hernia data, peri- and post-operative clinical data were prospectively evaluated in 6 groups: TEP with SIS (150-indirect, 128-direct), TEP with polypropylene (149-indirect, 150-direct), IPOM with SIS (112-indirect, 35-direct).
Results: Median follow-up exceeded 30 months with all greater than 18 months. There was no significant difference between the patients and the hernia parameters in each group except higher ratio of primary-recurrent in IPOM (P<0.05). Compared to polypropylene, using SIS for TEP indirect IHR showed equivalent data in operation time, seroma formation, surgical site infection, incidence of recurrence and postoperative pain, however higher rate of postoperative feve r (P<0.01). More recurrence occurred in TEP direct IHR with SIS compared to polypropylene (3/128 vs 0/150), and in IPOM with SIS(2/112 for indirect, 5/35 for direct) than TEP regardless of hernia type. All the recurrence was recorded within 14-months postoperatively, without tissue regeneration in hernia defect area because of poor blood supply.
Conclusion: The application of non-crosslinked biologics in laparoscopic IHR is safe, but cautiously applied for huge direct hernia. To obtain a good blood supply, recommend extraperitoneal implantation of non-crosslinked biologics.