Ipsilateral robot assisted laparoscopic ureteroureterostomy in an adult duplex collecting system

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Introduction: Duplex urinary collecting system is a common congenital anomaly in the paediatric population but rarely does it require intervention in an adult cohort. The superior moiety ureter is commonly associated with pathology. We describe an innovative technique of robot assisted laparoscopic ipsilateral ureteroureterostomy with side to side anastomosis.
Case: This is a case of a 26-year-old male who presented with an obstructing calculus in the mid superior moiety ureter in a duplicated collecting system. A sequalae of the obstruction led to a symptomatic stricture unresponsive to endoscopic interventions (including laser endoureterotomy).
Results: After retrograde insertion of ureteric stents and guidewires for intraoperative identification, the robot surgical system was docked. The duplicated collecting system was identified in its common sheath proximally. A side-to-side ipsilateral ureteroureterostomy was performed thus bypassing the stricture in the superior moiety ureter. Operative time was 140 mins and estimated blood loss 50 mls. There were no post-operative complications. The JJ stents were removed after 4 weeks. Follow up CT urography at **3 months** demonstrates excellent continuity and no residual hydronephrosis. The patients reports excellent symptomatic recovery.
Conclusion: This teaching video shows appropriate positioning and operative technique for a robot assisted side-to-side ureteroureterostomy. Our minimally invasive method is a feasible and safe approach to repair of a duplex collecting system with a symptomatic ectopic ureter.

Robotic-applied versus assistant applied clips in robotic assisted radical prostatectomy (RARP)-an analysis of efficacy, efficiency and cost

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Introduction: The performance of RARP is rendered somewhat challenging by the need for the bed-side surgical assistant to apply self-locking surgical clips. The daVinci Xi® system (Intuitive Surgical®, USA) allows application of clips under direct control of the console surgeon. This study aims to compare the efficacy, efficiency and cost-effectiveness of both techniques in RARP.
Methods: Twenty videos of RARP cases were divided into two groups; Group 1 being robotically applied and Group 2 being manually applied. Unique redistribution of operating instruments was utilized to maximize robotic clip application efficiency (which will be presented in the video). Review of all videos assesed number of successfully/dropped clips, and time for application of all clips. Costs were analysed. Statistical analysis was performed using student-t test.
Results: Mean number of clips used was 14 in Group 1 versus 10.9 in Group 2, $p < 0.05$. Mean number of clips dropped was 0.8/5.3% versus 2.3/21.9%, $p < 0.05$. Mean time for application was 16 minutes, 53 secs. versus 20 minutes 54 secs, $p > 0.1$. Average time per effective clip application was 73.2 seconds versus 119.6 seconds, $p < 0.05$. Cost analysis shows that an average of €686 was spent versus €490.50, $p < 0.05$.
Conclusions: Effective clip application is more efficient and quicker when performed robotically. Gross cost of robotic clip application is higher, due mainly to the greater number of clips used. This data has led to an immediate change in surgical practice, further increasing speed of application and reducing costs. Ongoing analysis of the data from this new scenario is being undertaken.

Antegrade total glans resurfacing for malignant and benign conditions of the penis; video demonstration of operative technique

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Introduction: Total glans resurfacing is a well-established operation for malignant, pre-malignant and benign lesions of the glans penis. The conventional technique utilises a retrograde approach to the removal of the glans skin and subcutaneous tissues, starting at the urethral meatus and working proximally in four quadrants. We present a video demonstration of the antegrade approach to glans resurfacing, beginning sub-coronally and working distally toward the urethral meatus.
Objective: To provide a video demonstration of the antegrade approach to total glans resurfacing of the penis.
Results: Antegrade total glans resurfacing begins in a similar manner to a standard circumcision. The entire glans skin is dissected off the penis in continuity with the foreskin, taking care not to cut too deep into erectile tissue, or get into a superficial plane and leave any disease behind. This produces a single intact specimen which is then orientated for the pathologist. The glans penis is resurfaced using a split thickness skin graft from the anterior aspect of the thigh. The graft is placed directly on to the defect without meshing, secured proximally and distally, and anchored in place with quilting sutures.
Discussion: The main advantage of this technique is the resultant single intact specimen produced. The single specimen can aid the pathologist in accurate histological analysis of the specimen, which is crucial in decision-making for the future management of each patient. This video demonstrates an operative technique which is achievable for genitourinary surgeons and which provides excellent oncologic, functional and aesthetic outcomes for patients.

Xi Robotic versus laparoscopic Anderson-Hynes pyeloplasty in adults: a single surgeon experience

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Introduction: Robotic reconstructive minimally invasive surgery is becoming very attractive option because of easier intra-corporeal suturing and shorter learning curve. Aim of this study is to compare a similar cohort of patient undergoing robotic and laparoscopic Anderson –Hynes pyeloplasty for pelvi-ureteric junction obstruction (PUJO) in adults and describe our technique step by step.
Methods: Patients undergoing Robotic assisted laparoscopic pyeloplasy (RALP) was compared with a similar cohort of patients who underwent laparocopic pyeloplasy (LP). A lateral trans-peritoneal approach was used in all cases. All anastomoses were stented antegrade. We describe our technique step by step in the video presentation. A diuretic renogram was obtained in all patients between three to six months after stent removal. Success was defined as a resolution of symptoms with non-obstructive outflow on the renogram. Data were collected from a prospectively maintained data base.

Results: 12 patients who underwent RALP were compared with a similar cohort of 12 patients who underwent LP. The robotic procedures were superior in terms of shorter operating time by 30 minutes on an average. The minimum time taken for RALP and LP were 110 minutes and 170 minutes respectively. One patient in LP group had urine leak and failed compared to none in the RALP group. The surgeon reported subjective ergonomic benefits with the use of the robot.
Conclusions: Robotic assistance helps to decrease the operative time for laparoscopic pyeloplasty and helps in better anastomosis. It seems ergonomically superior for the surgeon.

Robotic Assisted Ureteric Re-implantation with Psaos Hitch Following Iatrogenic Injury

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Introduction: The risk of injury to the ureter during an abdominal hysterectomy is estimated at 1.3% (1). This injury often occurs following ligation of the uterine vessels as the ureter crosses under the artery. We present the case of a 45 year old female who was referred with a left nephrostomy insitu following an injury to her left distal ureter during hysterectomy for a large fibroid. An initial attempted endoscopic realignment procedure was successful, but following removal of stent there was development of a vesicovaginal fistula. We present in video format our method of robotic assisted ureteric reimplantation with psoas hitch.
Methods: The ureter was mobilised proximal to healthy tissue with preservation of the adventitia. The bladder was then mobilised and a psoas hitch was performed to ensure a tension free anastomosis. The ureter was then spatulated and anastomosed into the bladder over a JJ stent.
Conclusion: This video demonstrates our technique of robotic assisted laparoscopic ureteric reimplantation with psaos hitch following iatrogenic injury to the distal ureter.

Reference

1. Gilmour D., Das S., Flowerdew G. (2006) Rates of urinary tract injury from gynecologic surgery and the role of intraoperative cystoscopy. *Obstet Gynecol* 92: 1366–1377.

Robotic assisted laparoscopic prostatectomy – a video review of posterior seminal vesical, vas deferens & prostate dissection technique & early outcomes in a single centre

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Introduction: Robotic assisted laparoscopic prostatectomy (RALP) yields similar oncological & functional outcomes compared to the gold standard radical retropubic prostatectomy with shorter hospital stays & less blood loss & transfusion rates. Using a teaching video, we describe our outcomes from RALPs in a single centre over an 18-month period incorporating an initial posterior dissection approach to the seminal vesicle, vas deferens & posterior prostate.
Methods: We performed 64 RALPs over an 18 month period between October 2017 & April 2019. Age ranged from 49 to 74 (median 59). Pre-op ISUP grade included grades one through five & average Prostate Specific Antigen (PSA) rates was 7.9 (0.9–46). MRI findings included T2 & T3a with an average volume of 39 cc (15–159).
Results: Perioperative outcomes showed average surgical time was 04:02 hours (3:12–5:41) with intra-op blood loss of 408 mls (20–1000 mls). A drain was left in 92% of cases (n = 59). Average length of stay was 4.7 days (2–12). There were three Clavien-Dindo 3 complications; a post-op bleed requiring embolization, a port-site hernia requiring repair and chylous ascites requiring drainage. Pathological stage ranged from T2 to T3b with an average weight of 56.11 g (24–148 g) with 13 patients (20%) with positive surgical margins. Functionally, 61% (n = 36) of patients were wearing 0–1 pads at 3–4 months and average IIEF domain A score at this period was 8.4/30.
Conclusion: RALP with an initial posterior dissection to the seminal vesicle was a safe and efficient method for controlling prostate cancer with promising functional outcomes.

Robot-assisted nephroureterectomy: Single Stage Technique including Bladder Cuff

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Background: We present our surgical technique for pure robot-assisted nephroureterectomy with bladder cuff excision (RANU) (single stage).
Objective: To demonstrate our surgical technique of a single-step RANU, not requiring repositioning or re-docking whilst using the da Vinci Xi operating system.
Materials and Methods: A brief retrospective review of all patients undergoing RANU for UTUC from March 2018 until March 2019 was performed. Cases were analysed based on patient demographics, perioperative outcomes, histopathology and short-term follow-up data.
Results: To date, 12 robot-assisted nephroureterectomies have been performed using the single-stage technique. Mean age 66.5 years (range 50.08–84.75), 8 (66.66%) male patients and 4 (33.33%) female. Three patients (25%) had received neoadjuvant chemotherapy. Mean body mass index 27.9 (21.4–38.1). 6 left-sided vs. 6 right-sided nephroureterectomies. Mean operative time of 03:45 (02:50–04:46), mean estimated blood loss 142 mls (50 mls – 300 mls). Mean catheter duration was 5.6 days (2–10). Seven tumours (58%) were high-grade, mean tumour size was 3.4 cm (1.4–15 cm). 3 patients (25%) had pT1, 3 (25%) had pT2, 2 (17%) had pT3, 2 (17%) had pTa and 2 (17%) had pT0 stage disease. Three (25%) patients had lymph node dissections, One patient had positive lymph nodes on final histology. Three patients had post-operative complications (One Grade I, and two Grade II). Mean length-of-stay was 5.5 days (2–14). No metastases noted on follow-up imaging.
Conclusions: This teaching video shows our positioning and surgical technique for single-step RANU without need for repositioning or re-docking.

Da Vinci Xi robotic partial nephrectomy for complex renal tumours: step by step approach of trans-peritoneal and retro-peritoneal technique

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Complex renal tumours may preclude a minimally invasive approach to nephron sparing surgery in some patients. We describe our