

AS3-6

Laparoscopic Management of Post operated lower abdomen incisional hernia

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Lower abdomen hernia either after Pfanelstrial incision or midline lower incisional hernia in not uncommon. The management of these hernias are quite challenging and need different approach. Laparoscopic management by making\ creating a peritoneal flap like in TAPP and fixing the mesh at pubic bone is feasible.

AS4-1

Clinical results of Kugel repair for inguinal hernia on 2718 consecutive cases

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Kugel repair is the minimally invasive open transinguinal preperitoneal approach for inguinal hernia. In my series from January 2003 to July 2016, 2718 patients (2389 males and 329 females, average age 55±15) and 2949 lesions with inguinal hernia underwent Kugel repair. The mean operation time was 23±13 min (median 20 min) and the operation time in patients with recurrent hernia (n=150, 40±28 min) was significantly longer than that in patients with primary hernia (n=2799, 22±11 min, p<0.001). Overall, 21 patients (0.7%) recurred after Kugel repair. With respect to complications, intraoperative urinary bladder injury occurred in five cases, massive bleeding in one case, postoperative intestinal obstruction in one case, mesh infection in one case and chronic neuralgia in one case. Four of five cases with urinary bladder injury and one case with postoperative intestinal obstruction were patients with recurrent hernias after preperitoneal prosthetic repairs. Using preperitoneal self-expanding mesh, Kugel repair can cover the entire myopectineal orifice. All types of primary inguinal hernias and recurrent hernias after conventional and Lichtenstein repairs can feasibly be treated by Kugel repair. However, patients with previous preperitoneal prosthetic hernia repairs or a history of prostate cancer surgery should avoid Kugel repair because of the risk of complications due to preperitoneal adhesions.

AS4-2

Mesh fixation with glue versus suture for recurrence and pain in Lichtenstein inguinal hernioplasty

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Objectives: To determine whether glue can reduce postoperative chronic pain, without increasing the recurrence rate, compared with sutures for mesh fixation in Lichtenstein hernia repair.

Methods: We searched The Cochrane Central Register of Controlled Trials, MEDLINE, EMBASE, Web of Science with no language restrictions. Reference lists of identified papers were also checked. All randomised and quasi-randomised controlled trials were considered for inclusion.

Results: Twelve trials with a total of 1987 patients were included in this review. The overall postoperative chronic pain in the glue group was reduced by 37% (OR 0.63, 95% CI: 0.44 to 0.91; low quality of the evidence) compared with the suture group. Hernia recurrence was similar between the two groups (OR 1.44, 95% CI: 0.63 to 3.28; low quality of the evidence). Fixation with glue was superior to suture regarding duration of the operation (SMD -0.37, 95% CI -0.52 to -0.23; moderate quality of the evidence); haematoma (OR 0.52, 95% CI: 0.31 to 0.86; moderate quality of the evidence); and recovery time to daily activities (SMD -0.81, 95% CI: -1.05 to -0.58; moderate quality of the evidence). There were no significant differences between the two groups regard to the adverse events, superficial wound infection, mesh/deep infection, seroma, persisting numbness, postoperative length of stay.

Conclusions: Glue may reduce postoperative chronic pain and not simultaneously increase the recurrence rate, compared with sutures for mesh fixation in Lichtenstein hernia repair.

AS4-3

TAPP repair: A simple and reliable approach in the management of inguinal hernias

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Background: Inguinal hernia repair is the most frequent operation in general and visceral surgery worldwide. Two revolutions in inguinal hernia surgery have occurred during recent decades. First was introduction of tension-free open mesh repair by Lichtenstein in 1989, which significantly reduced recurrence rates and the second was application of laparoscopic surgery in the treatment of inguinal hernia during the early 1990s, which led to decrease in postoperative pain and faster recovery along with low recurrence rates. In this cost and cosmesis driven world, TAPP can offer a simpler, easy to learn and reliable approach in the management of inguinal hernias.

Material & Methods: A total of 180 patients with inguinal hernia formed the nucleus of this study. Following thorough assessment, TAPP repair of hernia (direct & indirect) was done. Patients were randomized. In half of them defect was covered with non-absorbable mesh and remainder had appropriate size partially absorbable composite mesh. They were followed up post-operatively till 3 months, both clinically and sonologically, for complications like pain, foreign body sensation, recurrence, seroma formation etc.

Results: Mean operating time was 43 minutes. None of the patients had serious adverse outcomes like vascular or bowel injury, mesh infection, need for conversion or, port-site hernia. Recurrence was noted in 5 (2.6%) patients. On comparing the two arms, patients with composite mesh had significantly less pain, foreign body sensation & seroma formation.

Conclusions: It was observed that TAPP, preferably with composite mesh, can serve as easy and reliable alternative to TEP for addressal of inguinal hernia.

AS4-4

Early experience with anatomical mesh for laparoscopic inguinal hernia repair by totally extra-peritoneal approach

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Advancements in laparoscopic inguinal hernia repair over the past decade have focused on development of mesh technology, particularly the non-fixation anatomical mesh to improve clinical outcome and lessen post-operative pain. There is lack of sufficient evidence for their outcomes in literature. Our aim was to verify the safety and feasibility of 3DMax mesh (Bard Davol, USA) 10.3 x 15.7 cm and C-Qur TM CentriFX mesh 10.5 x 16 cm (Atrium Medical, USA), both with unique multi-dimensional design made of polypropylene. This is a prospective observational case series. Both mesh were used in 13 consecutive patients' undergoing laparoscopic totally extra-peritoneal (TEP) inguinal hernia repair. Data collected on patient demographic, EHS classification, operative findings, technique used. Pain scores and signs of complication were observed at 6, 12 hours, at discharge, follow-up visits at 1 week, 1, 3 and 6 months. We used Visual Analogue Scale to assess the pain. 19 3DMaxTM meshes were used in 7 unilateral and 6 bilateral hernias and 20 C-QurTM CentriFX meshes were used in 4 unilateral and 8 bilateral inguinal hernias. Standard 3 port TEP approach was used in all patients except 1 in C-Qur TM CentriFX group who underwent single incision TEP. Pain scores, hospital stay, complications rates were similar in both groups within the mean 6 months follow-up period.

In conclusion, our initial experience showed the safety and efficacy of these new mesh in inguinal hernia repair with anatomical design. A RCT may be required for further assessment of these mesh.

AS4-5

Creation of preperitoneal space by retrograde puncture in laparoscopic inguinal hernia repair

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Objective: To establish a novel method of creating preperitoneal space in laparoscopic totally extraperitoneal hernia repair (TEP) surgery.

Methods: A transverse incision of 1 cm was made below the umbilicus, the anterior rectus sheath was cut open, and then retractors were used to pull open the rectus abdominis muscle. A 5 mm trocar core was inserted through the incision below the umbilicus, muscle, and punctured at about 8 cm below the umbilicus. A 5 mm trocar was then inserted along the core and delivered to the preperitoneal space. By this method, we created the preperitoneal space. From May 2013 to May 2014, a novel retrograde puncture was used to create the preperitoneal space in laparoscopic TEP in 110 patients.

Results: Of the 110 patients, 1 converted to transabdominal preperitoneal (TAPP) due to pneumoperitoneum caused by broken peritoneum during the retrograde puncture, while preperitoneal space was successfully created in the other 109 patients. The mean time of constructing preperitoneal space was 6 min. No complication including vascular damage was found. The preperitoneal space provided sufficient space for TEP.

Conclusion: The novel retrograde puncture is a fast, safe, and reliable method, and a potential standard procedure to create the preperitoneal space in laparoscopic TEP.