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Our experiences of 20 laparoscopic incisional hernia repairs with three type mesh

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We started the laparoscopic incisional hernia repair (LIHR) from 2014 in our institution. LIHRs were performed on twenty patients (6 males and 14 females) from June 2014 to July 2016. These patient's average age is 70years, average BMI is 25.2kg/m², and average size of hernia defect is 12.5cm×7.5cm. Eighteen patients were performed the IPOM-Plus and two patients were performed the IPOM.

The first camera trocar (12mm) is inserted by visually guided Optical View Method. Wide visual field is given us by the EndCAMEleon™ (KARL STORZ®) scope. It makes us easy and secure mesh tacking, especially near the camera ports. The suture for hernia defect is performed by nonabsorbable braided surgical suture with intervals of about 1.5cm. The Parietex™ Optimized Composite (PCOx) mesh (Medtronic®) was placed in first five patients, the PHYSIOMESH™ (ETHICON®) was placed in next four patients, the Symbotex™ Composite Mesh (Medtronic®) was placed in last eleven patients. Mesh covered hernia defect with each 5cm overlaps before closure hernia size. Mesh fixation is performed by absorbable tacking with double-crown technique and nonabsorbable suture fixation.

Four recurrences were observed in just continuous operations. One patient has been performed re-operation, one patient is planning re-operation and two patients are watchful waiting now. All patients with recurrent hernia were operated with same mesh. We suspect the consequence of recurrence and dual side laminated mesh. Two seromas and two surgical site infections were observed.

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LAPAROSCOPIC PLACEMENT OF MESH OF PATENT US9204 955 B2 IN ABDOMINAL HERNIA

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Background: Surgical mesh has been used for most of the abdominal hernia. Laparoscopic manipulator of the mesh is difficult in handling and manipulation. We used a mesh integrated with gripping and fixating threads which has a patent US3204 955 B2.

Patient & Method: The integrated thread mesh are used in inguinal and ventral hernias. The integrated mesh is easily handling by grasping the mesh and furthermore the threads are used to be fixed to the abdominal wall.

Conclusion: The integrated thread mesh is easily to manipulated and threads are used to be fixed to the abdominal wall.

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Durable open repair of flank hernia with onlay mesh and bone anchor fixation

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Background and Aim: Flank hernias (FH) can be divided into congenital, lumbar, and acquired often after previous surgery or trauma. The anatomic proximity of FH to bony prominences presents a challenge in the durable repair of these hernias. We demonstrate our technical aspects of open repair for FH.

Patients: Two patients: an incisional hernia after urological surgery, and a lumbar hernia, respectively, were operated Surgical techniques. The patient is positioned in the full lateral decubitus position. Skin incision is dictated along with the previous incision. The external oblique muscle is widely exposed to secure an adequate (a 5- to 10-cm) overlap of mesh. Then the hernia is inverted, and the defect is reduced as much as possible with sutures. The light weight mesh is placed over the external oblique muscle (onlay), and is fixed inferiorly to the iliac crest with anchor fixations, superiorly to the eighth to twelfth ribs using Deschamps Ligature Carrier, laterally to the latissimus dorsi muscle, and internally to the anterior sheath of the rectus muscle with 2-0 proline. A closed drain is placed before wound closure.

Results: Operative time: 180 and 161 min., respectively. Blood loss: minimal in both cases. Patients were discharged uneventfully postoperative day 10 and 12, respectively. Subcutaneous seroma developed and disappeared without surgical intervention in one patient. No recurrence was seen at the follow-up period of 7 and 9 months, respectively.

Conclusions: Onlay mesh repair with secure fixation to the iliac crest using bone anchor and ribs is feasible for FH.

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Analysis of the occurrence of female pelvic floor hernia patients and the levels of menopause and estrogen

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Objective: To study the relationship between the occurrence of female pelvic floor hernia patients and the levels of menopause and estrogen.

Methods: The female patients with pelvic floor hernia admitted in our hospital were divided into two groups, according to whether they have the menopause or not. The levels of estrogen were detected respectively in the two groups, and the difference was compared and analyzed.

Results: The estrogen levels of patients before and after menopause were significantly lower than normal control groups; ($P < 0.05$). The difference is statistically significant.

Conclusion: Significant decrease of estrogen level is a high risk factor for women with pelvic floor hernia, and also is one of the important reasons for higher incidence of pelvic floor hernia for women after menopause.

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Mesh removal for chronic mesh site infection after incisional hernia repair: three cases report and literature review

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Purpose: Herein, we report three cases of mesh removal for mesh site infection after incisional hernia repair and review the relevant literature.

Methods: The medical records including surgical videos of three patients undergone excision of the mesh for chronic mesh site infection were reviewed. The three patients aged 76, 77 and 58 years old respectively, with a history of six, five and four times open abdominal surgery respectively, including two to three times of hernia repair. Mesh site infection occurred four, two and eleven months later after the last hernia repair respectively, with the formation of sinus or deep abscess for two patients.

Result: The culture of all the three patients was positive. Systematic treatment with sensitive antibiotics, repeatedly debridement and drainage, even negative pressure wound therapy (NPWT) was given for all the patients. But the infection could not be completely cured. Finally, after discussion under the multiple disciplinary team (MDT) and the discussion with patients, excision of the mesh was applied for all the patients under local anesthesia, epidural anesthesia or general anesthesia, with small incision. All the patients were cured smoothly except case 1. Small intestinal fistula was occurred after the removal of the mesh. It took another twenty days to cure the fistula. No new hernia was observed after a follow-up from six months to 24 months.

Conclusion: Excision of the mesh with small incision could be applied safely for patients with chronic mesh site infection.

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Unique Device for Laparoscopic Inguinal Hernia Repair Using ProGrip™ Laparoscopic Self-fixating Mesh

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ProGrip™ laparoscopic self-fixating mesh is composed of numerous microgrips that promote strong self-adherence to the abdominal wall. Due to this property of the mesh, this product does not require a fixation device that may induce pain, and it is useful in decreasing the recurrence of sliding hernia through its strong gripping ability. On the other hand, the drawback of this product is that it is difficult to handle, since it also clings easily to itself and to areas unintended for fixation. A unique device to resolve this issue is presented. Mesh insertion and deployment were performed using two different methods: the folding method and the rolling method. The attachment of ligation threads as a handle at several locations on the edge of the mesh was useful for the deployment of the mesh in both methods. With the rolling method, a thin polyethylene sheet was placed on the microgrip surface and rolled together, and then subsequently inserted into the body. The mesh was then unrolled for deployment such that the polyethylene sheet was sandwiched between the abdominal wall and the mesh. This allowed the operator to make minute adjustments for properly positioning the mesh. Subsequently, by gradually withdrawing the sheet upward and by fixing the mesh to the abdominal wall from the lower portion, the mesh could be fixed at the desired position. A thread for unrolling that is useful for the deployment of the rolled mesh was also developed. The rolling method was especially useful when the workspace was narrow.