ASP1-7

Impact of 3D laparoscopy on TEP hernia repair

Takeshi Nagahama, Tomoki Aburatani, Chisato Okajima, Yoshitaka Fujimori, Yojiro Okada
Surgery, Kudanzaka Hospital, Japan

Introduction: Recent progress in technology introduced images of 3 dimension into laparoscopic gastrointestinal surgery. Additional sensation of depth greatly contributed to the quality of surgery. However, for TEP hernia repair, most procedure were still carried out by conventional 2D laparoscope. Here we will report our initial series of single incision TEP under 3D laparoscope.
Procedure: Single incision TEP procedure was carried out through 2cm skin incision made at umbilicus. Wound retractor and rubber glove was used to keep pneumatic pressure in the preperitoneal space. All dissection was carried out under laparoscopic observation and there was no blunt dissection. Due to the increased diameter and feature of 3D scope (Olympus 3D Flex Eye) dissection maneuver in the preperitoneal space was a little different from ordinary 2D TEP (Olympus 30 degree 5mm in diameter). Reduction of hernia and repair by mesh was carried out same fashion as original TEP.
Discussion: Adding sense of depth on conventional 2D scope gave us lot more information about boundary space of membrane, fat tissue, vessels, peritoneum, and muscle. Consequently, dissection was precise and easier than conventional 2D scope, while increased diameter of scope resulted more interference and limitation of forceps handling.
Conclusion: TEP under 3D laparoscopy introduced new sensation whereas devices trocar should be more sophisticates.

ASP2-1

Feasibility Of robotic-assisted Laparoscopic Repair Of Different Types Of Hernia: Early Experience Of A Single Center

Tamer Abdelhafez Elbakry[1], Mohamed Soliman Elakkad[1], Nizar Bouchiba[1], John Williams[2], Hany Atalah[2]
[1]*Department of General Surgery, Alwakra Hospital, Hamad Medical Corporation, Qatar*
[2]*Robotic Surgery Division, General Surgery Department, Navicent Health Systems, States of America*

Background: Robotic-assisted laparoscopic hernia repair offers many advantages utilizing endowrist ergonomic movement, depth of perception, 3D magnified high definition images to identify anatomical structures to avoid nerve injury, which eliminate Groin and testicular pain.
Methods: Retrospective analysis of 19 hernia patients operated in AlWakra Hernia Center, Hamad Medical Corporation, Qatar in collaboration with Navicent Health systems Macon, Georgia USA in 2016; group I: 13 inguinal hernia patients, group II: 5 ventral hernia patients (2 para-umbilical hernia & 3 port site incisional hernia), & group III: 1 hiatus hernia patient. They were submitted to robotic-assisted laparoscopic mesh repair of the hernia by da Vinci System, Xi (Intuitive Surgical, USA) using Progrip mesh (Covidien, USA) in group I, Gore Dual mesh (WL Gore & Associates, USA) in group II, & Gore Bio-A mesh (WL Gore & Associates, USA) in group III.
Results: Mean age was 38.8, 52.2, & 54 years, mean operative time was 58.3, 74.4, & 146 minutes for group I,II, & III respectively. One patient (group I) was converted to laparoscopic TAPP due to extensive adhesions. No operative complications recorded. Post-operatively, 1 patient (group II) developed intra-abdominal bleeding from inferior epigastric vessels injury during mesh fixation using fascia closure device He was treated conservatively. Mean length of hospital stay was 1.26 days.
Conclusion: Our early experience revealed that robotic-assisted laparoscopic hernia repair is a safe approach offering better visualization, superior ergonomics, easier intra-corporal suturing. Longer follow up on wider patients range is needed.

ASP2-2

Robotic ventral hernia repair vs laparoscopic repair

Vikas Panwar[1], Mohamed Soliman Elakkad[1], Nizar Bouchiba[1], John Williams[2], Hany Atalah[2]
[1]*Department of Surgery, Max Super Speciality Hospital, India*
[2]*Robotic Surgery Division, General Surgery Department, Navicent Health Systems, States of America*

Robotic surgery for ventral hernia is evolving rapidly. Laparoscopic IPOM (Intra Peritoneal On-lay Mesh) repair has been the gold standard for ventral hernias. We present our early data of Robotic versus Laparoscopic IPOM repair.
We have recently started performing Robotic surgery for Ventral abdominal hernias. Since our follow up is short, we would be comparing the immediate and early (technical) differences between the two types of repair.
In our early experience of 12 patients undergoing Robotic IPOM repair we find that robotic repair is more costly and has longer operative time. The post-operative pain is considerably less on Visual analogue score compared to laparoscopic repair when suturing the mesh to the parities than using tackers and trans-fascial mesh fixation sutures during robotic surgery was done. The hospital stay and return to work showed no significant difference.

ASP2-3

Robotic muscle-aponeurotic rectus plication- Robotic Abdominoplasty

Marco Faria Correa, Taichi Tamura, Shinichi Sou, Tetsuo Maeda, Tomoyuki Wakahara, Kiyonori Kanemitsu, Takurou Yoshikawa, Hiroshi Ashitani, Shinobu Tsuchida, Akihiro Toyokawa
Medical Director- Plastic Surgeon, Plastic Surgery Pte Ltd, Singapore

The author presents his 25 year experience in treating small and median size abdominal wall deformities like ventral hernias, incisional hernias, umbilical hernias and rectus diastasis by doing muscle aponeurotic plication using endoscopic (subcutaneouscopic) methods.With a representative number of patients up to 20 years follow-up presenting with successful results and a series of secondary surgeries for repairing unsuccessful cases, the author presents a deep study of his personal experience as well as a bibliographic review of the different methods of plication, with the use of different sutures materials, abdominal wall CT Scan and linear ultrasound long term evaluation of the efficacy and longevity of the muscle-aponeurotic plication.Also an analysis of the trans-operative findings in secondary cases discussing what kind of sutures and the technique were used in the well succeeded cases and his though of what was the reason for faille in the unsuccessful ones. Pioneer in endoscopy plastic surgery in 1992 the author developed a set of instruments for adapting endoscopic methods to the subcutaneous territory to perform minimally invasive muscle aponeurotic rectus plication.Since 2014 he started with great enthusiasm dedicating to bring the minimally invasive abdominal wall muscle aponeurotic plication/Endoscopic Abdominoplasty to the next level,by using Robotic daVinci Surgical System. So far he has already delivered a few cases of Robotic rectus plication and designed some new instruments to facilitate the method. It is already possible to say that robotic surgery brings important advantages comparing with endocopic methods.

ASP2-4

Robotic Hernia Repair Indian experience

Arun Prasad, Abhishek Tiwari, Mustafa Kamal Salarzai
Department of Minimal Access & Robotic Surgery, Apollo Hospital, India

Introduction: Laparoscopic hernia repair has been widely accepted as a good procedure. However in some patients undergoing robotic abdominal surgery, we see a concomitant ventral or inguinal hernia. Robotic inguinal and ventral hernia repair is a relatively new concept and has been offered to patients.
Material and Methods: Between July 2012 and July 2016, we have had 31 patients who had abdominal wall hernia in addition to the primary problem for which they were undergoing robotic surgery. Patients included those with ventral and inguinal hernias. These patients were those undergoing fundoplication, achalasia surgery, rectopexy, radical prostatectomy and bariatric surgery. For inguinal hernias, robotic TAPP was done with mesh placement and suturing. For ventral hernias, IPOM or extra peritoneal mesh placement was done with suturing.
Results: All patients did well. There were no intraoperative or post operative complications seen. No recurrence has been reported so far.
Conclusion: Patients undergoing robotic abdominal surgery can have robotic mesh repair of a concomitant ventral or inguinal hernia. In inguinal hernias and some ventral hernias staplers are not needed for fixation. Results are comparable to the laparoscopic and open hernia mesh repairs.

ASP2-5

Robotic Surgery & Abdominal Wall Hernia Repair?

Davide Lomanto
Khoo Tech Puat Advanced Surgery Training Centre, Yll Som National University, Singapore

Robotic hernia repair is a novel technique. The advent of robotic surgery has introduced numerous advantages when compared to standard laparoscopic surgery including increased degree of freedom in movements, three-dimensional vision enabling precise suturing, and dissection for mesh placement at difficult angles and to perform complex manoeuvres. By allowing surgeon to performing more challenging types of repairs, such as the endoscopic component separation and pre-peritoneal mesh placement technique potentially eliminating the need for a dual sided mesh or composite mesh, the need of tackers, trans-fascial sutures or mesh deployment devices.
Isolated case reports and retrospective studies have shown robotic technology to be safe and feasible for abdominal wall hernia repair. The use of robotics in ventral hernia repair is still very limited because of the cost associated with the technique. But with proper case selection robotic technology may offer the advantage of lower rate of complications, shorter hospital stay and lower rate of conversion to open particularly for complex cases. Although early results are promising, multi-centre randomized controlled trials and long-term follow up are needed. Cost, experience and outcomes will all likely improve over time as it has with prior technological advances in General Surgery.