



V001 Detailed Uterine Leiomyomectomy Using The Robot (da Vinci Xi)

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Introduction/ Objectives: Robot myomectomy is less bleeding, shorter hospital stay, and shorter postoperative complications than laparoscopic surgery. Some cases of myomectomy is very difficult to approach and to perform operation. so That cases is need to using the robot to detailed operation.

Materials, Casuistry and Methods: 30-year-old, unmarried woman visit to out-patient hospital. She had abdominal discomfort due to two of huge leiomyomas. One was intra-mural type on fundus of the uterus, the other was intra-ligamentary type of left side of uterus. Both leiomyomas are closed to the endometrium and were difficult to approach to perform operation. In this case, detailed operation using the robot can be performed.

Results/Discussion: The patient underwent myomectomy using the robot. Single-port platform on the umbilicus was installed and another 3-ports were maded. Robot's camera were intalled through the single-port platform. The single-port platform is convenient as an assist-port (suction, add/removal of needle, clamper, and gauze) and it is also convenient to remove a resected tumor.

Conclusion: Robotic myomectomy can perform a detailed operation. The mechanism is delicate and traction is delicate also. It is easy to perform narrow and deep area surgery, especially, deep retroperitoneal area, deep parametrial area and area with a lot of blood vessels. This is the value of robotic myomectomy.

V002 Demonstration Of Use Of Near-infrared Fluorescence Imaging In Various Facets Of Urological Surgery

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Introduction/ Objectives: Near-infrared fluorescence (NIRF) imaging is gaining traction in many aspects of surgery. In this video we demonstrate the varied uses of NIRF in Urological surgery and it's use in multidisciplinary surgical cases.

Materials, Casuistry and Methods: 6 cases are demonstrated in this video showing the various uses of NIRF in Urological surgery. NIRF was performed with administration of intravenous (IV) or intra-prostatic indocyanine green (ICG), and subsequent imaging with a proprietary imaging system. In the first case ICG was administered intraoperatively via a ureteric stent during colorectal surgery for clear identification of the ureters. In the second case, ICG was administered during laparoscopic ureterolithotomy via a ureteric stent for easy identification of the ureter as well as localization of the ureteric stone. The third case demonstrates use of NIRF to ensure renal pedicle control in laparoscopic partial nephrectomy where en-masse clamping of the renal hilum was performed. Our fourth case demonstrates the utility of NIRF in performing robotic assisted partial nephrectomy by delineating the lower pole segmental artery vascular supply to allow for selective clamping of the lower pole segmental artery. In the fifth case, super-selective renal artery clamping is performed with the aid of NIRF for zero-ischaemia partial nephrectomy. The sixth case presented shows the use of NIRF to assess the lymphatic drainage of the prostate and identification of possible metastatic lymph nodes during robotic assisted radical prostatectomy and bilateral pelvic lymphadenectomy via intra-corporeal injection of ICG into the prostatic tissue.

Results/Discussion: There were no adverse complications or reactions from the administration of ICG in any of the cases.

Conclusion: With the appropriate equipment, the use of NIRF in the various aspects of urological surgery is show to be feasible and safe. It's potential applications for super-selective arterial clamping, lymphatic drainage mapping and identification of important anatomical structures in challenging surgical cases need further research for outcome measurements but show great promise.

V003 Technique Of Robot-assisted Laparoscopic Bladder Diverticulectomy And Ureteric Reimplantation For A Rare Case Of Left Ureteric Orifice Located Within A Large Bladder Diverticulum

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Introduction/ Objectives: Diverticulectomy may be indicated in the management of large bladder diverticulum due to repeated infection. This can be achieved with minimally invasive techniques using pure laparoscopy or robotic assistance, depending on the complexity of anatomy such as a ureteric insertion within the diverticulum.

Materials, Casuistry and Methods: Four consecutive cases of minimally invasive bladder diverticulectomy within the past 12 months by a single surgeon were reviewed. We selected a rare case of a patient with recurrent infection due to large bladder diverticulum secondary to previous urethral stricture which had been treated. The diverticulum neck was located near the left trigone, with the left ureter inserting within the diverticulum. The patient underwent a robot-assisted bladder diverticulectomy and reimplantation of his left ureter. We present the surgical technique of this case and our clinical outcomes.

Results/Discussion: Robot-assisted bladder diverticulectomy and reimplantation of left ureter was performed with flexible cystoscopic guidance. Preoperative cystoscopy was used to locate the left ureteric orifice and the left ureter was stented. Of the 4 cases of robotic/laparoscopic diverticulectomy, the mean EBL was 137.5 mls and operative time was 275 min. There were no intraoperative complications and the median length of stay was 3 days. Median catheter days was 9.

Conclusion: Bladder diverticulectomy can be performed with either laparoscopic or robotic assistance, depending on the complexity of the anatomy.

V004 Robot Assisted Laparoscopic Adrenalectomy (RALA) For Classic Pheochromocytoma: Surgical Technique, Feasibility, Intraoperative Safety And Perioperative Outcomes

Himesh Gandhi; India

Introduction/Objectives: Laparoscopic adrenalectomy is recommended for adrenal neoplasms with a benign appearance, < 6 cm in diameter and weighing.

Materials, Casuistry and Methods: We present two cases of sporadic classic right pheochromocytoma presenting in 5th decade of the age. Both the patients were optimized for surgery using Alfa-blockers (Prazosin, Phenoxybenzamine) + Beta-blockers (Metoprolol) and if required Calcium channel blockers (nifedipine) at-least 2 weeks prior to surgery. After fulfilling Roizen's Criteria's for preoperative preparation patients underwent right robotic assisted laparoscopic adrenalectomy (RALA) transabdominally. Patient positioning, ports creation are same as in the robotic right kidney surgery. The patient was placed in the left lateral decubitus position. In one patient hybrid lap. technique was used for liver mobilization due to moderate hepatomegaly. Surgical steps are performed as those for laparoscopic procedure with division of the right adrenal vein first approach. The specimen is delivered in a specimen retrieval bag. In both the patients; only once the blood pressure raised upto 200/110 mmHg which was satisfactorily control using labetalol, sodium nitroprusside, esmolol etc. Blood loss was minimal.

Results/Discussion: Horgan et al. were the first who described a robot assisted bilateral transabdominal adrenalectomy. In the literature when doing robotic surgery 0 - 7 % conversion rate to conventional laparoscopy is mentioned. However majority of the studies mention no need for conversion as robotic platform is able to deal with all the intricacies of adrenal surgeries. Also, an uneventful robotic left trans- abdominal adrenalectomy for a right-sided pheochromocytoma has been described in a pregnant patient during second trimester of pregnancy by Podolsky et al. thus proving the safety of the procedure. In our two cases, the procedure was uneventful. Right adrenal vein was easily dissected out with minimal handling of the adrenal gland and clipped using robotic clip applicator. Also aberrant communicating hepatic veins to adrenal can be visualized and ligated thus providing the safest possible approach with excellent vision and dexterity in such confined place. Stability in camera provided by robotic arm is excellent which cannot be matched while doing laparoscopic surgery due to assistance dependence. Both patients recovered well after surgery, were ambulatory after 12 hours of surgery

and went home on post-operative day 2. Classic Pheochromocytoma is always been a challenging case especially on the right side due to mere location of the lesion. Laparoscopic is consider standard of care for benign adrenal tumours < 6cm. However when it comes to Pheochromocytoma the limitations of laparoscopy is evident. No touch technique is very difficult to maintain in laparoscopy in case of pheochromocytoma. Robotic platforms help us to maintain such technique and avoid such BP fluctuations.

Conclusion: Robot assisted laparoscopic adrenalectomy for classic pheochromocytoma is safe and effective technique with minimal handling of the lesion and great outcomes. However, large comparative studies are required to consider it a standard of care and superiority over laparoscopic surgery.

V005 Robot Assisted Laparoscopic Simple Prostatectomy (RALSP) A Feasible Alternative To Conventional Open Surgery Or Two Staged Endoscopic Resection In Case Of Benign Prostatic Enlargement >100gms

Himesh Gandhi; India

Introduction/Objectives: BPE (Benign Prostatic enlargement) has been the most common disease encountered in routine practise of urologist. However when the prostate gland size approaches > 100gms than selection of treatment modalities is very important. This video is to present the management of such cases (>100gms) using robotic platform with excellent intra-operative enucleation of the large prostate.

Materials, Casuistry and Methods: Two such patients having benign prostatic enlargement (>100gms), with no comorbidities, and having PSA < 4ng/ml, were selected for RALSP. First patient was operated using Da Vinci Si robotic platform and second patient was operated using Da Vinci Xi Platform. Age of the patients were 65yrs and 70 years respectively. Port configuration for both the patients was a standard 5 port "Roof Top" configuration, as used for Robotic Radical Prostatectomy. Operative console time was 120 min in first patient, as the patient had a bi-lobed (large lateral lobes) prostatomegaly. Similarly the console time was 180 min in the second patient, as he had a tri-lobed prostatomegaly. Both the case were done using Freyer's Transvesical Simple prostatectomy technique. In second patient O'Connor modification was used for proper lateral lobes enucleation anteriorly. DVC was ligated in both cases with PDS 2-0. Suture Suspension technique (SST) was used with Vicryl 2-0 suture passed through the lobes to be enucleated. Foley catheter was kept in the view all the time for identification of urethro-prostatic junction. After the adenoma was removed the trigonisation of the prostatic bed was done using 3-0 V-Lock sutures. Later vesicostomy was closed with Vicryl 2-0 and Stratofix 2-0 in both patients respectively, Drain was placed in Retzius place. Foley catheter was removed on day 5. Blood loss was < 100 ml in both the patients. Hospital stay was 5 days in first patient & 6 days in second patient.

Results/Discussion: Our result for both the patients treated with RALSP have been very encourgaing especially when selected for ideal candidates (> 100 gms prostate). Both Bi-lobar or Tri-lobar prostatomegaly can be delt with prefect accuracy using robotic platform. Correct plane of dissection between the adenoma and the capsule ensure minimal blood loss and complete enucleation. Ligation of DVC may potentially minimise the blood. Both the patient didnot have any deterioration in the Sexual function as scored on IIEF score. As compared to the comparative study published by Sorokin et al 2017, blood loss in our cases was less than 100ml. None of the patient required Blood transfusion. Improvements in maximal flow rate, International Prostate Symptom Score, quality of life, postvoid residual, and postoperative prostate-specific antigen levels were remarkable as expected from before and after surgery.

However large series of cases is required to substantiate our findings. Also comparison with open simple prostatectomy is required before clearly advocating this technique as a standard of care. However, initial result are very encouraging and it has a definite potential when dealing with such complex benign enlarged prostate glands (> 100 gms) for faster patient recovery, minimal blood loss, shorter length of stay, less chance of urethral stricture rates as common after prolong endoscopic resection and removing the potential risk of TUR syndrome.

Conclusion: Robot assisted laparoscopic simple prostatectomy is a safe and effective treatment for the surgical management of benign prostatic enlargement (> 100gms). It provides excellent vision, pin-point precision and similar functional outcomes to the open approach. It however offers the advantage of reduced hospital stay and reduced blood loss and faster return to work.

V006 Using A Novel Technique Of Intraprostatic Indocyanine-green Administration For Near-infrared Fluorescence For Intraoperative Detection Of Metastatic Lymph Nodes During Robot-assisted Radical Prostatectomy On Da Vinci Systems Without Firefly™ Capability

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Introduction/ Objectives: Near-infrared fluorescence (NIRF) has been widely used in robotic surgery since the introduction of the Firefly technology in the Da Vinci Si and Xi systems, which is not available on the Da Vinci S system. Previous studies have utilised NIRF to identify metastatic lymph nodes during robot-assisted radical prostatectomy (RARP) with high sensitivities and negative predictive values. Here we describe a novel technique of ICG injection and enabling NIRF during RARP on the Da Vinci S system.

Materials, Casuistry and Methods: The trocar placements are as per standard RARP. The only difference is replacing the right hypochondrial 5mm trocar with a 12mm trocar to accommodate a 10mm laparoscope.

After the bladder is taken down from the space of Retzius, the anterior surface of prostate is exposed. A 25G butterfly needle connected to infusion tubing is introduced through the lateral 12mm assistant port. Intracorporeal injection of 1mg (0.5mls) indocyanine green into each side of the anterior surface of the prostate is performed. Radical prostatectomy is then completed in the standard technique before extended pelvic lymphadenectomy. The fluorescent nodal packets are then identified under NIRF imaging using Karl Storz (Tuttlingen, Germany) IMAGE1 laparoscopic camera system. Fluorescent and non-fluorescent nodal packets in the template are removed and sent separately.

Results/Discussion: We performed 2 cases of radical prostatectomy and pelvic lymphadenectomy in D'Amico high risk prostate cancer. A total of seven lymph node packets were removed, of which 3 were fluorescent under NIRF. There was 1 pathologically positive lymph node and it was from the NIRF-fluorescent group. There were no postoperative complications in both patients and they went home well on the second postoperative day.

Conclusion: Using a NIRF-enabled laparoscopic system, we are able to enable NIRF imaging during RARP on the Da Vinci S system. Our intracorporeal technique of ICG injection also avoids the risks of potential tumour seeding compared to percutaneous injection of ICG into the prostate.

V007 Application Of Robotic Surgery (Da Vinci) In The Management Of Breast Cancer- Preliminary Results And Experience Sharing

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Introduction/Objectives: The experience of application of robotic surgery platform in the management of breast cancer was limited. The preliminary results of robotic surgery (da Vinci) in the management of breast cancer was reported in current study.

Materials, Casuistry and Methods: Patients with breast cancer received robotic breast surgeries from March 2017 to July 2018 were searched from robotic breast surgery database at Changhua Christian Hospital, Taiwan. Data on clinico-pathologic characteristics, type of surgery, complications and recurrence were analyzed to determine the effectiveness and oncologic safety of robotic breast surgery. Patient-reported cosmetic outcome result was also obtained.

Results/Discussion: Results: During the study period, a total of 48 robotic breast surgeries were performed in 39 female breast cancer patients, including 9 patients with bilateral disease. Among these 48 robotic breast procedures, 46 were R-NSM related. Among these 46 R-NSM procedures, 39(84.8%) were performed for breast cancer therapeutic consideration, and 7(15.2%) were for risk reducing contralateral prophylactic mastectomy (CPM). Axillary lymph node surgery was performed in 80.5% (37/46) of R-NSM procedures. Thirty-eight (82.6%) of the R-NSM procedures were associated with IBR, and 8 procedures were R-NSM alone. Prosthetic implant insertion was the most frequently (94.7%, 36/38) used breast reconstruction followed by robotic harvested LD flap (5.3%, 2/38) in R-NSM procedures. Axillary lymph node surgery was performed in 80.5% (37/46) of R-NSM procedures. Two patients received R-NSM and IBR with robotic assisted harvest of latissimus dorsi flap

(RAHLDF), and 36 patients received R-NSM and IBR with Gel implant procedures. One patient received robotic assist-ed quadrantectomy for upper outer located large breast cancer and immediate partial breast reconstruction with RAHLDF. The other patient received endoscopic assisted partial mastectomy for upper inner located multifocal breast cancer and immediate partial breast reconstruction with robotic assisted harvest of omen-tum flap.

Among those patients who received R-NSM, the mean operation time for R-NSM (after set-up of robotic breast surgery system) was 115.6 ± 50 mins, and 70.2 ± 23.2 mins for Gel implant reconstruction. The docking time was quickly dropped from 20 mins to 6-8 mins, and the time needed to complete R-NSM could usually be completed within 100mins after accumulated cases' experience. The mean blood loss was 35 ± 37.2 ml. The positive surgical margin rate for R-NSM was 2.6%(1/39), which was superficial margin involvement, and no further surgery was performed. About 10% patients suffered from transit nipple is-chemia change, and no total nipple areolar complex necrosis case was observed. Among those 3 patients who received RAHLDF, it took about 267 mins, 97 mins, and 90 mins to complete the 1st, 2nd, and 3rd RAHLDF, separately. All of them were event free, except seroma formation over the back, which relived after repeat aspiration. No local recurrence, or mortality was found among these 39 patients during mean 8.9 ± 4.2 months fol-low-up. The patient-reported survey shows that 97%(32/33) of the patients who received robotic breast surgery with breast reconstruction satisfied the cosmetic outcome.

Conclusion: From our preliminary experience, robotic breast surgery is a feasible and safe option for some selected indications of breast cancer patients. R-NSM and IBR with Gel implant or RAHLDF were the most frequent performed operations. Bilateral R-NSM could be safely performed in bilateral breast cancer patients or unilateral breast cancer patients combined with CPM.

V008 Introduction And Results As A Safe Operative Procedure For Robotic Gastrectomy

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Introduction/Objectives: Robotic surgery has been widely spread all over the world, but robotic gastrectomy is not common and difficult because of complex anatomy and wide-ranging operation fields. In addition, it had been performed only under a few high-volume centers for reasons of the limitation of national health insurance in Japan, which means medical expenses not covered by insurance. The situation was changed from this April, so we started robotic gastrectomy.

Materials, Casuistry and Methods: We report results and aim to present the methods in detail using da Vinci Si Surgical System. We place five trocars, one is umbilical endoscopy port, and other four ports are placed at the reverse trapezoid, almost fan-shaped. Using the arm number 3, the organ can be lifted up so that sharp lymphadenectomy is able to be done by almost a scissor as the arm number 1 while applying the countertraction by the arm number 2. In order to achieve a clear and bloodless lymphnode dissection while maintaining the oncological safety, we think not only the ultrasonic coagulating scissor but also the electrocautery of the scissor is very essential in robotic surgery. Less postoperative complication such as pancreatic fistula or pancreatitis might be derived from robotic surgery because we can avoid pressing the pancreas during the suprapancreatic dissection of lymph nodes. After that, the Billroth I reconstruction can be performed using da Vinci EndoWrist stapler under stable and inflexible surgical fields without needing help of surgical assistant.

Results/Discussion: Until August 2018, 16 patients with gastric cancer were operated robotic gastrectomy, included 3 total gastrectomy. There was no conversion to open surgery and no conversion to other procedures derived from intraoperative complications, and the overall operation time is gradually decreasing from the 14th case.

Conclusion: We are now on the way of learning curve shortening operation time, but robotic gastrectomy seems to be no less safer and adequate than laparoscopic surgery. We will show our robotic procedures including lymphadenectomy around subpyloric and suprapancreatic area, and reconstruction with several important points in our video.

V009 Preliminary Results Of Robotic Approach In Rectal Cancer Surgery

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Introduction/Objectives: Laparoscopic surgery for rectal cancer is a major method. The difficulties of conventional laparoscopic surgery have been overcome by robotic approach. We evaluate the preliminary outcomes of robotic surgery and present our experience in 41 rectal cancer cases.

Materials, Casuistry and Methods: This is a prospective case series study of 41 patients who underwent robotic surgery (the da Vinci Si version) from November 2016 to July 2018 at Binh Dan Hospital.

Results/Discussion: There were 2 cases of anterior resection (AR), 22 cases of low anterior resection (LAR), 6 cases of ultra-low anterior resection (ULAR), 10 cases of abdominal perineal resection (APR). Mean operation time was 213.7 mins. There was no recording of intra-operative complications. Mean lymph nodes harvested was 11.9 nodes. Post-operative pathology staging included stage I, stage IIA, stage IIB, stage IIIB, stage IIIC and stage IVA had 2, 5, 24, 6, 3, 1 cases, respectively. Distal margin was negative in all patients. Post-operative complications were 6 cases of wound infection, 1 case of urine retention, 1 case of ileus and 1 case of anastomotic leak with conservative treatment. Mean length of stay is 8.2 days.

Conclusion: The use of robotic approach for rectal cancer treatment is a safe and feasible procedure in Vietnam. Further studies are required to determine long-term oncologic and compare perioperative outcomes between open surgery, laparoscopic surgery and robotic surgery for rectal cancer management.

V010 Robotic Surgery: Changing Concept In Urological Malignancy Management

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Introduction/Objectives: Since late 2016, the robot-assisted surgery has been applied in Urology for the first time in Viet Nam. This paper reports the initial 97 cases of robotic radical ablation for urooncological patients using the daVinci SiTM robot system performed at the Department of Urology of Binh Dan hospital.

Materials, Casuistry and Methods: From November 2016 to November 30th 2017, ninety-seven robot-assisted radical ablative procedures for urooncological patients, both upper tract and lower tract, were performed using the daVinci SiTM robotic system. The perioperative outcomes were documented, assessed, and reported.

Results/Discussion: In 52 cases of robot-assisted prostatectomy: mean age: 66.27 (range: 49–80), mean operative time: 237 ± 69 minutes (range: 105-480), pelvic lymphadenectomy in 20 / 52 cases, neurovascular bundles sparing in 17 / 52 cases, mean EBL: 346 ± 205 mL (range: 80 – 1400), mean postop hospital stay: 7.33 ± 4.33 days (range: 2 – 17); In 10 cases of robot-assisted partial nephrectomy (4 AML and 6 RCC tumors): mean age: 34 (range: 32-36), mean tumor size: 34 mm (range: 31-37), mean operative time: 210 minutes (range: 165 - 255), EBL: 50 mL, mean WIT: 15 minutes (range: 10-20), postop hospital stay: 5.5 days (range: 5-6); In 14 cases of robot-assisted radical nephrectomies for RCC tumors: mean age : 55.5 (range: 36-75), mean tumor size (mm) : 75,25 (range: 50-125) , mean operative time: 174.5 minutes (range: 120-270), mean EBL: 713.6 mL (range: 150-2600), mean postop hospital stay: 6.6 days (range: 4-9).

In 11 cases of robot-assisted radical cystectomy and ileal urinary diversion for bladder tumors: mean age: 58 (range: 40-83), mean operative time: 469 minutes (range: 330-660), mean EBL: 436.3 mL (range: 200-600), postop hospital stay: 15.8 days (range: 8-30). In 6 cases of robot-assisted adrenalectomy (1 myelolipoma, 3 Schwannoma, and 2 pheochromocytoma): mean age: 37.5 (range: 26-49), mean tumor size: 34.5 mm (range: 30 - 39), mean operative time: 97.5 minutes (range: 45-150), mean EBL: 75 mL (range: 50-100), postop hospital stay: 8 days (range: 4-12); In 4 case of robot-assisted nephroureterectomy for upper tract TCC tumor: mean age: 54 (range: 47 – 55), mean operative time: 240 minutes (range: 210 – 270), mean EBL: 800 mL (range: 400 - 900), mean postop hospital stay: 6 days (range: 5 - 7).

Conclusion: Robot-assisted surgery, with many advantages over standard laparoscopic surgery thanks to technological innovations has helped the urologist to perform the sophisticated procedures in oncurology. Our initial series of 97 robot-assisted urooncological procedures has achieved encouraging outcomes, leading to changing concept in urological malignancy management. More cases are to be performed in the future.

V011 Transoral Approach To Parapharyngeal Space – Video Demonstration With Correlation Of Key Anatomical Landmarks

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Introduction/Objectives: Trans cervical transparotid approach to pre-styloid parapharyngeal space (PPS) tumors is traditionally used to remove these deep-seated tumors. With development of robotic system, transoral approach to PPS tumor can be performed safely. The aim of this study is to illustrate key trans-oral “inside-out” anatomy of the parapharyngeal space and correlating these features with video demonstration of removal of a pre-styloid parapharyngeal space tumor of salivary gland origin.

Materials, Casuistry and Methods: Transoral dissection of the parapharyngeal space anatomy was performed and visualization of the structures was obtained from both transoral and transcervical perspective. Next, video recording of parapharyngeal space surgery was performed using the Da Vinci Si robot.

Results/Discussion: Key transoral landmarks were identified for safe removal of a benign parapharyngeal space tumor.

Conclusion: Transoral approach to pre-styloid space parapharyngeal space tumors is feasible and safe. Understanding the “inside-out” transoral anatomy with correlation with the trans cervical view is critical for safe adoption of this technique using the robotic system.