ARE THERE ANY DIFFERENCES IN OUTCOME OF INCISIONAL HERNIA REPAIR BY PREPERITONEAL (SUBLAY) MESH IMPLANTATION DEPENDING ON THE PLACE OF THE PREVIOUS LAPAROTOMY?

P Bojovic¹, V Cijan, M Scepanovic, R Duraki, Z Bokun, M Brankovic
¹Clinical Hospital Center Zvezdara, Belgrade, SERBIA

Introduction: Incisional hernia is the frequent and common postoperative complication following abdominal surgery and represent a formidable challenge. The aim of this study was to determine the safety and efficacy of open preperitoneal mesh repair of incisional hernias depending on the place of the previous laparotomy.

Methods: Retrospective study of patients undergoing an open preperitoneal mesh repair of incisional hernias at a district teaching hospital.

Results: From January 2004 to January 2011, all patients who underwent surgical repair of incisional hernias on the different place of the previous laparotomy were recorded. The original operations were bowel related, gynaecological, hepatopancreatico-biliary and aortic aneurysm repair. All patients who underwent repair of incisional hernia with the Rives-Stoppa technique were operated by using polypropylene macroporous flat mesh different size (Herniamesh®, s.r.l. Italy). Data regarding demographics, co-morbidity, complications and hospitalisation were recorded. Patient satisfaction following the operation was also assessed (short-follow up - 1 year).

Conclusion: Preperitoneal (sublay) mesh implantation resulted in an effective herniorrhaphy with low perioperative morbidity and postoperative complications in patients with incisional hernias and were not depending on the place of the previous laparotomy.
ORIGINAL TWO-COMPONENT PROSTHESIS FOR INGUINAL HERNIA REPAIR

T Lubrano¹, C Vidotto¹, A Falcone¹, L Grasso¹, F Ghiglione¹, M Morino¹
¹SCDU Chirurgia Generale I - Università degli Studi di Torino, Azienda Ospedaliera Città della Salute e della Scienza, Torino, ITALY

Purpose: Demonstrate the effectiveness and quality of care of two-component prosthesis in tension-free-sutureless technique.


Patients are divided into two macrogroups:
Table 1
- Group B is divided into 3 subgroups

Table 2
- Groups B meshes have common specifications:
  - Single device made by two-components;
  - Selfstanding;
  - Final outcome: Light Weight Mesh.

All groups are checked at 7 and 30 days by surgical visit and a questionnaire for comfort assessment (Annex 1), and a 60,90, 180, 365 days by telephone interview and questionnaire, about both situations of rest and average/intense activity.

Results: The study, not yet completed, shows similar finding in terms of healing in the two groups of about 98%. Possible complications, such as chronic pain as assessed by VAS (Annex 2), are stable at 0.2% in both macrogroups.

Conclusions: All the ‘two-component Light Mesh’ examined show, compared with standard prosthesis, the same effectiveness. Due to self-standing feature they do not require sutures or different fixing techniques.

The lower weight, ab initio or that resulting after a partial resorption, ensures better performance and greater comfort in the medium and long term, making this meshes especially good for young patients, normal-weight women and dynamic subjects.
LAPAROSCOPIC TREATMENT OF PRIMARY VENTRAL AND INCISIONAL HERNIAS WITH RELIMESH

S Jovanovic¹, V Pejčić¹, N Filipović¹, M Trenkic¹, A Pavlović¹, B Jovanović¹, M Tatic¹, A Jovanovic¹
¹Center for minimally invasive surgery, Nis, SERBIA

**Definition:** Hernia is an opening or weakness in the muscular structure of the wall of the abdomen. This defect causes a bulging of the abdominal wall. This bulging is usually more noticeable when the abdominal muscles are tightened, thereby increasing the pressure in the abdomen.

**Methods and materials:** The mesh is placed from the internal side of the abdominal wall, with the use of a laparoscopic procedure that minimizes the operative trauma and enables fast recovering. According our experience with laparoscopic solving of ventral and incision hernias, we used Relimesh. Meshes (Herniamesh, Italy) made with Polypropylene and ePTFE, used in open techniques and in laparoscopic procedures. They are available in different dimension. We fixed the mesh with non-absorbable suture (Prolene 0) and tackers (Protack).

**Results:** During the period from April, 2010. till June 2011. in Center for minimally invasive surgery Nis, were performed 42 operations of primary ventral (12) and incisional (30) hernias, using Relimesh by laparoscopic techniques. There was one operative complication – intestine lesion, which caused to mesh infection and enterocutaneous fistula The case was solved with mesh extraction and Ramirez tension technique. There were no relapses and fatal outcomes.

**Conclusion:** The Relimesh using in laparoscopic treatment of ventral hernias is technically easy, efficiently and brings a huge benefit for patient.
Introduction: Use of new types of prosthesis for open repair of inguinal hernias have introduced radical changes in surgical treatment. This procedure is not free, however, of adverse events, which may be caused by the implemented synthetic material. An ideal prosthesis, to be compatible and to adapt to the biological characteristics of the organism should ensure excellent structural characteristics, easy utilization and, at the same time, induce a modest foreign body reaction.

Aim: Compare three different types of lightweight mesh by tension-free hernia repair: Herniamesh® Hertra® 6 (48 g/m²), Herniamesh® Hertra® 9 (88 g/m²) and Herniamesh® Hybridmesh® (80 g/m²). Determination of the following influence of the mesh employed on treatment results.

Methods: From January 2014 to October 2014 we observed 150 consecutive male patients affected by primitive or recurrent inguinal hernia. Lichtenstein technique was performed in all patients randomized to three trial groups (H6 – H9 – HY). We stratified patients for ASA score, age, BMI, hernia duration, type of hernia (EHS classification), hernia family history, professional and physical activity, comorbidity. Controlled, scheduled follow-up appointments took place after the 7th day and the 3rd and 6th month, in order to evaluate immediate complications, average analgesic consumption, return to everyday activities, chronic pain occurrence, sieroma and hernia recurrence. Patients were clinically assessed and pain intensity was determined on an analogue-visual scale. Further expected follow-up on 12th and 24th month after surgery.

Results: No statistically significant influence of the type of mesh on the risk of early complications (< 15 days), severe pain intensity (analgesic consumption), the length of hospital stay, time of recovery, or patients' satisfaction with treatment was observed. After 6 months also no statistically significant differences were observed between groups with regard to recurrence rate (H6 1.4% - H9 2.1% - HY 0%) and "foreign body sensation" (H6 vs. H9 OR = 0.30, 95% CI 0.72 - 1.24, p = 0.091 --- H6 vs. HY OR = 0.35, 95% CI 0.69 - 1.199, p = 0.074 --- H9 vs. HY OR = 0.32, 95% CI 0.77 - 1.219, p = 0.253). No statistically significant differences in return to everyday activities. Mean follow up 5.2 ± 3.9 months (range 1 - 9 months).

Conclusions: Preliminary results confirm the effectiveness of the Lichtenstein technique for hernia repair with every types of meshes we used. In particular the use of partially absorbable mesh Hybridmesh®, with his higher compliance and reduced "foreign body sensation", may ensure excellent results in selected patients. It appears that use of a partially absorbable mesh is connected with lower risk of postoperative complications at six months. The immediate results of the study require confirmation in a larger series of patients. It is necessary, however, an observation period increased to assess any real benefits in the medium and long term in terms of adaptability and comfort after surgery, given the timing of partial resorption of the hybrid prosthesis (18 to 24 months).
CO18:10
PASCAL'S LAW IN SURGERY
OF HUGE INCISIONAL HERNIAS
F Abbonante
1Catanzaro City Hospital- Department of Surgery- Plastic Surgery,
Catanzaro, ITALY

Introduction: Pascal's law of fluid pressures - pressure applied anywhere to a body of fluid causes a force to be transmitted equally in all directions; the force acts at right angles to any surface in contact with the fluid ("the hydraulic press" is an application of Pascal's law).

TO HAVE REALLY TENSION FREE TECHNIQUE OF HERNIOPLASTY, is necessary this concept of equally distribution of forces from inside to outside by intrabdominal pressure, is respected. This law is evident only in free meshes placed in retromuscular position (without sutures- SUTURELESS TECHNIQUE). In huge incisional hernias, we have double opposing forces: the intrabdominal pressure and the muscles fascia complex.

Methods: In large incisional hernias of the abdominal wall, following the Rives technique, with the placement of a mesh in retromuscular position, after the closure of the peritoneum and of the posterior wing of the rectus abdominis muscles, in order to avoid contact of the mesh with the viscera, all techniques involve the placement of a lightweight mesh that requires sutures to remains well distributed. But the sutures produces tension in that areas during muscles contraction and there is a bad distribution of forces, which is in contrast with Pascal’s law and which provides a uniform distribution of forces on the whole abdominal wall. With the Sutureless Trabucco's technique, the mesh must remain free in the space between two forces: the intrabdominal pressure and the muscles fascia complex. The mesh during colonization by fibroblasts, fits on muscles and on fascia to improve the strength of containment.

To perform a sutureless technique it is necessary to use a heavy mesh which will stay flat without sutures in retromuscular position.

Results: We present you results about twenty years of SUTURELESS technique in HUGE INCISIONAL HERNIAS

Conclusion: The SUTURELESS TRABUCCO'S TECHNIQUE, in huge incisional hernias is the unique technique which can be considered TENSION-FREE because respects the Pascal's law.
CO22:11
TRABUCCO’S TECHNIQUE IN THE TREATMENT OF INGUINAL HERNIAS-THIRTEEN YEARS
EXPERIENCE
V Pecic, S Jovanovic, N Filipovic, M Trenkic, A Pavlovic,
B Jovanovic, M Tatic, A Jovanovic
1Center for minimally invasive surgery, Nis, SERBIA

Objectives: Trabucco’s technique is sutureless preshaped mesh hernioplasty. The procedure has been successful ever since introduced. The aim is to show results using this technique in the patients operated from 2001-2014.

Material and methods: Retrospectively, we analyzed 1994 patients (ASA I-III) with primary or recurrent unilateral or bilateral groin hernia (Nyhus III-IV) that underwent this repair. We used polypropylene mesh Hertra 1 and Hertra 2, Hertra 6 and Hertra 9 (Herniamesh, Italy). We analyzed choice of anesthesia, operating time, postoperative complications, the need for analgesics, hospitalization time and time before returning to work.

Results: Median age was 59 (21-70). They were 1670 male and 324 female patients. Regional anesthesia was used in 558(28,02%) and local in 1436 (72.97 %) cases. The average operating time was 31 minutes (16-50 minutes). Postoperative complications were noted in 60 (3.06%) patients (44 seromas and 16 hematomas), all treated conservatively. Average hospitalization period was 10 (5-17) hours. 519 (25,96%) patients needed analgesics postoperatively. Patients returned to work after 7 days (5-13 days). There was 12 recurrence in postoperative follow up after 6- 132 months.

Conclusions: Trabucco’s hernioplasty is safe and efficient method in the treatment of inguinal hernias. Minimal operative trauma and tissue dissection, small size of prosthetic material used, reduction in postoperative pain (sutureless method) and early return to working activities makes this method in our opinion a method of choice in the treatment of inguinal hernias.
CO22:16
SUTURELESS TECHNIQUE WITH HYBRIDMESH® PROSTHESIS IN GROIN HERNIAS
F Abbonante
1Catanzaro City Hospital-Department of Surgery-Plastic Surgery, Catanzaro, ITALY

Introduction: According to evolution of material, Sutureless Trabucco technique, normally treated by heavy mesh, is going to use light new Hybrid mesh.

In agreement with the sutureless Trabucco’s technique, in inguinal hernias, we present to you this technique without sutures with the use of HYBRIMESH® prosthesis.

Methods: HYBRIDMESH® is made by 75% of Polylactic acid, an absorbable material and 25% of Polypropylene, a non-absorbable material.

HYBRIDMESH® has a grammage of 80 g/m² and its structure is enough rigid to remain flat in the inguinal region. It does not need sutures to stay flat and well distributed in the “Inguinal box”, the enclosed space described by Trabucco.

Between 18 and 24 months the Polylactic acid is resorbed and fibroblasts have colonized the spaces existing between the remaining mesh of Polypropylene. At the end of this process, the final grammage of residual inert material is only 20 g/m².

Results: We present continuous cases of sutureless hernioplasty by Hybrid mesh ultralight mesh.

Conclusion: Sutureless trabucco technique by ultralight hybrid mesh is safe effective technique with high wellness of patients.
PO:66
RECURRING INCISIONAL HERNIA REPAIR AFTER APPENDECTOMY
V. Kulic¹, M. Matkovic
¹General Hospital Krusevac, Department of Surgery, Krusevac, SERBIA

Purpose: Incisional hernia following appendectomy is a rare complication occurring in less than 0,12% of patients. Recurrence after incisional hernia repair is extremely rare.

Methods: We present a 60-year old male with recurring incisional hernia after open appendectomy. Twentyeight years ago he was operated on because of perforated appendix with wound healing complications. After two years a classic incisional hernia repair was performed in another medical institution. Three years latter he has got a recurrence of hernia.

Results: This year in April, we performed a recurring incisional hernia repair. The hernial sac was dissected and we reduced the omentum within. A piece od Herniamesh 8x15cm was placed on retromuscular space. The oblique muscles were drawn together with stitches and external oblique aponeurosis was sutured continously. Now he is recovered without recurrence of hernia.

Conclusions: Mc Burney incisional hernia is the result of wound infection associated with purulent peritonitis. Too tightly tightened sutures of the muscles and a drain placed through the incision are the common causes. Placed polypropylen mesh in preperitoneal space is a better choice of incisional hernia repair than classic tension technic.
PO:75
RIVES-STOPPA TECHNIQUE FOR LARGE MIDLINE INCISIONAL HERNIA: 10 YEARS OF EXPERIENCE IN A DISTRICT TEACHING HOSPITAL
V. Cijan¹, M. Scepanovic², P. Bojovic³
¹Clinical Hospital Center Zvezdara - Surgery department, Belgrade, SERBIA

Introduction: Incisional hernia is a frequently complication of abdominal surgery and an important source of morbidity with occurrence rate ranging from 2-20% for patients undergoing midline laparotomy. Incisional hernia repair with primary closure techniques were associated with recurrence rates as high as 30–60%. The use of prosthetic materials has diminished reherniation rates markedly to approximately 6–10%. Rives-Stoppa procedure, in which the prosthesis is placed between the rectus abdominis muscle and the posterior sheath, offers excellent results and is the method of choice for the repair of large midline incisional hernias. The aim of this study was to evaluate the outcomes of the Rives-Stoppa hernioplasty performed in a district general hospital for a 10-year period.

Methods: A retrospective-prospective database of 154 patients who underwent repair of large midline incisional hernia (greater than 10 cm in diameter) with the Rives-Stoppa technique using 30 x 30 cm polypropylene macroporous flat mesh – Hernmesh 3 (Herniamesh® S.r.l. Italy), between 2004.-2014. year was maintained. Data regarding demographics, co-morbidity, complications and hospitalisation were recorded. Patient satisfaction following the operation was also assessed.

Results: During the study period, 60 males and 94 females of mean age 59.5 were evaluated; with 74 % of concomitant diseases and median hospitalisation of 9 days. There were 3.25% perioperative complications, 9 patients developed postoperative haematoma, 13% had wound seroma and 3.9% wound infections without mesh removal. Also observed were 2 deep vein thrombosis, 4 partial skin necrosis and 5 patients with chronic pain and abdominal discomfort. The overall postoperative mortality rate was 2.6%. Recurrent hernias had appeared in 8.4% at follow-up. The quality of life after surgery was good for 85% patients, and they were satisfied with the operation.

Conclusion: In summary, results of this study demonstrates that the Rives-Stoppa procedure is a safe, effective method with an acceptably low rate of postoperative complications and remarkably lower recurrence than conventional procedures and therefore is our preferred method for hernia repair in patients with large midline incisional hernias. Surgeon experience and a team approach are important factors in obtaining good results.
PO:111
DISTRICT GENERAL HOSPITAL EXPERIENCE - IS IT EXPENSIVE ALWAYS BETTER
D. Dabic¹, B Maric, V Perunicic
¹General Hospital Cacak - Department of surgery, Cacak, SERBIA

Introduction: Introduction of modern technology and application of new prosthetic materials opened a new chapter in hernia surgery. The purpose of this analysis is to show our experience when it comes to ambulance inguinal hernia surgery by using flat and 3D devices.

Methods: From January 2007 till January 2013, 628 elective unilateral inguinal hernia operations in ambulatory surgery conditions have been done. We used flat mesh Hermesh 3.8x15cm (HERNIAMESH S.r.l. Italy) in the Lichtenstein technique and PHS/UHS systems (ETHICON, Johnson & Johnson co. USA).

Results: 380 (60.51%) patients were operated by using Lichtenstein technique and 248 (39.49%) by using PHS/UHS procedure. Average age of the patients was 64.8 years (20-91). Average duration of the hospitalization was 2.9 hours (2-6). 21 (3.34%) patients had intraoperative problems such as perioperative pain, bradycardia, hypotension and swelling (12 Lichtenstein; 9 PHS/UHS). Average duration of the operation when it comes Lichtenstein technique was 49 minutes (28-65) and when it comes to 3D devices 37 minutes (22-54). In 30 month average follow up period, 29 (4.62%) patients had complications. Seroma had been occurred in 7 (1.11%) cases, 4 after Lichtenstein technique and 3 after PHS/UHS; haemathoma on 10 (1.59%) patients, 6 after Lichtenstein operation and 4 after PHS/UHS technique. Six (0.96%) patients had wound infection, 3 after Lichtenstein and 3 after PHS/UHS technique. Three (0.48%) patients had chronic pain, all of them Lichtenstein technique. Recurrence occurred in 3 (0.48%) cases, 2 after Lichtenstein operation and 1 after PHS/UHS. None of the patients had need for urinary catherisation. Two reintervention were performed after readmission on 2 (0.32%) patients with haemathoma (1 after Lichtenstein and 1 after PHS/UHS). Two (0.32%) seroma (0.32%) were solved with aspiration (1 after Lichtenstein technique and 1 after PHS/UHS) and the others after spontaneous resorption. Mean follow up period was 36 month and 18% of all the patients lost from this period.

Conclusion: Both operation techniques, as well as both types of mesh give excellent results and there were not any significant differences related to the number of complications and postoperative recovery. The advantage of using 3D devices in inguinal hernia is not that significant, so a logical question appears...is the using of 3D devices which are 10x (3D vs. flat mesh) more expensive justifiable. From my point of view, this question will remain unanswered for a long time and time will show the justification of application of certain types of mesh.
PO:162
USING A THREE-DIMENSIONAL BIT SOFT PLUG (PT2 / 3-H3) IN POLYPROPYLENE IN SURGERY FOR PRIMITIVE CRURAL HERNIA AND RECURRENT INGUINAL HERNIA: PRELIMINARY EXPERIENCE
T Lubrano¹, C Vidotto¹, A Falcone¹, L Grasso¹, F. G¹, M Morino¹
¹SDCU General Surgery - University of Turin. Company City hospital and health Science of Turin, Italy

Purpose: The use of plug hard tip in surgery of the wall is related to a significant risk of dislocation and injury deferens, nerves, blood and lymph vessels. The availability of a three-dimensional soft-tipped plug allows innovative surgical solutions in the treatment of femoral hernias and recurrent inguinal hernias. The proper repair of an inguinal hernia recurrence with classical technique can be expected as the positioning of the prosthesis in the preperitoneal by anterior or, more properly, by behind; However, this procedure can present a certain degree of technical difficulty and a greater traumatic impact to the patient. Also in the case of femoral hernias positioning a plug in a conventional anatomical space narrow and full of noble structures exposed to a considerable risk of complications.

Materials and methods: We used a three-dimensional soft-tipped plug (PT2 / 3-H3) in polypropylene in two surgical procedures. In the first case was treated primitive femoral hernia, anterior way, starring at the plug to margins of the breccia.

The second patient was instead suffering from a massive direct suprapubic plurirecidiva right inguinal hernia (R2 recurrence according to the classification EHS).

Also in this case the defect was treated by the insertion of a plug in soft tip sutured to the margins of the defect, without the need to remove the old prosthesis and repackage entirely plastic.

Results: In both patients the repair was performed through an anterior way, local anesthesia (with the possibility of occur during the operation the effectiveness of the repair) and with immediate discharge (get up and go). after 6 month follow-up, there were no recurrences or complications. The evaluation of the comfort to 60, 120 and 180 days (obtained by the administration of the evaluation questionnaire) showed the best results.

Conclusions: The choice of an anterior plastic was efficacious for the treatment of recurrent groin hernia both femoral primitive hernias. Of crucial importance was adequate dissection of the margins of the defect, for completely isolate the sack in order to position the prosthesis with a sufficient overlap of breach. Such technique reduces the time of hospitalization, the technical difficulty of the operation and the associated risk of local complications and iatrogenic injury to the surrounding tissue.
OPEN TENSION-FREE REPAIR OF INGUINAL HERNIA ANALYSIS OF 1136 CASES

CUN HE Liang¹, JIAN-XIONG Tang², JUN Jang³

¹Department of Surgery, Beijing Tongren Hospital, Capital Medical University, Beijing, China
²Huadong Hospital Affiliated to Fudan University, Shangay, China
³Maternal and Child Care Center of Dancheng County, Henan, China

Objective: To evaluate the effects of three operation methods on the open tension-free repair of inguinal hernia. Methods: The 1136 cases between Aug 2005 and Aug 2012 of inguinal hernias after tension-free hernioplasty were analyzed retrospectively. The operating time, total expenses, length of hospital stay, post operation complications, rate of recurrence were compared among the groups. Results: 1136 cases of tension-free hernia repair were successful. The operation methods including Trabucco technique, Rutkow technique, Preperitoneal inguinal herniorrhaphy (PIH). The operating time was significantly shorter in the Trabucco and Rutkow groups. The average hospital expense was significantly lower in the Trabucco group than in the Rutkow and PIH groups. There were no significant differences in recurrence rate, post operative complications, length of hospital stay among three groups. The follow-up rate was 87.8%, follow-up time was 24 months. Conclusions: All of the 3 hernioplasty procedures may achieve ideal effects, characterized with low recurrence rate, minor postoperative pain, quick recovery, short hospital stay and low post-operative complications. It will acquire better curative effect for treating inguinal hernia by selecting repair methods and material using individualized treatment programs, Trabucco technique is one of the best choice. Severe early postoperative pain reliably predicted the likelihood of persisting chronic groin pain.
TEN YEAR EXPERIENCE IN THE OPEN SURGERY INGUINAL HERNIA REPAIR

M. Miladinovic¹, A Kitanovic²

¹General hospital, Surgery ward, Krusevac, SERBIA
²General hospital, Surgery ward, Krusevac, SERBIA

Ten year experience in the open surgery inguinal hernia repair

MD. Milan Miladinovic, general surgeon, General hospital Krusevac, Surgical department, Krusevac, Republic of Serbia, MD A.Kitanovic, MD V.Kulic

The aim of this work is a presentation of our ten year experience in operational treatment of inguinal hernia in district general hospital in which gravitates population of 330,000 inhabitants, as well as to emphasis a positive experience in using polypropylene Herniamesh® S.r.l.Italy meshes, types preshaped polypropylene meshes HTR01, preshaped polypropylene meshes HTR02 and preshaped polypropylene meshes HTR2A.

In this period 4.352 operations of inguinal hernia have been done, from which 317 were women.

Polypropylene meshes in operational treatments of hernia have been used for 14 years. From year to year is noticeable an increase in number of operations with use of meshes in regard to tension techniques since 2004.-2013.year that ratio has been 70%:30%.

Positive experience in using of Herniamesh® S.r.l.Italy materials is reflected through less common appearance of recurrence hernia from 0.3% to under 0.2%. Recurrences appear at patients with big defect in inguinal region, operated under tension techniques without meshes (Bassini, Berliner, Halsted), as well as individuals operated with implantation of the meshes in Liechtenstein technique. Reparation of recurrences was done under implementation of prosthetic material Herniamesh® S.r.l.Italy, preshaped polypropylene rigid or semi-rigid round mesh with eccentric eye PT4R-R, PT4R-S and preshaped polypropylene mesh HTR01, in two layers.

Big inguino-scrotal inguinal sacs were cut above neck and ligated and distal part was left "in situ" and prevented scrotal swelling or collections seroma.

In relation with post operating pain more important difference was not noticed between resection and ligating of the hernia sac, in relation with preparation and suppression of hernia sac in stomach.

Positive experience in using adequate Herniamesh® S.r.l.Italy meshes in reparation of inguinal hernia we see through satisfaction of our patients, which derives because of significantly less post operating pain, which patient often does not have. Patient is mobile soon after the operation considering local anesthesia, minimal post operating complications, short hospitalization, often one day surgery and patient comes back to his everyday activities faster.

In conclusion we cite that we totally accepted the use of prosthetic materials from Herniamesh® S.r.l.Italy program in the inguinal hernia repair, as well as the use of sutureless Trabucco technique in placement of a mesh, because of benefits which are obvious. We are convinced that for properly disposal of inguinal hernia is essential appropriately selected prosthetic material in regard to type of hernia, its size, constitution and gender of the patient.
PO:241
LAPAROSCOPIC INCISIONAL AND VENTRAL HERNIA REPAIR (LIVH): A SINGLE-CENTER EXPERIENCE WITH EPTFE/PP MESH
V. Pappalardo\textsuperscript{1}, M Origi\textsuperscript{2}, P Veronesi\textsuperscript{3}, M Moroni\textsuperscript{4}, P Militello\textsuperscript{5}, F Frattolillo\textsuperscript{6}, R Varale\textsuperscript{7}, W Zuliani\textsuperscript{8}
\textsuperscript{1}Humanitas, Mater Domini, Department of General Surgery, Castellanza, ITALY

Objective: The aim of this retrospective monocenter study is to evaluate the long-term results of laparoscopic treatment of ventral and incisional hernias using a standardized technique, unique surgical equipe and a single type of lightweight laparoscopic dual mesh (Relimesh\textsuperscript{®} - Herniamesh\textsuperscript{®} S.r.l., Chivasso, Italy).

Methods: 34 patients underwent laparoscopic treatment of incisional and ventral hernia between January 2011 and July 2014. The parameters assessed were hernia recurrences, mesh infection, incidence of seroma and post-operative pain. In case of suspected recurrence a CT examination was performed.

Results: The mean follow up was 11.68 (± 5.4) months. Mean age of patients was 64.7 (± 12) years, mean BMI 28.60 (± 2.9), mean ASA score was 2. There were no deaths and only one conversion to laparotomy. The mean operative time was 75.30 (± 42.54 minutes. Major complications, including mesh infection, post-operative peritonitis (bowel injury) and surgical site pain requiring revisional surgery were 0%. Eight patients developed seroma. The mean duration of hospitalization was 2.24 (± 0.8) days. We observed two recurrence (5.88%).

Conclusions: Laparoscopic incisional hernia repair using intra-peritoneal prosthetic mesh is a safe technique with satisfactory long-term outcome, even in large hernia defects and obese patients. We observed encouraging results with decreased risk of abdominal wall infection compared with open surgery.
NEW MONOLITHIC MESH (NET-PLUG®) FOR LATERAL GROIN HERNIA REPAIR

L. D’Amore1, F. Gossetti1, E. Manzi1, S. Mattia1, F. Ceci1, P. Negro1
1Dept. of Surgery P. Stefanini - Sapienza University, Rome, ITALY

Introduction: Mesh plug and Lichtenstein techniques are among the most frequently used hernioplasties. Mesh plug is fast and easy to learn and gets high surgeon’s satisfaction, mainly for the treatment of lateral (indirect) hernias. Although results from large series of mesh plug repair are satisfactory, some criticisms concerning the outcome are still under discussion. Shrunken plug (meshoma) could migrate and erode into surrounding anatomic structures (bladder, bowel), as occasionally reported in the literature. To avoid this complication a new monolithic device has been recently designed and is now available for clinical practice.

Methods: NET-PLUG® (Herniamesh, Italy) is a diverticular shaped extrusion from a flat mesh of polypropylene. The purpose for manufacturing this device is to have a plug and patch in one single mesh without being joined sutures. It is called monolithic because the mushroom shape diverticulum and the mesh are one piece of material. The plug has a neck and a cap. The cap has a much large diameter (25mm) than the neck (15 mm). Soft polypropylene of particular knit structure (macroporous) is used to obtain this diverticulum. The surgeon tests the mesh in the operative field and adjust it in the shape to the posterior wall of the inguinal canal. A keyhole slit close to the plug is performed to permit the passage of the spermatic cord (Fig.1). It can be made medially or posteriorly, according to the position of the spermatic cord. In lateral hernias, the highly, freely, dissected sac is reduced into the cavity. The diverticulum (plug) is then inserted into the internal ring by the surgeon’s finger or a positioner and the flat mesh (patch) is laid on the posterior wall of the inguinal canal overlapping the pubic tubercle. It prevents medial (direct) hernias. NET-PLUG fixation is realized using fibrin or synthetic sealant, paying attention to fix the mesh to the boundaries of the internal ring. Finally the external oblique aponeurosis is reapproximated over the mesh with a continuous suture. In this way NET-PLUG remains placed between the posterior wall of the inguinal canal and the aponeurosis (inguinal box).

Conclusions: NET-PLUG performs a safe and effective plug and patch repair without any risk of mesh migration. NET-PLUG is also indicated for the treatment of recurrent and femoral hernias. In these cases the flat portion of the mesh must be previously adapted in the shape to overlap the hernia defect where the diverticulum (plug) is inserted in.
NONFIXATION TRABUCCO SUTURELESS HERNIA REPAIR OF INGUINAL HERNIA

J X Tang¹, C H Liang², J Jang²

¹Hernia Surgery and Training Center, Huadong Hospital Affiliated to Fudan University, Shanghai, China
²Department of Surgery, Beijing Tongren Hospital, Capital Medical University, Beijing, China

Objective: To evaluate the effects of three operation methods on the open tension-free repair of inguinal hernia. Methods: The 1206 cases between Aug 2005 and Aug 2012 of inguinal hernias after tension-free hernioplasty were analyzed retrospectively in these two hospitals. The operating time, total expenses, length of hospital stay, post operation complications, rate of recurrence were compared among the groups. Results: 1206 cases of tension-free hernia repair were successful. The operation methods including T2, T4 nonfixation Trabucco sutureless technique and OP Trabucco Preperitoneal inguinal herniorrhaphy (PIH). The operating time was significantly shorter in the OP group than T2 and T4 groups. The average hospital expense was significantly lower in the T2 and T4 groups than in OP Trabucco group. There were no significant differences in recurrence rate, post operative complications, length of hospital stay among three groups. The follow-up rate was 87.8%, follow-up time was 24 months. Conclusions: All of the 3 hernioplasty procedures may achieve ideal effects, characterized with low recurrence rate, minor postoperative pain, quick recovery, short hospital stay and low post-operative complications. It will acquire better curative effect for treating inguinal hernia by selecting repair methods and material using individualized treatment programs. The no fixation sutureless Trabucco technique is one of the best choice. Severe early postoperative pain reliably predicted the likelihood of persisting chronic groin pain.