

AVS1-1

Optimum layer of preperitoneal dissection for TEP

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Background: In order to recognize anatomical landmarks and to create an optimum space for mesh placement during laparoscopic totally extraperitoneal (TEP) hernioplasty, we have to understand the precise anatomy of the preperitoneal and posterior rectus space. Microanatomical information can be obtained from recent laparoscopic surgery which provides good visualization and magnification of the operative field. Here we show the surgical anatomy of the preperitoneal space for TEP surgery.

Methods: We usually make a single incision in the lower abdomen. After incising the anterior rectus sheath, the transversalis fascia with overlying rectus muscle can be observed and be easily dissected from underlying superficial preperitoneal fascia (PF) covering preperitoneal fat. CO₂ insufflation of preperitoneal space makes a good visualization of posterior wall of the transversalis fascia. This space of Retzius was extended between the pubic symphysis and epigastric vessels. Dorsally the obturator canal can be observed in this space. Beneath the attenuated posterior rectus sheath, superficial PF was opened in the direction of spermatic sheath. The peritoneal edge was identified and hernia sac was isolated from the cord structures dissecting between preperitoneal fat and deep PF. The superficial PF was divided along the epigastric vessels. Then, an optimum space for mesh deployment was created.

Results: The mean operating time was 171 minutes for bilateral hernia. No intraoperative complications other than 10% of peritoneal injury were observed.

Discussion: In order to obtain the optimum layer of dissection, the color of fat tissue and the running pattern of capillary vessels should be carefully observed.

AVS1-2

Standardizations of totally extraperitoneal (TEP) laparoscopic inguinal hernia repair using tumescent anesthesia

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Introduction: For laparoscopic inguinal hernia repair procedures, TAPP is more popular than TEP. This is due to the difficulty of parietalization of the anatomical membrane during operations. The aim of the current study is to show our standardized technique using tumescent anesthesia (t-TEP), and the safety of this technique.

Method: Operative procedures: First the Retzius space was dissected and the pubic bone was identified. After the inferior epigastric vessels had been identified, liquid injection was performed. The injection volume was 1 to 2ml each time. At the lateral side of these vessels, we were able to find the peritoneal edge (PE) more easily than when using traditional TEP procedures. Dissection was continued along the hernia sac. We could easily find the seminal cord and testicular vessels. Finally a 3D soft mesh was inserted and fixed with absorbable tackers. Abdominal observation after operation made it possible to confirm the appropriate mesh fixation. Operation times and complications were compared t-TEP with traditional TEP.

Results: Operation time for t-TEP was shorter than that of the traditional TEP. There was no major damage to the peritoneum during operations and conversions to open repairs. Groin pain was lower in the case of t-TEP.

Conclusion: We suggest that tumescent anesthesia is a safe and practical procedure for TEP, and t-TEP contributes to reduced postoperative pain and shorter operative times.

AVS1-3

One stage three steps laparoscopic treatment for strangulated obturator hernia: totally extraperitoneal repair followed by intestinal resection by hybrid laparoscopic and open surgery

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Although total extraperitoneal preperitoneal repair (TEP) is widely used for inguinal, femoral and obturator hernia treatment, but mesh repair is not routine used for strangulated hernia treatment if intestinal resection is required due to the risk of postoperative mesh infection. Two stage TEP repair in these cases was reported with good results. We reported a case with one stage three steps laparoscopic treatment for strangulated obturator hernia.

A 91 year-old female was diagnosed left incarcerated obturator hernia at other hospital one week ago. She was transferred to our hospital for second opinion. She has history of old TB, but no previous abdominal surgery. She complaint abdominal fullness and blood test showed leukocytosis (WBC 26510/ uL). Abdominal CT revealed an incarcerated left obturator hernia.

She received emergency intraperitoneal laparoscopic exploration under general anesthesia. Three ports were inserted at supraumbilical, and right and left lower lateral abdomen. Intraoperative findings showed incarcerated left obturator hernia, right obturator hernia and bilateral direct inguinal hernia were also found. After reduction the small intestine, strangulated part was found. Then we inserted a new port infraumbilical and created preperitoneal space for TEP repair with two pieces of flat malex mesh (15x10 cm in size) and no peritoneal tear. Finally, we extended the umbilical wound and the small intestine was brought out from the abdominal cavity and resected.

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Laparoscopic repair of an irreducible peri-inguinal hernia diagnosed pre-operatively as spigelian hernia in a morbidly obese patient

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Peri-inguinal hernias are rare defects of ventral lateral abdominal wall, just above the inguinal region. A 79 years/male presented with pain in right lower abdomen during physical activity. A diffuse lump was palpable in right iliac fossa region. No inguinal hernia seen. A CT scan abdomen showed 10 x 14 cm Spigelian hernia with 3.5 cm neck containing bowel loops between the external and internal oblique muscles. BMI was 32.33 kg/m².

Patient underwent laparoscopic mesh repair of right peri-inguinal hernia. One 10/12mm and two 5mm ports were inserted. Small bowel loops were seen herniating into a 4 cm defect. After reducing the contents, pre-peritoneal space was created and defect seen lateral and cranial to deep ring and hernia separate from the cord structures. Defect was covered with a 20 x 15 cm polypropylene mesh. Mesh fixed with absorbable tackers and peritoneum closed. No intraoperative complications were noted. Postoperative period was uneventful. Pain scores were acceptable (1-3). Patient recovered well and was discharged on 2nd postop day. Follow up was uneventful.

In literature there exist hints to peri-inguinal hernias, i.e. direct lateral hernia. We describe a case of peri-inguinal hernia, pre-operatively diagnosed as spigelian hernia in a morbidly obese gentleman. Surgical repair is the definitive treatment and involves mesh repair of the defect. Excellent visualization and magnification offered by laparoscopy allows us to confirm the diagnosis, combined with benefits of low morbidity, faster recovery and short hospital stay. Laparoscopic mesh repair of peri-inguinal hernia is safe and efficacious.

AVS1-5

Rare Hernia Video Presentation: Laparoscopic repair with self-gripping mesh for Ureterosciatic Hernia

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Ureterosciatic hernia is a rarely pelvic hernia and is extremely rare caused of urinary tract infection. We reported sequential urological conservative management and the successful laparoscopic repair with self gripping mesh for symptomatic right ureterosciatic hernia.

A 83 years old female was diagnosed right incarcerated ureterosciatic hernia with pyelonephritis and hydronephrosis. Incarcerated ureterosciatic hernia with pyelonephritis was treated by double J urinary stent and antibiotic therapy. Double J stent was removed after 3 months without recurrence. However incarceration and right flank pain appeared. Double J stent was inserted and incarcerated ureter was reduced. Repeated ureterosciatic hernia was repaired with self gripping mesh laparoscopically. Postoperative course was uneventful for 8 months after surgery.

This video presentation shows intraoperative technique of laparoscopic ureterosciatic hernia repair with self-gripping mesh.

AVS1-6

Laparoscopic Incisional Hernia Repair with Laparoscopic Anterior Component Separation and IPOM repair technique: a Video

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Introduction: Midline closure of defect is desirable in order to improve biomechanics of Abdominal wall, improve posture, improve cosmesis, reduce Seroma rates and possibly, reduce recurrence rate.

Closure of Defect of Hernia is not possible in large defects more than 6 cms or rigidity of Abdominal wall.

In such a situation, Component Separation becomes necessary to facilitate or enable midline closure.

Anterior Component Separation can be done Laparoscopically either as a planned part of Surgery, or even as an on the spot decision, if closure cannot be achieved intra-operatively.

Material: This Video presents the Technique of Laparoscopic Anterior Component Separation in a case of Lower Abdominal Recurrent Incisional Hernia, where Laparoscopic IPOM repair was planned and it was discovered intraoperatively that the defect could not be closed. A total Laparoscopic Repair was done including Anterior Component separation, midline closure of defect and IPOM repair. The patient recovered uneventfully.