AS18-1

The accuracy of ultrasound in taking up clinically occult hernia on the other side of unilateral hernia and the characteristic of bilateral hernia including these occult cases

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Aims: There are some cases of unilateral inguinal hernia diagnosed by patients' symptom and clinical findings, in which the other side is also affected. Ultrasound is a non-invasive modality which is useful for diagnosis of inguinal hernia. The aim of this study was to demonstrate the accuracy of ultrasound in diagnosing and the characteristic of bilateral inguinal hernia.
Patients and Methods: A total of 182 patients with a referral diagnosing inguinal hernia, prospectively underwent an ultrasound examination. All patients underwent surgery, and those findings were compared with ultrasound results. Bilateral cases, including revealed by ultrasound examination were analyzed with BMI, age, and the type of inguinal hernia. Clinical follow up after operation was possible with follow up period ranging from 11months to 40 months.
Results: Ultrasound sensitivity for all was 100% with 100% specificity. 16 bilateral cases, including 4 recurrences were obviously diagnosed by clinical findings and ultrasound examination. 10 bilateral cases were at first diagnosed unilateral by clinical findings, then revealed bilateral by ultrasound examination. All of these 10 cases were confirmed the same by inoperative findings. Total 22 bilateral cases, excluding 4 recurrences consisted of 10 cases with bilateral indirect type, eight cases with bilateral direct type, three cases with right side indirect and left side direct, and one case with right side direct and left side indirect.
Conclusions: This study confirms that ultrasound can accurately diagnose inguinal hernias, including occult bilateral inguinal hernia and both sides were the same type in almost all bilateral inguinal hernia.

AS18-2

The usefulness of preoperative ultrasound scan to detect contralateral groin hernia

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The preoperative evaluation of contralateral groin is important in patients with unilateral hernia. World guidelines for groin hernia management by European Hernia Society recommends ultrasound scan (USS) for the evaluation of suspected or occult groin hernia, with its high sensitivity and specificity, 0.815 and 0.945, respectively. We routinely perform preoperative USS at our institution, expecting preoperative recognition of contralateral groin hernia.
The current study aimed to verify the usefulness of preoperative USS of asymptomatic contralateral groin hernia at our institution. This is a retrospective study of patients undergoing groin hernia repair with transabdominal preperitoneal approach (TAPP) at our institution in 2015.
43 patients with unilateral hernia symptom received preoperative USS in 2015. Patients with bilateral hernia symptoms were excluded.
USS detected contralateral hernias in 8 patients, and 6 of them had hernia findings during laparoscopy. 35 patients had negative USS, however, 6 of them was found hernia during laparoscopy. 3 of them underwent bilateral TAPP.
The sensitivity and specificity of USS to detect contralateral hernia were 0.500 and 0.935, respectively, although they were both 1.00 regarding of symptomatic side of groin in the same patients.
The specificity of contralateral side is favorable, however, the sensitivity is far lower than symptomatic side and requires improvement.
Since USS procedure and documentation depend on each examiner, introduction of standardized USS protocol may improve USS sensitivity. If USS accuracy improves, routine contralateral groin USS would help us managing asymptomatic contralateral groin hernia.

AS18-3

Mesh repair for negative finding sides in laparoscopic hernia surgery: Is it necessary?

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Introduction: Whether routine exploration of contralateral site during laparoscopic herniorraphy is necessary is still under debate. The need of mesh repair for the negative finding site as prevention is even more controversial. We considered the incidence of contralateral metachronous hernia to see if there is any benefit doing prophylactic mesh repair.
Methods: Retrospective analysis of patients who underwent laparoscopic TEP exploration in our institute was performed.
Results: From 2008 to 2012, a total of 247 patients were performed by a single surgeon. Bilateral exploration was completed in 241 (98%) of these patients, of whom bilateral repair was
performed on 17 (7%) patients with positive findings. No mesh repair was done for 224 (93%) patients with negative findings. With a median follow-up of 5 years, 6 recurrences (2%) were noted. 2 (0.8%) direct type of hernias developed on the previously identified "healthy" side without mesh repair. The operation time (mins), VAS and hospital stay length (hours) between exploration according to physical examination/ contralateral positive findings and mesh repair/ contralateral negative findings without mesh repair groups are (103 vs. 140 vs. 104 ; 2.2 vs. 2.5 vs. 2.2 ; 41.7 vs. 40.3 vs. 41).
Conclusions: Bilateral exploration during laparoscopic surgery will not alter hospital stay length and pain score comparing with exploration only according to physical examination. Mesh repair for negative finding contralateral site is optional because of low recurrence rate and longer operation time with increasing pain score after the operation.

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.