AS18-4

Contralateral management of groin during TEP: Perspective from preoperative radiographic study

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Introduction: Due to lack of intraperitoneal observation TEP have less diagnostic capability compared to TAPP. To overcome those deficit, we have adopted preoperative herniography as diagnostic tool. Here we will propose our strategy depend on our series of preoperative herniography.
Object and Results: From 2012, 264 cases of inguinal hernia were undergoing preoperative herniography and subsequent laparoscopic hernia repair. (TEP 242, TAPP 22) Radiographically apparent contralateral hernias were treated simultaneously even if subclinical. (Unilateral 170, Bilateral 94) Mean duration of surgery were 72 minutes for bilateral and 45 minutes for unilatera. During follow up, 2 patients developed contralateral lesion (15, 19 months). Both patients failed to complete TEP for contralateral lesion due to tight adhesion in preperitoneal space and conversion to TAPP or open was needed. Duration of surgery were 86 minutes and 106 minutes respectively.
Discussion: Our results demonstrated that herniographic evaluation before surgery provided lots of information on contralateral side and also revealed that after unilateral TEP dissection of preperitoneal space is difficult in which etiology still unknown. There still must be much more discussion whether treat or observe for subclinical contralateral hernia. However, our result indicated that synchronous repair was easier than metachronous repair carried out after development of clinical hernia. Synchronous bilateral repair can be an acceptable option for TEP even if it is subclinical.
Conclusion: Under herniographic evaluation synchronous bilateral repair can be an acceptable strategy for management of contralateral lesion during TEP.

AS18-5

Profile of contralateral groin hernia in the elderly

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Background: The characteristics of contralateral groin hernia remain uncertain in the elderly. The aim of this study was to evaluate the association between age and type of contralateral groin hernia detected during laparoscopic transabdominal preperitoneal (TAPP) herniorrhaphy.
Methods: We retrospectively evaluated patients' background, intraoperative findings and postoperative complications in consecutive 665 patients who underwent the TAPP repair between October 2000 and December 2015.
Results: The incidence of contralateral hernia significantly increased by age (15.3% for patients less than 60 years, 27.4% for those with 60-69 years, 35.0% for those with 70-79 years and 42.7% for those 80 years or older, $p < 0.001$). Contralateral occult hernia was seen more common in patients 80 years than in patients under 60 years (21.4% vs. 11.6%, $p < 0.001$). The most prevalent form of multiple groin hernia was direct plus indirect hernia in patients less than 80 years (66.7%), whereas inguinal hernia plus femoral and/or obturator hernia in patients 80 years or older.
Conclusions: Present study showed the striking diversity of the type of contralateral groin hernia in the elderly.

AS19-1

Diagnosis and Treatment for Mesh Infection with Bowel Erosion after Open Inguinal Hernia Repair

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Background: Inguinal hernia repairs are the most common elective abdominal wall procedures performed by general surgeons. The use of mesh has become the standard for hernia repair. However, mesh-related complications have become increasingly more frequent. Few reports from the medical literature have presented severe mesh-related complications following open inguinal hernia repair. One of these complications is mesh erosion into bowel. This study was to discuss the diagnosis and treatment for mesh infection with bowel erosion after open inguinal hernia repair.
Methods: From January 2013 to December 2015, 89 cases with mesh infection following open inguinal hernia repair were included, including 7 cases with mesh erosion into bowel. The medical records of these patients were retrospectively reviewed.
Results: Only 1 patient had diagnosed mesh infection with bowel erosion before operation, and 6 patients made a definite diagnosis via laparoscopic exploration. Surgical treatment involved separated bowel from mesh via laparoscopic method, bowel resection or repair (laparoscopic or open methods), primary suture, without replacement of a new mesh. All patients were followed up for a mean period of 21 months (range 14-35 months), no wound infection, intestinal fistula, postoperative pain and recurrence were observed.
Conclusions: The rate of mesh infection due to mesh erosion into bowel is 7.9% (7/89). The diagnosis and treatment of mesh infection with bowel erosion after inguinal hernia repair are complicated. Laparoscopic technology plays a significant role in diagnosis and treatment. Using comprehensive surgical treatment can obtain a satisfactory result.

AS19-2

Surgical treatment combined with debridement and vacuum sealing drainage(VSD) for mesh infection after prosthetic patch repair of inguinal hernia

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Objective: To discuss the surgical treatment and experience of infection after prosthetic patch repair of inguinal hernia for 67 cases.
Methods: The clinical date of 67 cases mesh infection after inguinal herniorraphy in our department from January 2012 to June 2014 were retrospectively analyzed. This group of patients whose wound were not healed after placement of prosthetic patch and local place festered, patch exposed or sinus tract formed after 3~12 months of wound consistently dressing change. They were treated with surgical operation in our department, including removing the infected mesh and surrounding tissues, primary suture and a placement of wound drainage or vacuum sealing drainage (VSD), without replacement of a new patch substitute. After that we recorded and analyzed the wound healing daily.
Results: All patients accepted affected mesh removal successfully. 51 patients got primary healed and the other 16 patients healed delayed after local dressing change due to the superficial infection following stitch removal. The result showed 100% postoperative follow-up of patients over a 6-month period, with no recurrence in this 67 cases.
Conclusions: the treatment of infection after inguinal hernia repair is very complicated, we suggest that the primary suture repair after removing infected mesh with completely debrid.

AS19-3

Relationship with the infection and drainage in the open tension-free herniorrhaphy

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Objective: To detect the negative pressure drainage postoperatively in inguinal hernia free-tension repair on the correlation and effects of postoperative incision infection.
Methods: retrospectively analysis the postoperative infection in inguinal hernia free-tension repair from January, 2011 to March, 2016 of the first affiliated hospital of Chongqing medical university.
Results: there was 1554 patients in this data, the mean age was 60.04±15.84 (13-97 years old), and the mean BMI was 22.65±3.05, among this data include 1352 unilateral inguinal hernia and 201 bilateral, combined 396 hypertension, 119 diabetes mellitus, 44 COPD, and 60 carcinoma. Totally 55 patients occurred infection postoperatively, 30(2.51%) with negative pressure drainage, and 25 (6.93%) without drainage. There was no related between the infection and age, gender, unilateral or bilateral, smoke, BMI, combined base diseases by logistic analysis (P>0.05). but the drainage have related to infection (P<0.05). And the lower infection occurrence and lower postoperative hospital stay with negative pressure drainage postoperatively than control group (P<0.05).
Conclusion: the postoperative negative pressure drainage of inguinal hernia free-tension repair could reduce the infection occurrence.

AS19-4

Management of mesh related infection after inguinal hernia repair: Laparoscopic Technical Challenges

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Introduction: Mesh related infection is rare in inguinal hernia repair. Here we report 10 patients who had mesh infection and managed by laparoscopic assisted method for an infected mesh grafts following inguinal hernia repair.
Methods: All patients were treated by laparoscopic technique. For mesh removal laparoscopic was introduced into the pelvic and to mobilize the adhesion of visceral to the abdominal wall, the grafts were carefully removed and abdominal wall scar tissue was debrided, skin incision was irrigated and a catheter was placed for drainage. For mesh salvaging, the laparoscopic was used to guided the abdomen and then a laparoscopic trocar was inserted to the pre-peritoneal space, suction of the infected fluid was examined for biology study, the antibiotic fluid was used for irrigation, a catheter was placed in the pre-peritoneal space for continuously irrigation and drainage. Local wound care and antibiotics if clinically indicated.
Results: Over a period of 6 years, 10 patients developed infected mesh grafts post-inguinal hernia repair surgery. 7 patients transferred from other hospitals. All patients were successfully treated by our method. Hospital stay is from 2 weeks to 3 months after operation. There were no operative complications.
Conclusion: This series of this study indicates that laparoscopic management of inguinal hernia mesh infection is likely to be successful. The most advantage is to voiding visceral injury during the procedure of mesh removing and salvaging.

AS19-5

Mesh related infection in inguinal and ventral hernia repair: causes and managements

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Mesh related infection after inguinal and ventral hernia repair is a very serious complication. And the management of mesh related infection is a challenge to surgeons. During the past 5 years (2011.1-2016.1) there are 19 inguinal hernias after tension free repair and 6 ventral hernias after mesh repair were got mesh related infection. All the inguinal hernia infection was male patients, age from 67-85 years old. In the ventral hernia mesh related infection patients; there were 2 female patients and 4 male patients, age from 57-81 years old. The main causes of infection of inguinal hernia include seroma, diabetic mellitus. The main causes of infection in ventral hernia repair are seroma, delayed intestinal injury. The managements of mesh related infection are drainage with fluxions, broad spectrum antibiotics, vacuum suction drainage, and mesh removed. All of the infection patients recovered after 1month to 12 month treatments. 2 inguinal hernia and 1 ventral hernia recurrent after mesh removed and re-operation repair with mesh were after the infection controlled 6 months later.

AS19-6

Management of infected and exposed light-weight polypropylene mesh after complex ventral hernia repair

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Introduction: Mesh reinforcement is necessary to decrease hernia recurrence for large and complicated ventral hernias. Historically, synthetic mesh infection often requires mesh removal. We discuss our management and salvage of light-weight polypropylene synthetic mesh infection after ventral hernia repair with mesh in the pre-peritoneal and retro-rectus space.
Methods: We prospectively reviewed our single surgeon retrospective data-base of 493 consecutive patients that underwent complex ventral hernia repair with synthetic mesh reinforcement in the pre-peritoneal and/or retro-rectus space. Follow up was 6-64 months. 41 patients had peri-mesh infection or mesh exposure with infection. Three of these patients had entero-cutaneous fistula formation. Mesh was salvaged in 40 patients utilizing re-operation, closed suction drainage and/or local wound care with short term antibiotic therapy. Mesh was removed in one patient with life threatening abdominal sepsis 6 days after ventral hernia repair. One patient had hernia recurrence.
Discussion: Synthetic mesh infection with mesh removal can lead to high rates of hernia recurrence. Our mesh salvage rate was 98% without long term sequale or antibiotic use. Patients with mesh exposure were healed with delayed primary closure or skin grafting after appropriate granulation tissue formation. All patients had complete wound closure. We had one hernia recurrence in this group, the only patient that had mesh removal to date.
Conclusion: Light-weight synthetic mesh can be salvaged in the midst of mesh infection in complex ventral hernia repair. Mesh salvage leads to lower hernia recurrence rates.

AS19-7

Negative pressure wound therapy for mesh site infection after an incisional hernia repair: a case report and literature review

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Purpose: Herein, we report a case of mesh site infection after an incisional hernia repair that was treated with negative pressure wound therapy (NPWT), and review the relevant literature.
Methods: A 76-year-old female patient presented with a history of 6 abdominal operations, including 3 incisional hernia repairs. The last repair was performed on October 19, 2013. Four months later, intermittent incisional exudation developed. The culture of the exudate was positive for Escherichia coli. After systematic treatment with sensitive antibiotics and local debridement for 3 months, the infection was not well controlled. Thus, we utilized NPWT. The systemic and abdominal symptoms released. Unfortunately, the infection was not completely eliminated 3 months later, and an intestinal fistula appeared. We removed the mesh, continued negative pressure drainage via a urinary catheter, and provided nutritional support for one month.
Results: After 8 months treatment in hospital, the infection and fistula healed, and no new hernia was observed in the following 15 months.
Conclusions: According to our experience and review, NPWT can promote the growth of granulation tissue. If NPWT is applied during the early stage of infection, the majority of patients can achieve good results, and the infected mesh may be salvaged.