

## WCE Abstracts Publications 2023

1. Abstracts of the 40th World Congress of Endourology: WCE 2023. *Journal of Endourology*. 2023;37(1\_suppl):A1-A422. doi:[10.1089/end.2023.36001.abstracts](https://doi.org/10.1089/end.2023.36001.abstracts)

### ***V01-17 Robotic (Assisted Laparoscopic) Pyelolithotomy with Pyeloplasty and Transportal Flexible Nephroscopy for Pelviureteric Junction Obstruction with Partial Secondary Staghorn Calculus and Caliceal Calculi - Technical Tips***

Ramalingam Manickam<sup>1</sup>, Senthil Kallappan<sup>1</sup>, Sivasankaran Nachimuthu<sup>1</sup>, Sri Sai Harsha P<sup>2</sup>

<sup>1</sup>Hindusthan Hospital, Consultant Urologist, <sup>2</sup>Continental Hospitals in Gachibowli, Consultant Urologist

Presented By: Ramalingam Manickam, MBBS., MS., MCh(Uro).,FRCS(Edin).,DSc

**Introduction:** Pelvi Ureteric Junction obstruction with secondary partial staghorn and multiple caliceal calculi needs management of UPJ and removal of calculi. To achieve fair clearance of secondary calculi, Flexible nephroscopy through assistant port is needed. This video illustrates the technique.

**Materials and Methods:** A 28 years old male presented with left loin pain. Contrast CT revealed moderate left hydronephrosis bilateral renal calculi. He had a marginally elevated renal bio chemical parameters (Sr creatinine 1.7mg) Urine culture was negative. In the first stage, right RIRS, Left RGP (showed left UPJ obstruction) and left stenting were done. 2 days later second procedure was done. With patient in loin position using 3 Robotic arms and 2 assistant ports left colon was reflected and UPJ and pelvis were mobilised. An oblique pyelotomy for 3 cm length was made and large calculus in pelvis was retrieved. Flexible nephroscope was introduced through subumbilical assistant port and maneuvered through pyelotomy to remove most of the lower caliceal smaller calculi (As acute angulation of nephroscope was not feasible few of the tiny calculi in minor calices could not be removed). Subsequently pyelotomy incision was extended across the posterolateral aspect of UPJ and further 2 cm down the ureter (in preparation for Non dismembered pyeloplasty\_) Antegrade stenting was done. Anterior wall of pelvis was pulled downwards across ureterotomy and using 4 – 0 vicryl interrupted sutures nondismembered pyeloplasty was reconstructed. Tube drain was placed.

**Results:** Patient made a smooth recovery one month post operatively renal function improved (Sr Creatinine 1.1) Plain CT KUB revealed fairly decompressed pelvi caliceal system and few tiny calculi. Flexi URS was done after 6 weeks which revealed fairly patent UPJ allowing 7.5 F Flexi URS easily. Residual calculi were retrieved.

**Conclusion:** Robotic Pyelolithotomy with Pyeloplasty and intraoperative RIRS/ Flexi Nephroscopy is challenging but feasible. The Video illustrates the technique.

***V02-10 Novel Hybrid Technique of Laparoscopic Nipple Valve Reimplantation with Portsite RIRS through Exteriorised Distal Ureter in Pom with Renal Calculus***

Ramalingam Manickam<sup>1</sup>, Senthil Kallappan<sup>1</sup>, Sivasankaran Nachimuthu<sup>1</sup>

<sup>1</sup>*Hindusthan Hospital, Consultant Urologist*

Presented By: Ramalingam Manickam, MBBS., MS., MCh(Uro)., FRCS(Edin)., DSc

**Introduction & Objective:** Laparoscopic Nipple valve ureteric reimplantation of ureter with portsite RIRS is a innovative minimally invasive management of renal calculus and Primary Obstructive Megaureter.

**Methods:** A 42 years old male, presented with 7-month history of left loin pain. CET scan of abdomen revealed 14mm left upper calyceal calculus with primary obstructive mega ureter. By a transperitoneal approach using 4 ports lower ureter was dissected and divided above level of obstruction. The ureter was brought out through the 10mm port in the left iliac fossa and flexi URS passed through the ureter and laser lithotripsy was done.

Nipple valve ureteric reimplantation was done. Procedure was completed in 160 minutes.

**Results:** Postoperative period was uneventful. Foley catheter was removed 10th day, and stent was removed at the end of 4th week

**Conclusions:** Portsite RIRS during laparoscopic nipple valve reimplantation of ureter is a useful innovative minimally procedure.

***V04-08 Laparoscopic Donor Nephrectomy in a Crossed Fused Ectopic Kidney – Technical Challenges***

Ramalingam Manickam<sup>2</sup>, Senthil Kallappan<sup>1</sup>, Sivasankaran Nachimuthu<sup>1</sup>

<sup>1</sup>*Hindusthan Hospital, Consultant Urologist*, <sup>2</sup>*Hindusthan Hospital, Consultant Urologist*

Presented By: Ramalingam Manickam, MS.,MCh(Uro).,DNB(Uro).,FRCS(Edin).,DSc

**Introduction:** Laparoscopic doner nephrectomy has to be done with utmost care as otherwise individual is normal and complications are unwelcome

**Materials and Methods:** A 42 years old female was evaluated and found to he matching renal donor for her husband. On further CT Renal angio evaluation, the left kidney was found to be a left to right crossed, The left renal artery was seen crossing IVC anteriorly, vein was short, ureter was crossing and ending in left UVJ. Isotope scan showed split renal function of 46 on Right side and 39 on ectopic left kidney, with patient in lateral position using 5 ports were placed at a little lower level as ectopic kidney was a little low. Left kidney was separated and dissected away from Rt kidney. Left renal artery ,vein and crossing ureter (mobilised with difficulty) were mobilised. A 6cm Pfennestiel incision was made leaving the peritoneum unopened. The ureter, renal Artery and vein were divided serially graft was retrieved .Tube drain was placed. Wound was closed in layers.

**Result:** Patient recovered well and got discharged on 3<sup>rd</sup> post-operative day. 3 months post operatively patient creatinine was 1.1 and comfortable

**Conclusion:** Though donor nephrectomy in a crossed ectolic kidney with altered vascular and ureteric anatomy is technically challenging, it is feasbile if done with atmost care.

### ***V06-13 Laparoscopic Boari Flap with Port Site RIRS in a Case of Midureteric Stricture with Large Renal Stone***

Ramalingam Manickam<sup>1</sup>, Senthil Kallappan<sup>1</sup>, Sivasankaran Nachimuthu<sup>1</sup>

<sup>1</sup>*Hindusthan Hospital, Consultant Urologist*

Presented By: Ramalingam Manickam, MBBS.,MS.,MCh(Uro)., FRCS(Edin).,DSc

**Introduction:** Laparoscopic Boari Flap ureteric reimplantation for ureteric strictures is a complex reconstructive procedure involving lower urinary tract. To additionally treat a large renal stone, exteriorized ureter and port site RIRS is technically a demanding procedure.

**Materials and Methods:** 36-year-old female presented with complaints of right renal colicky abdominal pain and on evaluation with Contrast Enhanced CT abdomen she had right side large renal stone of size 2 X2 cms in the upper calyx along with right mid ureteric stricture. She did not have any comorbidities. She had past history of Ureterorenoscopy for ureteric stone on the right side. Under General Anaesthesia, she underwent Cystoscopy and RGP which revealed long segment ureteric stricture from pelvic brim upto bladder. Laparoscopy was done through four ports and right ureter was divided above the strictured segment. The ureteric end was brought out through flank-10mm port and spatulated. Flexible Ureteroscope was introduced through the exteriorized ureter and stone in the upper calyx fragmented with laser energy source. After satisfactory fragmentation, 6F double J stent was placed and ureter was returned into the abdomen and laparoscopy was resumed. Boari Flap raised from the bladder in the routine fashion and Ureteric reimplantation into the boari flap was completed. Bladder was tubularised with barbed sutures. Drain was placed.

**Results:** Patient recovered well and drain was removed on fourth post operative day. Catheter was removed after two weeks from procedure.

**Conclusion:** Laparoscopic Boari Flap ureteric reimplantation though a complex procedure is widely performed one. To combine RIRS through exteriorized ureter is technically demanding one but a feasible procedure.

### ***V06-14 Laparoscopic Intracorporeal Bilateral Ileal Ureter - Reverse 7 Configuration***

Ramalingam Manickam<sup>1</sup>, Senthil Kallappan<sup>1</sup>, Sivasankaran Nachimuthu<sup>1</sup>

<sup>1</sup>*Hindusthan Hospital, Consultant Urologist*

Presented By: Ramalingam Manickam, MBBS.,MS.,MCh(Uro)., DNB(Uro).,FRCS(Edin).,DSc

**Introduction& Objectives:** Bilateral Ileal ureter reconstruction is a complex procedure reserved for unreparable strictures of the ureter. Here we present a case of Carcinoma Cervix who underwent Radical Hystrectomy and Radiation following the surgery, developed bilateral lower ureteric stricture and left ureterovaginal fistula presenting with continuous vaginal urinary leak for past 2 months. This video demonstrate the technique of bilateral laparoscopic ileal ureter reconstruction intracorporeally in a reverse 7 manner.

**Materials & methods:** Patient under general anaesthesia and lithotomy position, cystoscopy revealed bladder capacity of 200ml and bilateral retrograde pyelogram revealed bilateral lower ureteric stricture upto pelvic brim. Three-way foley catheter was placed in bladder. Changing to left loin position, Laparoscopy was done through five ports (3x10mm and 2 x 5mm) and adhesions were released, left mesocolon was incised to identify upper ureter. Left colon was not mobilise. Left side upper ureter isolated and transacted above the stricture level. Then 40cm of proximal ileum isolated

with help of intracorporeal endo GI staplers and ileo-ileal continuity restored using the same. The proximal end of isolated ileum was anastomosed end to end to the left upper ureter using 4-0 vicryl suture over 6F stent. . Changing to right loin position and with additional two ports, the right upper ureter was mobilized and divided at the pelvic brim level. The distal end of the isolated ileum was anastomosed to the fundus of the bladder using 3-0 barbed sutures The middle segment of ileal loop was moved to the right pelvic brim area and 1.5cm incision was made over the antimesenteric area. The right side proximal healthy ureter was anastomosed to incised area of the ileum with vicryl sutures over 6F stent. After the anastomosis the bladder integrity was checked and tube drains were placed on both flanks. Fair hemostasis was secured. Blood loss during the procedure was 300ml. Patient underwent without any intraoperative complications.

**Results:** Patient recovered well, vaginal leak settled and was started on oral diet on third post-operative day. Urinary leak settled promptly. Drain was removed on fifth day and patient was discharged home with urethral catheter. She was continued on oral antibiotics and catheter was removed after two weeks with CT cystogram showing no contrast extravasation. She is on follow up for three months and voiding comfortable with no urinary leak.

**Conclusions:** Bilateral laparoscopic ileal ureter reconstruction for complex ureteric strictures are technically demanding but a viable, feasible and a safe procedure with the help of 3D technology. To our knowledge reverse 7 configured pure laparoscopic bilateral ileal ureter is the first report.

**V02-02**

**Does 3D Facilitate Technique of Laparoscopy Pyeloplasty in Infant**

**R Manickam, S Kallappan, S Nachimuthu**

**Introduction & Objective:** Laparoscopic pyeloplasty, especially suturing in infants can be challenging. With the advent of 3D camera it has become less challenging.

**Methods:** A 3 months old baby was referred with the history of antenatally detected PUJ obstruction. As the baby had repeated positive urine culture, though the baby was weighing 5.5 KG, after treating UTI we planned Laparoscopic pyeloplasty. By transperitoneal approach using 4 ports, left colon was reflected, upper ureter, pelvis were adequately mobilized and UPJ and a segment of pelvis was excised. Lateral spatulation of ureter was done. Pyelo-ureteral anastomosis was done with 5-0 Polydioxanone interrupted suture over 3 F double j stent. Tube drain was placed. Procedure was completed in 120 minutes.

**Results:** Postoperative period was uneventful. Total drainage was 75 ml over 72 hours. Foley catheter was removed on 2nd postoperative day and drain tube was removed in 3 days.

**Conclusions:** With the availability of 3D camera we are able to do laparoscopic pyeloplasty safely, more efficiently and comfortably even in infants.

**V02-03**

**Novel Hybrid Technique Of Laparoscopic Nipple Valve Reimplantation With Portsite Rirs**

**Through Exteriorised Distal Ureter In Pom With Renal Calculus**

**R Manickam, S Kallappan, S Nachimuthu**

**Introduction & Objective:** Laparoscopic Nipple valve ureteric reimplantation of ureter with portsite RIRS is a innovative minimally invasive management of renal calculus and Primary Obstructive Megaureter.

**Methods:** A 42 years old male, presented with 7 month history of left loin pain. CET scan of abdomen revealed 14mm left upper calyceal calculus with primary obstructive mega ureter. By a transperitoneal approach using 4 ports lower ureter was dissected and divided above level of obstruction. The ureter was brought out through the 10mm port in the left iliac fossa and flexi URS passed through the ureter and laser lithotripsy was done. Nipple valve ureteric reimplantation was done. Procedure was completed in 160 minutes.

**Results:** Postoperative period was uneventful. Foley catheter was removed 10th day, and stent was removed at the end of 4th week

**Conclusions:** Portsite RIRS during laparoscopic nipple valve reimplantation of ureter is a useful innovative minimally procedure.

#### **V02-04**

##### **Laparoscopic Nipple Valve Reimplantation In A Ureterocele Of a Crossed Fused Ectopic Moiety Unit - Challenges**

**R Manickam, S Kallappan, S Nachimuthu**

**Introduction & Objective:** Laparoscopic Nipple valve reimplantation in a ureterocele of a crossed fused ectopic moiety unit - challenging procedure

**Methods:** 28 years old male patient was incidently found to have crossed fused ectopic right renal moiety with gross hydronephrosis and ureterocele on ultrasonogram. CT urogram confirmed the large ureterocele. The video illustrates the technical difficulties in laparoscopic dissection in hiatus and intravesical area. As distal ureter was very wide, after transfixing the distal end tailoring was done and nipple valve was created and stent was placed. The hiatus was closed and reimplantation was done in the right anterolateral aspect of bladder using 4-0 polydioxanone as interrupted sutures.

**Results:** Drain tube was placed. Post operative period was uneventful.

Patient discharged on 3rd postoperative day after removing drain. Cystoscopy and Ultrasound scan showed Nipple valve reimplant in Right side of dome.

**Conclusions:** Laparoscopic dissection of large intravesical urerocele before reimplantation though challenging is feasible and less morbid procedure.

#### **V04-01**

##### **Laparoscopic Boari flap with port site RIRS in a case of Midureteric stricture with large renal stone**

**R Manickam, S Kallappan, S Nachimuthu**

**Introduction & Objective:** Laparoscopic Boari Flap ureteric reimplantation for ureteric strictures is a complex reconstructive procedure involving lower urinary tract. To additionally treat a large renal stone, exteriorized ureter and port site RIRS is technically a demanding procedure.

**Methods:** 36 year old female presented with complaints of right renal colicky abdominal pain and on evaluation with Contrast Enhanced CT abdomen she had right side large renal stone of size 2X2 cms in the upper calyx along with right mid ureteric stricture. She did not have any comorbidities. She had past history of Ureterorenoscopy for ureteric stone on the right side. Under General Anaesthesia, she underwent Cystoscopy and RGP which revealed long segment ureteric stricture from pelvic brim upto bladder. Laparoscopy was done through four ports and right ureter was divided above the stricture segment. The ureteric end was brought out through one of the 10mm port and spatulated. Flexible Ureteroscope was introduced through the exteriorized ureter and stone in the upper calyx fragmented with laser energy source. After satisfactory fragmentation, 6F double J stent was placed and ureter put into the abdomen. Boari Flap raised in a routine fashion and Ureteric reimplantation completed with barbed sutures. Drain placed.

**Results:** Patient recovered well and drain was removed on fourth post operative day. Catheter was removed after two weeks from procedure.

**Conclusions:** Laparoscopic Boari Flap ureteric reimplantation though a complex procedure is widely performed one. To combine RIRS through exteriorized ureter is technically demanding one but a feasible procedure.

**V11-08**

**LAPAROSCOPIC EXCISION OF SEMINAL VESICLE TUMOUR**

**Sivasankaran Nachimuthu\*, Ramalingam Manickam, Senthil Kallappan, Coimbatore, India**

**INTRODUCTION AND OBJECTIVE:** Seminal vesicle cyst excision in laparoscopy is technically demanding more so when there is a tumour in situ. We illustrate the technique of excision of seminal vesicle cyst. **METHODS:** 47 year old male presented with irritative LUTS. His digital rectal examination revealed a globular mildly tender prostate. Ultrasound showed a cystic lesion in the retroprostatic region. MRI showed seminal vesicle cyst with no infiltration of adjacent structures. Laparoscopy showed well defined cystic lesion involving the right seminal vesicle burrowing into the prostatic capsule. With meticulous dissection excision of the cyst in toto was achieved. **RESULTS:** Patient had smooth recovery and voided with a better stream. Histopathology revealed unusual cystic mixed epithelial and stromal tumour. **CONCLUSIONS:** Meticulous dissection in laparoscopy is essential for a complete removal of seminal vesicle cyst. **Source of Funding:** nil

**V05-06 Technical Tips in Ureterocalicostomy in Failed Pyeloplasty**

**S Nachimuthu, R Manickam, S Kallappan**

**Introduction & Objective:** Laparoscopic management of failed pyeloplasty is a challenging surgery. Here we illustrate the technical tips of redo laparoscopic pyeloplasty in a failed open pyeloplasty case with dense adhesion and more of a calyceal dilatation and minimal dilatation of pelvis.

**Methods:** A 28 years old male who had undergone open pyeloplasty two years ago elsewhere presented with left loin pain of 3 months duration. Clinically unremarkable. UTI was treated. CECT showed left pelviureteric junction obstruction with secondary calculi. By transperitoneal approach, left colon was mobilized. Upper ureter, UPJ and pelvis were densely adherent to posterior wall as the pelvis was thin and started tearing in few areas, it was decided to go ahead with nondismembered pyeloplasty and if necessary to extend to ureterocalicostomy. Accordingly, dissection was continued to mobilize lower calyx off the parenchyma as much as possible. As still it looked like it will end up with tense anastomosis, renal descendens was also done. Even then it looked like it apical suture with lateral end of calicotomy may cut through, we started the ureterocalicostomy from midway by interrupted 4-0 vicryl sutures and continued to

ABSTRACT VIDEO SESSION 05 -A341- Downloaded by 157.50.76.192 from www.liebertpub.com at 01/08/20. For personal use only. complete the lateral layer as uretro calicostomy. Antegrade stenting was done. As further manipulation to remove secondary calculi appeared to be unfruitful we decided to tackle calculi by

PCNL later. Subsequently anterior layer of ureterocalicostomy was done. Torn pelvis was closed with vicryl sutures. Tube drain was placed and ports were closed.

**Results:** Post operatively patient had about 150 ml of drain over 3 days and settled. He made a smooth recovery.

**Conclusions:** Ureterocalicostomy is probably the best option in a failed pyeloplasty with thinned out small pelvis having a dilated calyx.

**V05-09 Laparoscopic Ileal Ureter In Failed Laparoscopic Ureterocalicostomy**  
R Manickam, S Nachimuthu, S Kallappan

**Introduction&Objective:** Laparoscopic Ileal ureter is complex procedure reserved for unrepairable stricture ureter or failed pyeloplasty especially with multiple secondary stones. We illustrate the technique of total laparoscopic ileal ureter in a case of failed ureterocalicostomy with multiple secondary stones. **Methods:** 45 yrs old female who had undergone laparoscopic ureterocalicostomy (following multiple URSL) for stricture UPJ with intra renal pelvis and secondary stones in 2014. Now she presented to us with left loin pain of 3 months duration. Clinical examination was unremarkable. Urine culture was positive and was treated accordingly. CECT revealed stricture at ureterocalicostomy site; intra renal pelvis with grossly dilated calyces and multiple secondary calculi of left kidney. With patient in torque position using 6 ports left colon was mobilized; adhesions were released, and lower calyx was mobilized. Using endoscopic staplers about 20 cm of distal ileum isolated and ileo-ileal continuity was restored. Staple lines were excised and 6fr double pigtail stent placed. Calicotomy of lower calyx done for about 2 cm, multiple stones were removed and ileocaliceal anastomosis was done using 3-0 vicryl continuous running fashion. Distal end of isolated ileum was anastomosed to 2 cm long cystotomy made in the left dome and lateral aspect of bladder using 3-0 barbed suture. Tube drain placed and ports were closed. **Results:** Postoperatively patient made uneventful recovery. Tube drain was removed on the 3rd POD and Foley catheter was removed on 10th POD. **Conclusions:** Total laparoscopic ileal ureter for failed ureterocalicostomy is technically demanding but a viable option.

**V12-06 Suprapubic cystoscopy guided Heygrove dilator placement in anastomotic urethroplasty for PFUI**

S Nachimuthu, R Manickam, S Kallappan

**Introduction&Objective:** During anastomotic urethroplasty in PFUI, usually one needs to place a Heygrove dilator blindly to guide location of the membranous urethra. Occasionally this can end up with a false passage. To obviate this we have improvised this technique of supra pubic guided Heygrove insertion alongside scope.

**Methods:** 16-year-old male patient of PFUI on SPC, was planned for anastomotic urethroplasty. In lithotomy position, midline perineal incision, bulbocavernous muscle was divided, urethra mobilized. Crural separation done, urethra divided at the level of stricture. Instead of blind Heygrove dilator placement we dilated the SPC tract with Amplatz dilators upto 30 Fr. 10 Fr pediatric cystoscope was introduced first and Hegrove dilator was inserted alongside under vision making sure that there is no undue force (avoiding contusion and bleeding of membranous urethra). With this, optimal placement of Heygrove, membranous urethra was identified and incised. Proximal and distal urethra was spatulated and end-to-end urethroplasty was done over 14 F silicon foley catheter using 4-0 interrupted vicryl sutures. Post-operative period was uneventful.

**Results:** Patient voided with good stream after three weeks and did not have any recurrence of stricture in a follow up of 2 years.

**Conclusions:** We found that supra pubic cystoscopy guided urethral dilator placement is better than blind placement in PFUI.

## **V12-10 Technical Tips In Laparoscopic Excision Of Giant Bladder Diverticulum**

**S Nachimuthu, R Manickam, S Kallappan**

**Introduction & Objective:** This video illustrates the technical tips of laparoscopic excision of giant bladder diverticulum.

**Methods:** 78 years old male with a history of having had TURP in 2013 was presently admitted with acute urinary retention.

Ultrasound showed a large bladder diverticulum. CT scan showed a large diverticulum in relation to the left lateral wall of bladder. Cystoscopy was done and guide wire was coiled in the diverticulum. Laparoscopic diverticulotomy was done after placing a left ureteric stent. Coiling of the guidewire helped in dissection of the diverticulum from the bladder wall. Presence of stent on the ipsilateral side helped to prevent injury to the ureter. Diverticulum was excised after reaching close to its neck.

Bladder wall closed with 3-0 barbed suture and drain placed. Patient had smooth recovery and drain removed on POD 3. Catheter was removed on 10th day.

**Results:** Cystogram done on 14th day showed normal bladder outline. Subsequently he underwent TURP after three months for prostatomegaly. He voided with a flow of 23ml/sec.

**Conclusions:** Laparoscopic excision of large bladder diverticulum has less morbidity. Guide wire coiled in the diverticulum helps in identification of the diverticulum. Stent prevents to the injury to the ureter.

## **V12-12 Laparoscopic VVF Repair Using Barbed Suture And 3D Camera**

**R Manickam, S Nachimuthu, S Kallappan**

**Introduction & Objective:** Gynecological causes for vesicovaginal fistulae are common nowadays. Early repair was done in most of our cases. Here we illustrate laparoscopic repair with a video wherein we used barbed suture and 3D camera.

**Methods:** 22 women developed vesicovaginal fistulae following hysterectomy. Early repair was planned after confirming the absence of urinary infection. Cystoscopy was done to examine the fistula to confirm the absence of slough. Bilateral ureteral catheters or stents were placed. Laparoscopy was done using 5 ports. Lessons learnt to make the procedure successful are as follows. Foley balloon with about 40 ml in the balloon was used to prevent gas leak from vagina. As it was an early repair the adhesions were flimsy. The wall of the bladder was not fibrosed unduly and could be dissected sharply. Bladder was bivalved and the fistula was excised with a 5mm margin. The vaginal wall was separated adequately from the bladder wall. Vaginal edges were sutured using 3-0 barbed suture maintaining watertight closure. Omental flap was tacked to anterior vaginal wall. Urethral foley was left in. Bladder rent was also closed with 3-0 barbed, single layer closure. Tube drain was placed at flank trocar site. With the use of barbed suture, the suturing time and overall operative time has reduced by 30 minutes. Also, 3D camera has improved the precise movements and surgeon's comfort level.

**Results:** The time taken for the surgery was between 150 to 180 minutes. Patients were in the hospital for 5 days. Drain was removed before discharge. Catheter was removed on the 14th day. None of the patients had a recurrence of the fistula.

**Conclusions:** Laparoscopic repair of gynecological vesicovaginal fistula is more efficient when barbed suture is used.

## **V16-10 Spill Free Technique of Laparoscopic Nephroureterectomy In Multiple Lower Ureteral TCC**

**S Nachimuthu, R Manickam, S Kallappan**

**Introduction & Objective:** The major concern in laparoscopic nephroureterectomy for multiple ureteric TCC is the spill of tumor tissue around the hiatus. Here we illustrate the spill free technique and inclusion of bladder cuff.

**Methods:** A 53-year-old female presented with hematuria associated with clots for two weeks duration. On evaluation Contrast CT Abdomen showed multiple right lower ureteric tumors. Cystoscopy revealed no bladder tumor. Laparoscopy in our spill free technique, we mobilized the distal ureter up to hiatus and further exposed the peri ureteric orifice mucosa by dividing the detrusor adequately. Then ureter was ligated at the orifice level. Before dividing the ureter, stay was secured in the bladder mucosa one cm distal to the orifice. Bladder closed in two layers.

**Results:** Patient made an uneventful recovery. Drain was removed on post-operative day 4 and discharged on next day with catheter in situ. Bladder cuff margin was tumor free in histopathology.

**Conclusions:** Our technique to prevent spill in nephroureterectomy is novel and easy to adopt.

**VS6-4 Technical tips in laparoscopic tailored reimplantation**

**R Manickam, S Kallappan, S Nachimuthu  
Urology Clinic  
India**

**Introduction & Objective: Laparoscopic Tailored reimplantation**

**in very largemega ureter takes long time to tailor. We present the technical tips to effectively do the tailored reimplantation.**

**Methods: A 12 yr old girl presented with left colicky abdominal pain for two weeks duration. On evaluation, Ultrasound abdomen showed left hydronephrosis upto VUJ. Intravenous urogram revealed features suggestive of primary obstructive megaureter. Laparoscopy revealed grossly dilated lower half of ureter. Tailoring in situ without disconnecting the distal ureter using 4-0 PDS suture in a continuous fashion made the surgery fairly straight forward. After tailoring, left ureter was disconnected at the hiatus. Modified Lich Gregoir Reimplantation over a 4 F JJ stent was done using 4-0 PDS and detrusor approximation with barbed sutures.**

**Results: Patient had a stable recovery and drain was removed on post operative day 3 and discharged on next day. Stent removed after three weeks. USG at the third month revealed fairly decompressed pelvicalyceal system.**

**Conclusions: Laparoscopic Tailored Reimplantation in a megaureter is technically challenging. With few technical modifications, this can be achieved effectively.**

**VS6-6 Technical Tips in Laparoscopic Bilateral ureteric reimplantation in a 2 yr old child**

**R Manickam, S Kallappan, S Nachimuthu  
Urology Clinic  
India**

**Introduction & Objective: Simultaneous bilateral laparoscopic reimplantation in very small children is challenging. We present the technical tips.**

**Methods: A 2 yrs old child with UTI was evaluated to have bilateral Gr IV VUR. With limited intraperitoneal space, meticulous dissection and reimplantation was done. Using 4-0 PDS in continuous suturing. by modified Lich Gregois technique over 3fr stent.**

**Results: Patient recovered smoothly. USG was done on 3rd POD, Drain was removed. Catheter was removed on day 4,**

**Postoperatively child remains asymptomatic. Conclusions: Though bilateral ureteric reimplantation was challenging, by meticulously handling suturing, it is safe and feasible**

**VS14-3 Ideal Technique of Laparoscopic Ureterocalicostomy**

**R Manickam, S Kallappan, S Nachimuthu**

**Urology Clinic**

**India**

**Introduction & Objective:** Management of pelvireteric junction obstruction (PUJ) with a intrarenal pelvis is challenging. We illustrate the ideal technique of Ureterocalicostomy.

**Methods:** A 24 years old female patient with Right PUJ obstruction presented with loin pain of 2 months duration. Right RGP revealed intrarenal pelvis with gross caliectasis. With patient in right loin position using 4 ports mobilisation of upper ureter revealed intrarenal pelvis necessitating ureterocalicostomy. Lateral ureterotomy was carried on to UPJ and continued over opposing aspect of lower calix (lateral

calicotomy) adequately few secondary calculi were removed. posterior layer of ureterocalicotomy was done using 4-0 PDS suture. Then antegrade stenting was done. Subsequently anterior layer suture was completed. postoperative period was uneventful.

**Results:** Post operatively patient did not have much drainage. Foley catheter was removed on the 2nd post operative day. Tube drain was removed on 3rd post operative day. Patient made smooth recovery. 6 months post operatively diuretic renogram showed good drainage.

**Conclusions:** This technique of ureterocalicostomy makes UPJ wide system drains better than anastomosing ureter to buttonhole calicostomy.

**V10-2 Lessons learnt from 8 successful early laparoscopic repair of vesicovaginal fistula**

S Kallappan, M Ramalingam, S Nachimuthu, C Dinakaran

Urology Clinic  
India

**Introduction & Objective:** Gynecological causes for vesicovaginal fistulae are common nowadays. Early repair was deferred in obstetric vesicovaginal fistulae as results were poor due to poor tissue viability. Laparoscopic repair was done successfully in 8 gynecological vesicovaginal fistulae.

**Materials and Methods:** Eight women developed vesicovaginal fistulae following hysterectomy. Early repair was planned after confirming the absence of urinary infection. Cystoscopy was done to examine the fistula to confirm the absence of slough. Bilateral ureteral catheters or stents were placed. Laparoscopy was done using 5 ports.

Lessons learnt to make the procedure successful are as follows.

Foley balloon with about 40ml in the balloon was used to prevent gas leak from vagina.

As it was an early repair the adhesions were flimsy. The wall of the bladder was not fibrosed unduly and could be dissected sharply. Bladder was bivalved and the fistula was excised with a 5 mm margin. The bladder wall was held apart with a suture through the abdominal wall. The vaginal wall could be separated well from the bladder wall. Barbed sutures were used to maintain tension. Omental flap was brought in between the bladder and vagina. Urethral foley was left in along with an abdominal drain.

**Results:** The time taken for the surgery was between 150 to 180 minutes. Patients were in the hospital for 5 days. Drain was removed before discharge. Catheter was removed on the 21st day. None of the eight patients had a recurrence of the fistula.

**Conclusions:** Early laparoscopic repair of gynecological vesicovaginal fistula is feasible and reduces the distress in the patients.

**V5-9 Double blessing - Laparoscopic partial nephrectomy with nephrolithotomy for a complex lower polar cyst with lower calyceal partial staghorn calculus**

S Kallappan, M Ramalingam, S Nachimuthu

Urology Clinic  
India

**Introduction & Objective:** Removal of a lower calyceal partial staghorn calculus in the presence of a lower polar cyst abutting the calyx is a challenge. Among the options lower polar partial nephrectomy with nephrolithotomy is a feasible double blessing

**Materials and Methods:** 74 year old gentleman presented with a complex right lower polar cyst with a partial staghorn calculus involving the lower calyx. The cyst was abutting the wall of the lower calyx. With the patient in the right kidney position dissection of the hilum was done. After obtaining vascular control partial nephrectomy was done. During the procedure the lower calyx opened up and the calculus could be seen. The calyx was removed and the calyceal defect was closed. Ureteral stent and drain were placed.

**Results:** The procedure was completed in 190 minutes. The warm ischemia time was 30 minutes. Patient was discharged on the 5th post operative day. Drain was removed prior to discharge. Ureteric stent was removed after 6 weeks.

**Conclusions:** Laparoscopic partial nephrectomy with nephrolithotomy is the ideal option for a complex lower polar cyst with lower calyceal partial staghorn calculus

**V3-6 Laparoscopic nipple valve ureteric reimplantation in mega ureter**M Ramalingam, A Murugesan, K Senthil, M Pai PSG Hospitals  
India

**Introduction & Objective:** Ureteric reimplantation, especially the non refluxing type is a difficult proposition even in open surgery. Many of the techniques used for anti reflux mechanism like tunnelling are fraught with the danger of causing obstruction. Nipple valve method is one of the techniques, which does not use tunnelling, lesser chances of obstruction and more technically challenging. We present the video of laparoscopic nipple valve ureteric reimplantation in mega ureter.

**Materials and Methods:** 35 yr old patient presented with complaints of vague right loin pain for the past 1 year. On evaluation, he was found to have right obstructed megaureter with secondary calculi. Under general anesthesia, using 4 ports, 3×10 mm and 1×5 mm, laparoscopy was done. Right ureter was dissected from pelvic brim to bladder. Ureter ligated at the level of narrowing and cut. Secondary calculi were removed. Bladder was prepared for reimplantation - cystotomy at the dome. The end of the dilated ureter was reflected on to itself to form a everted nipple. The nipple is maintained using interrupted 4-0 vicryl sutures. The reconstructed ureteric end was reimplanted using interrupted 3-0 vicryl sutures. The 'nipple' acts as a valve preventing reflux.

**Results:** The operative time was 150 min and blood loss was around 50 ml. patient was started orally on POD1 and drain removed on POD5. Urethral catheter removed on POD14. Patient is asymptomatic now at 6 months follow up.

**Conclusions:** Laparoscopic nipple valve ureteric reimplantation is an effective and feasible method for reimplantation in dilated ureters, where long tunnels may be required, providing minimally invasive benefits.

**V6-10 Laparoscopic transureteroureterostomy and simultaneous ureterocystoplasty in poor compliance bladder**M Ramalingam, A Murugesan, K Senthil, M Pai PSG Hospitals  
India

**Introduction & Objective:** Augmentation cystoplasty is done with ileal segment in most instances. But, the consequences such as electrolyte imbalances necessitate use of other options such as ureter for augmentation. Ureterocystoplasty with bilateral functioning kidneys necessitates trans ureteroureterostomy. We present the video of Laparoscopic transureteroureterostomy and simultaneous ureterocystoplasty in poor compliance bladder.

**Materials and Methods:** 40 yrs old gentleman, presented with voiding and storage symptoms for the past 10 yrs. He has history of bilateral ureteric reimplantation for vesico ureteric reflux at 4-5 yrs age. On evaluation he had bilateral grade 5 vesico ureteric reflux with poor compliance bladder. He was planned for trans ureteroureterostomy with ureterocystoplasty. Under general anaesthesia, using 5 ports, 3×10 mm, 2×5 mm, laparoscopy was done. Both ureters dissected and left ureter was cut few cm below the pelvic brim. Right ureter was ligated close to the bladder and divided. Left ureter was tunnelled beneath the sigmoid to the right iliac fossa. Vertical ureterotomy was made in the right ureter and uretero ureterostomy was completed using 4-0 vicryl continuous sutures. The right ureter was reimplanted with detrusor tunnelling. Vertical ureterotomy was done medially on the left ureteric 'stump' and sutured with lateral cystotomy, for ureterocystoplasty. Drain and urethral catheter were placed.

**Results:** The overall operative time was 360 min. Estimated blood loss was 100 ml. Patient was started orally on POD 1 and drain removed on POD 5. Urethral catheter removed on POD 14. Patient is voiding well at 5 months follow up, with improved compliance and minimal bilateral reflux.

**Conclusions:** Laparoscopic trans ureteroureterostomy with ureterocystoplasty is feasible and an effective option in selected patients, with poor compliance bladder with grossly dilated ureters.

**V6-9 Laparoscopic omental flap reinforcement in anastomotic urethroplasty - A novel technique**

M Ramalingam, A Murugesan, K Senthil, M Pai

PSG Hospitals  
India

**Introduction & Objective:** Anastomotic urethroplasty is one of the surgeries with unpredictable results even in expert hands. Precarious vascularity of the urethra is the main reason for the failures. Various techniques from local vascular tissues like tunica vaginalis flaps to gracilis flaps have been used. Omentum is usually used in transpubic urethroplasty. We present the video of Laparoscopic omental flap reinforcement in progressive perineal anastomotic urethroplasty

**Materials and Methods:** a 30 yr old male had sustained poly-trauma 3 months back, and since then on SPC. Opposing urethrogram was done to evaluate the urethral defect and he was planned for urethroplasty. Perineal urethroplasty was performed by usual technique. Simultaneously, pneumoperitoneum was created and 3 ports inserted - midline supraumbilical camera port and 2 lateral ports in the hypochondrium. Omental flap was partially mobilised based on the right gastro epiplic artery to form a linear strip. A trocar was inserted from the perineum, hugging the pubic bone, which was visualised through camera. Omental flap was brought out through the perineum and wrapped around the anastomosis. Perineal wound and port sites were closed.

**Results:** The overall operative time of the laparoscopic procedure was 50 minutes. Since it was performed simultaneously with the perineal approach, there was no increase in overall operative time, Blood loss was minimal. The post op recovery was similar to the perineal approach alone. The patient had a successful urethroplasty and voided with good flow on catheter removal after 3 weeks.

**Conclusions:** Laparoscopic omental flap reinforcement in anastomotic urethroplasty provides a vascular tissue for the anastomosis with no additional morbidity to the patient, with improved results.

**V6-8 Total laparoscopic ileocystoplasty in neurogenic bladder**M Ramalingam, K Senthil, A Murugesan, M Pai PSG Hospitals  
India

**Introduction & Objective:** Augmentation ileocystoplasty is the management option of choice for neurogenic bladder with poor compliance. Minimally invasive options include laparoscopy assisted approach and completely laparoscopic approach. We present the video of total laparoscopic ileocystoplasty in neurogenic bladder.

**Materials and Methods:** A 25 yrs old gentleman, known case of meningo myelocele, operated in infancy. He had severe urgency with urge incontinence. He is chronically constipated. He is severely debilitated by incontinence. Clinically he had lax anal tone. Urodynamic study showed poor compliance bladder with severe detrusor overactivity. Under general anesthesia with Trendelenberg tilt, using 5 ports transperitoneal laparoscopy done. Bladder was minimally mobilised. Through 12 mm right iliac fossa port, bowel segment measuring 10 cm, 15 cm from the ileocecal segment was isolated using bowel staplers. Bowel continuity was also restored with staplers. Bowel segment was detubularised. Inverted u flap cystotomy was done. Bowel sutured to the bladder using 3-0 vicryl sutures. Omental wrapping was done and drain placed.

**Results:** Operative time was 180 minutes. estimated blood loss was 50 ml. Patient had mild ileus till post op day (POD) 2. He was started orally on POD 3. Drain removed on POD 5. Urethral catheter removed on POD 14. He was voiding well with considerable improvement in urgency and incontinence.

**Conclusions:** Total laparoscopic ileocystoplasty is a feasible and effective alternative to open ileocystoplasty.

### V3-5 Laparoscopic Ureteral substitution and bladder augmentation with gastric flap

M Ramalingam, A Murugesan, K Senthil, M Pai PSG Hospitals  
India

**Introduction & Objective:** Genitourinary tuberculosis affects both ureter and bladder. Patients with ureteric stricture with contracted thimble bladder pose a management challenge, morse, in patients with deranged renal function. Ileal substitution is the preferred modality in those with normal renal function. Dys-electrolytemia is a common adverse effect, which may be life threatening in patients with preexisting renal dysfunction. Gastric mucosa, which is predominantly secretory, is useful in such patients. Though laparoscopic ileal substitution is being performed, not uncommonly, laparoscopic augmentation with ureteral substitution with gastric flap is quite rare. We present the case report of laparoscopic Ureteral substitution and bladder augmentation with gastric flap.

**Materials and Methods:** A 49 yr old lady, presented with right solitary functioning kidney, with tuberculous right lower ureteric stricture managed by right psoas hitch ureteric reimplantation. She had progressive increase in creatinine and right hydro-ureteronephrosis post surgery. Nephrostogram revealed recurrent mid ureteric stricture and thimble bladder with nadir elevated creatinine of 2.8 mg/dl. She was planned for gastrocystoplasty with right ureteric reimplantation. Under General anesthesia, using 5 ports, in reverse trendelenberg position, a right gastro epiploic artery based gastric flap was isolated using staplers. With the patient in trendelenberg position, using two additional ports, right ureter and bladder were dissected. Vertical cystotomy was done and ureter was divided proximal to stricture. Staple line of gastric flap was excised and pyloric end tubularised and sutured with the ureter. Fundal end was used for gastrocystoplasty. Drain and wide bore urethral catheter were placed.

**Results:** Operative time was 420 minutes. Estimated blood loss was 150 ml. Patient was started orally on day 2 and discharged on day 6. At 6 months of follow up, her nadir creatinine was 1.9 mg/dl and functional bladder capacity was 250 ml. She had mild hematuria, which settled with proton pump inhibitors.

**Conclusions:** Gastrocystoplasty is the preferred option for bladder augmentation in those with azotemia. Laparoscopic approach is feasible and effective in such patients.

**U3-10 Laparoscopic gastrocystoplasty for genitourinary tuberculosis with contracted bladder**

MR Ramalingam, M Anandan, K Senthil, MG Pai

PSG Institute of Medical Sciences and Research  
India

**Introduction:** Augmentation cystoplasty is the treatment option for contracted bladder. Ileum is the preferred bowel segment used for augmentation. Dyselectrolytemia is a common adverse effect, which may be life threatening in patients with preexisting renal dysfunction. Gastric mucosa, which is predominantly secretory, is useful in such patients. Though laparoscopic ileocystoplasty is being performed, not uncommonly, laparoscopic gastrocystoplasty is quite rare. We present the case report and literature review of laparoscopic gastrocystoplasty.

**Materials and methods:** A 49 yr old lady, presented with right solitary functioning kidney, with tuberculous right lower ureteric stricture managed by right psoas hitch ureteric reimplantation. She had progressive increase in creatinine and right hydro-ureteronephrosis post surgery. Nephrostogram revealed recurrent mid ureteric stricture and thimble bladder with nadir elevated creatinine of 2.8 mg/dl. She was planned for gastrocystoplasty with right ureteric reimplantation. Under General anesthesia, using 5 ports, in reverse trendelenberg position, a right gastro epiploic artery based gastric flap was isolated using staplers. With the patient in trendelenberg position, using two additional ports, right ureter and bladder were dissected. Vertical cystotomy was done and ureter was divided proximal to stricture. Staple line of gastric flap was excised and pyloric end tubularised and sutured with the ureter. Fundal end was used for gastrocystoplasty. Drain and **wide bore** urethral catheter were placed.

**Results:** Operative time was 420 minutes. Estimated blood loss was 150 ml. Patient was started orally on day 2 and discharged on day 6. At 6 months of follow up, her nadir creatinine was 1.9 mg/dl and functional bladder capacity was 250 ml. She had mild hematuria, which settled with proton pump inhibitors.

**Conclusion:** Gastrocystoplasty is the preferred option for bladder augmentation in those with azotemia. Laparoscopic approach is feasible and effective in such patients.

**VP04-07 LAPAROSCOPIC RADICAL NEPHRECTOMY FOR SYNCHRONOUS ADRENAL AND RENAL TUMOUR**

Manickam Ramalingam<sup>1,2</sup>, Kallappan Senthil<sup>2</sup>,  
Anandan Murugesan<sup>1</sup>, Mizar Ganapathy Pai<sup>2</sup>

<sup>1</sup>PSG Institute of Medical Sciences and Research (India)  
<sup>2</sup>Urology Clinic (India)

**INTRODUCTION AND OBJECTIVES:** Synchronous adrenal and renal tumours are rare. Laparoscopic radical Nephrectomy is the treatment of choice for renal tumours. We present the video of laparoscopic radical nephrectomy for synchronous adrenal and renal tumour.

**METHODS:** A 60 year old gentleman presented with incidental detection of right adrenal and renal tumours. His serum creatinine was 1.1 mg% and rest of blood investigations were normal. Under GA, using 5 ports, right line of Toldt was incised and the right colon was mobilised medially. The right ureter and gonadal vein were dissected. Gonadal vein was clipped and divided. Dissection was carried along the anterior aspect of Inferior vena cava till the renal vein. The renal vein was dissected all around. Renal artery identified posterior to the renal vein, dissected, clipped and cut. Renal vein was clipped and cut. Kidney was mobilised outside the Gerota's fascia. Inferior vena cava traced proximal to renal vein and adrenal vein clipped and cut. Adrenal arteries cauterised and cut and adrenal mobilised completely. Ureter clipped and cut and specimen removed through right iliac fossa incision. Penrose drain placed and port sites and wound were closed.

**RESULTS:** The operating time was 150 minutes and blood loss was 50 ml. Postoperatively patient was started orally on post op day 1 and drains were removed on post op day 2. The histopathology of the renal tumour was clear cell carcinoma (T1) and the adrenal tumour turned out to be myelolipoma.

**CONCLUSIONS:** Laparoscopic radical Nephrectomy can be utilised as an effective option in patients with synchronous adrenal and renal tumours.

**SOURCE OF FUNDING:** None

**VP02-03 LAPAROSCOPIC ANTERIOR EXENTERATION FOR GARTNER'S DUCT CYST ADENOCARCINOMA**

Manickam Ramalingam<sup>1,2</sup>, Anandan Murugesan<sup>1</sup>,  
Kallappan Senthil<sup>2</sup>, Mizar Ganapathy Pai<sup>2</sup>

<sup>1</sup>PSG Institute of Medical Sciences and Research (India)  
<sup>2</sup>Urology Clinic (India)

**INTRODUCTION AND OBJECTIVES:** Malignancy from Gartner's duct cyst is very rare. Management of such tumours is anterior exenteration. We present the video of laparoscopic anterior exenteration for Gartner's duct cyst adenocarcinoma.

**METHODS:** A 42 years old lady presented with complaints of severe dysuria with voiding and symptoms. On examination she had a hard mass in the anterior vaginal wall overlying the urethra. MRI pelvis showed a T2 hyperintense mass in the anterior vaginal wall involving the urethra and bladderneck. Cystoscopy showed an infiltrative growth involving the urethra and bladder neck. TUR biopsy of the lesion was reported as adenocarcinoma. Under GA, Trendelenberg position, through 5 ports, laparoscopy was done. Urachus was clipped and cut and Retzius space developed. Dissection continued till the urethra. Peritoneum incised lateral to the iliac vessels and both ureters dissected and cut close to the bladder. The lateral pedicles of the bladder were dissected, clipped and cut. Peritonotomy was made in the pouch of Douglas and uterus dissected from rectum. Uterine pedicles were clipped and cut. Bilateral iliac lymph node dissection was done. Vagina opened and specimen retrieved through the vagina. Through 5 cm subumbilical incision heterotopic Studer neobladder was constructed with appendix as catheterisable stoma.

**RESULTS:** The operating time was 380 minutes and blood loss was 250 ml. Patient started orally on day5 and drains removed on day10. SPC was removed on day21 after cystogram. Patient is on clean intermittent catheterisation now.

**CONCLUSIONS:** Laparoscopic anterior exenteration is effective alternative to open surgery for selected patients with organ confined bladder and urethral tumours.

**SOURCE OF FUNDING:** None

**VP01-10 MANAGEMENT OF SLIPPED SATINSKY CLAMP DURING LAPAROSCOPIC PARTIAL NEPHRECTOMY**

Manickam Ramalingam<sup>1,2</sup>, Kallappan Senthil<sup>2</sup>, Anandan Murugesan<sup>1</sup>, Mizar Ganapathy Pai<sup>2</sup>

<sup>1</sup>PSG Institute of Medical Sciences and Research (India)

<sup>2</sup>Urology clinic (India)

**INTRODUCTION AND OBJECTIVES:** Laparoscopic Partial Nephrectomy is the most accepted treatment for management of small renal tumours. In case of difficulties, hand assisted approach is preferred to open conversion immediately.

**METHODS:** A 64 year old male presented with incidentally detected left renal mass. Contrast MRI showed a 3 cm enhancing mass in the interpolar region of left kidney. Under GA, right ureter was catheterised. Using 5 ports, by a transperitoneal approach left kidney was mobilised preserving perirenal fat around the tumour. Renal pedicle was dissected. 12 mm port was inserted in the subumbilical area in the midclavicular line at the level of iliac crest. Renal pedicle was clamped using Satinsky clamp. Tumour was dissected from the renal parenchyma. During manipulation, satinsky clamp slipped resulting in extensive bleeding from renal parenchyma. Attempts at re-application failed. Additional satinsky clamp was not available and bull dog clamps could not be inserted due to pooling of blood. Hence assistant hand was inserted through 6 cm right hypochondrial incision and renal pedicle compressed by tactile recognition. Hand was also helpful to manipulate the kidney orientation to facilitate comfortable suturing. Tumour resection was completed, vessels transfixed and renal parenchymal defect was closed. Port sites were closed after achieving hemostasis and placing a drain.

**RESULTS:** Operating time was 220 minutes. Blood loss was 720 ml. Post operatively patient was started on oral diet on 2nd day and drain removed on 5th day. The tumour margins were negative.

**CONCLUSIONS:** Hand assisted laparoscopy can sometimes act as an effective salvage option before embarking to open conversion in select situations.

**SOURCE OF FUNDING:** None

**VP01-09 LAPAROSCOPY ASSISTED ILEAL URETER FOR LONG UPPER URETERIC STRICTURE**

Manickam Ramalingam<sup>1,2</sup>, Kallappan Senthil<sup>2</sup>, Anandan Murugesan<sup>1</sup>, Mizar G Pai<sup>2</sup>

<sup>1</sup>PSG Institute of Medical Sciences and Research (India)

<sup>2</sup>Urology Clinic (India)

**INTRODUCTION AND OBJECTIVES:** Ileal replacement of ureter is an option in long and multiple ureteric strictures. We present the video of laparoscopy assisted ileal ureter for multiple ureteric strictures.

**METHODS:** 38 year old male presented with recurrent episodes of urinary tract infection. CT Urogram and retrograde ureterogram revealed long upper ureteric stricture and UVJ stricture. Ureteroscopy with 6 fr URS could not negotiate the ureterovesical junction. Guide wire was placed and 5 fr stent threaded. Surgical option of laparoscopic ileal replacement of ureter was decided.

**RESULTS:** With the patient in 70 degree lateral position, using 5 ports (2x 10 mm and 3x 5 mm) the kidney was mobilised. Gonadal vein was divided. Double renal vein and intrarenal pelvis was noted and dissected. Long upper ureteric stricture was noted. A cut ureteric catheter was taken in side through the 5 mm port and was used for measuring the stricture which was found to be 9 cm. Bladder was mobilised from the anterior abdominal wall. Using a 4 cm transverse incision through the lower abdomen ileal loop was exteriorised and a 20 cm ileal was isolated with the vascular supply and ileoileal continuity was restored. The loop was internalised after thorough washout of the loop with dilute betadine saline. The proximal end of the ileum was anastomosed to the pelvis using 4-0 continuous vicryl sutures. The distal end was anastomosed to the bladder using 3-0 continuous vicryl sutures. Tube drain was placed.

**CONCLUSIONS:** Surgery was completed in 300 min. Patient had increased drain for a week which settled conservatively.

**SOURCE OF FUNDING:** None

**VP01-08 LAPAROSCOPIC URETERIC REIMPLANTATION WITH PSOAS HITCH FOR URETERIC INJURY**

Manickam Ramalingam<sup>1,2</sup>, Anandan Murugesan<sup>1</sup>,  
Kallappan Senthil<sup>2</sup>, Mizar G Pai<sup>2</sup>

<sup>1</sup>PSG Institute of Medical Sciences and Research (India)

<sup>2</sup>Urology Clinic (India)

**INTRODUCTION AND OBJECTIVES:** Ureteric injury presenting as urinary ascitis is uncommon. We present of ureteric reimplantation with psoas hitch for a patient who had iatrogenic ureteric injury with urinary ascitis.

**METHODS:** 32 year old female presented with complaints of abdominal distension associated with abdominal pain and fever for 2 days. She had underwent diagnostic laparoscopy 1 month back for infertility and suspected to have endometriosis. She was evaluated and found to have urinary ascitis with right hydro-ureteronephrosis on USG. CT urogram showed right hydro nephrosis with urine leak from right lower ureter. Under GA, in trendelenberg position, using 4 ports (2x 10 mm and 2x 5 mm) right colon was mobilised medially and ureter identified above the pelvic brim. The uretero was traced distally till the ovary. The ureter was found adherent in the pelvis surrounded by necrotic material. Ureter was divided. Bladder mobilised from the left side and the dome in the right lateral aspect sutured with psoas muscle using 2-0 vicryl. Cystotomy was made and ureter sutured with cystotomy using 3-0 vicryl in 2 layers over a stent. Drain was placed.

**RESULTS:** The operative time was 100 minutes and blood loss was 50 ml. Patient was started orally on day 1 and drain removed by day 5. Urethral catheter removed on day 14 and stent removed after 6 weeks.

**CONCLUSIONS:** Laparoscopic psoas hitch ureteric reimplantation is an effective and better alternative to open procedure in patients with ureteric injuries.

**SOURCE OF FUNDING:** None

**V07-07 LAPAROSCOPIC PYELOLITHOTOMY IN A HORSE SHOE KIDNEY IN THE ERA OF PCNL AND RIRS**

Manickam Ramalingam\*, Kallappan Senthil,  
Anandan Murugesan, Mizar Ganapathy Pai,  
*Coimbatore, India*

**INTRODUCTION AND OBJECTIVES:** Percutaneous nephrolithotomy and retrograde intra renal surgery are the cornerstones in stone management nowadays. But pyelolithotomy still holds good in selected cases. We present the video of laparoscopic pyelolithotomy in a patient with horse shoe kidney.

**METHODS:** A 58 years old male patient presented with complaints of recurrent pain in the right loin since 2 years. He was clinically unremarkable and creatinine was 1.3 mg%. Contrast CT revealed horse shoe kidney with bilateral renal calculus with a larger stone measuring 30×20 mm on the right side. The pelvis was dilated and extra renal in configuration. Under general anesthesia, ureter was stented with ureteric catheter. Using 4 ports laparoscopy was done. Colon was reflected medially and the ureter was identified and traced upwards till pelvis. Vertical pyelotomy was done and stone removed in toto. DJ stent was placed and pyelotomy closed with polyglactin sutures. Port sites were closed after placing the drain.

**RESULTS:** The operative time was 125 minutes. The blood loss was approximately 50 ml. Patient stayed for 3 days post operatively. Drain was removed on day 2 and stent removed after 4 weeks after confirming stone clearance with x-ray KUB. Patient underwent ESWL for the left side stone.

**CONCLUSIONS:** Laparoscopic pyelolithotomy is still feasible and effective alternative to PCNL for patients, particularly those with anomalous kidneys.

**Source of Funding:** None

**V05-06 LAPAROSCOPIC URETEROCYSTOPLASTY WITH FASHIONING OF URETER.**

Manickam Ramalingam\*, Kallappan Senthil,  
Anandan Murugesan, Mizar Ganapathy Pai, *Coimbatore, India*

**INTRODUCTION AND OBJECTIVES:** Augmentation Cystoplasty is usually done with ileum. Urothelium lined ureter is preferred for augmentation when suitable (non functioning kidney with dilated ureter). We present the video of Completely Laparoscopic Ureterocystoplasty in a child.

**METHODS:** A 11 yrs old boy who had PUV fulguration at one year, presented now with urge incontinence and Azotemia (Se.Cr1.8). Left Kidney was moderately hydronephrotic due to stricture at VUJ and Right Kidney had gross hydronephrosis with thinned out cortex He was evaluated and found to have poorly compliant overactive bladder. Trial of anticholinergics was unsuccessful and hence he was planned for augmentation cystoplasty. Under GA, with patient in supine position, pneumo peritoneum was created and 4 ports were inserted. Left ureteric reimplantation was done for left VUJ obstruction. After right nephrectomy, the dilated ureter was detubularised, refashioned to fit over the small capacity bladder and sutured to the vertical Cystotomy.

**RESULTS:** The operative time was 360min. Blood loss was 150ml. Patient was tube free by 3 weeks. He is presently on CIC and his creatinine is 1.2mg. Compliance improved post operatively.

**CONCLUSIONS:** Completely Laparoscopic Ureterocystoplasty is safe effective and preferred modality of management of poorly compliant overactive bladder (valve bladder) in selected patients.

**Source of Funding:** None

**V05-05 LAPAROSCOPIC CLOSURE OF FAILED MITROFANOFF CATHETERISABLE STOMA - IS IT FEASIBLE**

Manickam Ramalingam\*, Kallappan Senthil,  
Anandan Murugesan, Mizar Ganapathy Pai, *Coimbatore, India*

**INTRODUCTION AND OBJECTIVES:** Augmentation cystoplasty with continent catheterisable channel based on Mitrofanoff principle is performed for neurogenic bladder. Intervention may be needed in case of complications like obstruction or leakage. We report the laparoscopic approach for closure of Mitrofanoff continent catheterisable conduit to control the persistent leak of urine from stoma.

**METHODS:** A 51 yr old male diabetic presented with nocturnal enuresis and voiding symptoms. Urodynamic study revealed low compliant overactive bladder. After failed trial of anticholinergics and non compliance with clean intermittent catheterisation (CIC), he underwent laparoscopy assisted ileocystoplasty with Mitrofanoff continent catheterisable conduit (Casale modification). Post operatively he was doing (CIC) through the channel for about a year. However the patient had significant leak through the stoma in between CIC. This was causing distress to the extent that he developed suicidal tendencies. Urodynamic evaluation revealed reduced overactivity and improved compliance and stomal leak was present even at a detrusor pressure of 25 cm H<sub>2</sub>O. Under general anesthesia, with the patient in supine position, pneumo peritoneum was created and 3 ports were placed. The intraperitoneal adhesions were released and the catheterisable conduit was completely delineated. The stoma was disconnected from the skin by a circumstomal incision and dissected till the bladder end of the conduit. The mesentery of the conduit was ligated and divided with ultrasonic shears. The conduit was pushed into the peritoneal cavity. The rectus sheath was closed. The bladder end of the conduit was cut flush with bladder and closed with 2-0 polyglactin suture. The excised specimen was removed through the 10 mm port. Tube drain was placed and port sites were closed after achieving hemostasis.

**RESULTS:** The operative duration was 140 minutes and blood loss was negligible. Post operatively, patient was discharged on third day after drain removal. Cystogram was done after 21 days to confirm integrity of the bladder and urethra and then urethral catheter was removed. Since then he is able to comfortably drain his bladder by CIC 3-4 times daily for the past 12 months.

**CONCLUSIONS:** Laparoscopic closure of Continent catheterisable conduit is an effective, safe and precise technique to manage stomal leak, in selected patients in whom alternative urinary drainage channel (urethra) is available.

**Source of Funding:** None

**MP08-18 LAPAROSCOPIC ILEOCYSTOPLASTY IN NEUROGENIC BLADDERS - IDEAL ILEAL LENGTH RE-DEFINED**

Manickam Ramalingam\*, Anandan Murugesan, Kallappan Senthil, Mizar Ganapathy Pai, *Coimbatore, India*

**INTRODUCTION AND OBJECTIVES:** Upper tract damage and distressing urine leak necessitate surgery for most patients with neurogenic bladder. Augmentation ileocystoplasty is one of the final options in managing such bladders refractory to maximal medical management. However the ideal ileal segment length has been arbitrarily fixed irrespective of the bladder capacity. We analysed the results of our patients who underwent laparoscopic ileocystoplasty with an ileal segment of about 10 cm.

**METHODS:** We analysed the pre operative and post operative findings of the patients who underwent laparoscopic ileocystoplasty in our institution. The patients were initially evaluated with bladder diary and urodynamic study and then started on medical management and CIC. Patients who have troublesome leak or upper tract deterioration were taken up for ileocystoplasty after x-ray or CT cystogram. Under general anesthesia, using 4 ports, bladder was mobilised anteriorly followed by transverse cystotomy. A loop of ileum, 25 cm from ileo cecal junction, which could reach the pelvis easily was selected and brought out extracorporeally by extending the para rectus port site. A 10 cm ileal loop was isolated, detubularised and internalized. The isolated segment was sutured to the bladder using 2-0 or 3-0 polyglactin continuous sutures. Supra pubic and urethral catheters were placed and port sites closed after placing a drain. All patients were followed up with cystogram at 3 weeks; and urodynamic study and repeat cystogram at 6 months and yearly thereafter.

**RESULTS:** 10 patients underwent laparoscopic ileocystoplasty (9 laparoscopy assisted and 1 total laparoscopic). The age ranged from 7 yrs to 55 years. All patients had poor compliance and gross overactivity and 5 had small capacity bladder (<150 ml) on urodynamic studies. The mean operative time was 280 (200 to 330) minutes and post op stay was 5.4 (4-7) days respectively. None required blood transfusion. One patient developed subacute intestinal obstruction and one developed had prolonged ileus. 9 patients are on clean intermittent catheterization at a mean follow up of 56 months (6-96). Follow up urodynamic parameters revealed there was a significant increase in the bladder capacity, compliance, and residual urine and significant decrease in the end detrusor pressure, overactive contractions and leak episodes.

**CONCLUSIONS:** Laparoscopic Ileocystoplasty is a feasible minimally invasive option for patients with poorly compliant overactive bladders. Using a shorter ileal segment for augmentation, may help in reduction of long term complications without compromising the outcome.

**Source of Funding:** None

**V03-09 LAPAROSCOPIC REPAIR OF POST RADICAL CYSTECTOMY PARASTOMAL HERNIA**

Manickam Ramalingam\*, Kallappan Senthil, Anandan Murugesan, Mizar Ganapathy Pai, *Coimbatore, India*

**INTRODUCTION AND OBJECTIVES:** Radical cystectomy with ileal conduit is the treatment option for patients with carcinoma bladder who are unfit for neobladder. Conduit, in the long run, leads to stomal complications such as stomal retraction, prolapse and parastomal hernia. we present the video of a patient who underwent laparoscopic repair of parastomal hernia.

**METHODS:** A 72 yr old male had underwent radical cystectomy with ileal conduit urinary diversion for muscle invasive transitional cell carcinoma bladder 3 yrs back. He presented with history of protrusion of stoma and bulging abdominal wall around the stoma. He was found to have parastomal hernia. Under general anesthesia, through 4 ports, laparoscopy was done transperitoneally. Adhesions around the conduit were released and the herniated bowels pulled into the peritoneal cavity. The abdominal wall defect was closed. A bi-layered mesh, one layer polyglactin and the other, prolene, was fashioned to fit around the conduit, and placed with the polyglactin layer facing the bowels. The Mesh was sutured to abdominal wall with prolene sutures. Port sites were closed after ensuring hemostasis.

**RESULTS:** The operative time was 110 minutes. The blood loss was negligible. Patient was started on oral feeds after 24 hours and he was mobile after 24 hours. The conduit was functioning well post operatively and the patient was recurrence free at a follow up of 24 months.

**CONCLUSIONS:** Laparoscopic repair of parastomal hernia is a preferable option for managing parastomal hernia, since the convalescence period is minimal; there is no need for further incisions and there is no need to resite the stoma.

**Source of Funding:** None

**VS16-01 LAPAROSCOPY ASSISTED ILEO CYSTOPLASTY WITH YANG - MONTI MITROFANOFF PROCEDURE**

Manickam Ramalingam,<sup>1</sup> Kallappan Senthil,<sup>2</sup>  
Anandan Murugesan,<sup>1</sup> Mizar G Pai<sup>2</sup>

<sup>1</sup>Dept of Urology, PSG Institute of Medical Sciences and Research, Coimbatore, India, <sup>2</sup>Urology Clinic, Coimbatore, India

Introduction: Ileocystoplasty is one of the common augmentation procedures done for the management of low compliance and low capacity bladders. Mitrofanoff procedure is done to facilitate self catheterization in patients who have urethral obstruction or apprehensive about self urethral catheterization. We present the video of a patient who underwent laparoscopy assisted Ileocystoplasty with Mitrofanoff procedure with Yang-Monti tube. Materials and Method: A 46 year old diabetic patient presented with storage lower urinary tract symptoms for the previous 5 years. He was found to have low compliance, overactive bladder on urodynamic study. Under general anesthesia, using 5 ports, bladder was dissected and mobilised. Through a 5 cm sub umbilical incision, a 10 cm + 3.5 cm segment of ileum was isolated for Ileocystoplasty and Yang-Monti catheterisable channel respectively. Bowel continuity was restored. Ileo cystoplasty was completed by anastomosing detubularised bowel segment to the bladder. Mitrofanoff procedure was completed by a non refluxing anastomosis of catheterisable channel and a stoma was created in the right iliac fossa. Results: The operative duration was 320 minutes and the approximate blood loss was 150 ml. Cystogram at 21 days showed no leak and catheters were removed. Patient is able to perform self catheterization through the mitrofanoff channel and is continent. Conclusion: Laparoscopy assisted Ileocystoplasty with Yang Monti Mitrofanoff procedure is feasible and effective in patients who are unable to perform self urethral catheterization.

**VS11-07 BILATERAL LAPAROSCOPIC DETRUSORRAPHY FOR BILATERAL VESICO URETERIC REFLUX**

Manickam Ramalingam,<sup>1</sup> kallappan Senthil,<sup>2</sup>  
Anandan Murugesan,<sup>1</sup> Mizar G Pai<sup>2</sup>

<sup>1</sup>Department of Urology, PSG Institute of Medical Sciences and Research, Coimbatore, India, <sup>2</sup>Urology Clinic, Coimbatore, India

Introduction: Vesico ureteric reflux may present at any age. Urinary tract infection at any age needs investigation. Bilateral reflux with urinary tract infection in adults may need intervention. We present the video of laparoscopic bilateral detrusorraphy done in a patient with bilateral reflux and recurrent urinary tract infection. Materials and methods: A 28 year old lady presented with recurrent urinary tract infection. She was evaluated and found to have bilateral grade 3 vesico ureteric reflux. Under general anesthesia, using 5 ports, ureters were dissected bilaterally upto the bladder. Detrusorraphy was done bilaterally by wrapping the detrusor over the ureter near the uretero vesical junction. Port sites were closed after ensuring hemostasis. Results: the operative time was 200 minutes and the blood loss was around 100ml. Patient had a 3 days post operative stay in the hospital. Post operative voiding cysto urethrogram showed no reflux. Conclusion: Laparoscopic bilateral detrusorraphy is a feasible and effective treatment option for patients with bilateral vesico ureteric reflux.

### **VS11-06 LAPAROSCOPIC DIVERTICULOCYSTOPLASTY - A FEW TECHNICAL TIPS**

Manickam Ramalingam,<sup>1</sup> Kallappan Senthil,<sup>2</sup>  
Anandan Murugesan,<sup>1</sup> Mizar Pai<sup>2</sup>

<sup>1</sup>Department of Urology, PSG Institute of Medical Sciences and Research, Coimbatore, India, <sup>2</sup>Urology Clinic, Coimbatore, India

**Introduction:** Posterior urethral valve can cause various sequelae including low compliance bladder. Low compliance bladder may be associated with secondary diverticulum. Open diverticulocystoplasty for low compliance bladders has been reported. We present the video of laparoscopic diverticulocystoplasty in a child. **Materials and methods:** A 4 year old boy, presented with storage symptoms for 1 year. He had undergone posterior urethral valve ablation 15 months back. Imaging revealed thick walled (5mm) bladder and right posterolateral bladder diverticulum, left grade III reflux and right obstructive megaureter and normal posterior urethra. Urodynamic study showed poor compliance bladder (3 ml/cm H<sub>2</sub>O). Using 4 ports right ureter was mobilized upto the bladder. Diverticulum was dissected and the ureter was found entering the diverticular neck. Ureter was divided, exteriorized, and tailoring was done. Right ureteric reimplantation was done by Leadbetter-Politano technique. Cystoplasty was done by suturing the diverticulum to the bladder. Lich Gregoir antireflux procedure was done on the left side. **Results:** The operative time was 320 minutes, blood loss was 80ml and hospital stay was 4 days. At 12 months follow up, the child was asymptomatic. Compliance improved to 9ml/cmH<sub>2</sub>O on repeat urodynamic evaluation. Glomerular filtration rate improved on the augmentation is a feasible, effective and less morbid procedure in a child and possibly a better alternative to open undiversion. **right side (28.8 ml/min).** **Conclusion:** Laparoscopic diverticulocystoplasty is a feasible option for paediatric patients with low compliance bladder with diverticulum.

### **VS11-04 LAPAROSCOPIC UNDIVERSION WITH ILEOCYSTOPLASTY**

manickam Ramalingam,<sup>1</sup> Kallappan Senthil,<sup>2</sup>  
Anandan Murugesan,<sup>1</sup> Mizar Pai<sup>2</sup>

<sup>1</sup>Department of Urology, PSG Institute of Medical Sciences and Research, Coimbatore, India, <sup>2</sup>Urology Clinic, Coimbatore, India

**Introduction:** Ileal Conduit is one of the options in neurogenic bladder with compromised renal function. Once the renal function improves undiversion can be done. Laparoscopic undiversion is a technically challenging procedure. We present the video of a patient with an ileal conduit undiverted by laparoscopy. **Materials and methods:** A 10 year old boy, with neurogenic bladder with sacral agenesis, underwent laparoscopic ileal conduit diversion as he had deranged renal function. After 15 months his renal function improved and cystogram revealed a small capacity bladder(50 ml). Urodynamic study confirmed a small bladder capacity and low compliance (3ml/cm H<sub>2</sub>O). Laparoscopy was done with the patient in the supine position using 4 ports. Adhesiolysis was done. Bladder was mobilized and the dome of the bladder was dissected. Stoma of the conduit was released from the abdominal wall with a circumferential incision and stoma site was closed. The ileal loop was detubularised and sutured to the transverse cystostomy. Supra pubic catheter, urethral catheter and drain were placed and the port sites were closed. **Results:** The operative time was 250 minutes and blood loss was 180ml. The child required analgesics for 3 days. Drain was removed on the fifth day and he was discharged. Supra pubic catheter and urethral catheter were removed after cystogram. The patient was taught to do clean intermittent catheterization. At 2 years follow up, child has normal renal parameters with no intercurrent infection. **Conclusion:** Laparoscopic undiversion with augmentation is a feasible, effective and less morbid procedure in a child and possibly a better alternative to open undiversion.

### **MP14-16 SIMPLE TECHNIQUES OF SELF RETENTION OF LAPAROSCOPIC TROCARS**

Manickam Ramalingam,<sup>1</sup> Kallappan Senthil,<sup>2</sup>  
Anandan Murugesan,<sup>1</sup> Mizar G Pai<sup>2</sup>

<sup>1</sup>PSG Institute of Medical Sciences and Research, Coimbatore, India, <sup>2</sup>Urology Clinic, Coimbatore, India

Laparoscopic procedures are replacing almost all abdominal open procedures. Sometimes minor disturbances hinder the progression of surgery. One such hindrance is the constant slipping of the trocar within and outside the abdominal cavity. This movement and repositioning can consume considerable operative time. Fixing the trocar with sutures is usually done with some benefit. Apple trocar with ridges can also act as a self retaining trocar. We present a couple of ideas to prevent constant migration of the trocar. The first one is to use a cut finger stall of the glove and winding it over the trocar tightly. The glove ring in turn may be sutured with the skin to have a tight hold to the abdominal wall. The other idea is to fasten a nut and bolt around the trocar and fixing the skin with the bolt. This gives better hold of the port with the abdominal wall. These innovations reduce the operative time and frustration of the laparoscopic surgeon.

### **VS06-06 LAPAROSCOPY ASSISTED ILEAL URETER FOR UPPER URETERIC STRICTURE**

Manickam Ramalingam,<sup>1</sup> Kallappan Senthil,<sup>2</sup> Anandan Murugesan,<sup>1</sup> Mizar pai<sup>2</sup>

<sup>1</sup>Department of Urology, PSG Institute of Medical Sciences and Research, Coimbatore, India, <sup>2</sup>Urology Clinic, Coimbatore, India

**Introduction:** Upper ureteric stricture is one of the rare complications of ureteric injury during ureteroscopy. Ileal ureter is one of the options for managing long ureteric stricture. We present the case report of a patient with long upper ureteric stricture managed by laparoscopy assisted ileal ureter. **Materials and Method:** 41 yrs old male patient a recurrent stone former, who underwent PCNL 5 years ago and URS twice for upper ureteric calculus 3 years ago, presented with loin pain for 3 months. He was evaluated and found to have upper ureteric stricture. Using 4 ports, laparoscopy was done and left ureter was dissected. Dense adhesions were present around the ureter. Using a 5 cm sub umbilical incision, 20 cm of ileum was isolated and bowel continuity restored. The ends of the ileal loop were anastomosed with the pelvis and bladder. **Results:** The operative time was 320 minutes. Blood loss was around 200ml. Post operative stay was for 5 days. Patient improved symptomatically and a CT urogram after 3 months showed a patent ileal ureter with reduced hydronephrosis. **Conclusion:** Laparoscopy assisted ileal ureter is a feasible and less morbid procedure for upper ureteric stricture compared to open ileal ureter.

### **VS06-05 LAPAROSCOPY ASSISTED BILATERAL ILEAL URETER IN A PATIENT WITH PELVIC LIPOMATOSIS**

Manickam Ramalingam,<sup>1</sup> Kallappan Senthil,<sup>2</sup> Anandan Murugesan,<sup>1</sup> Mizar Pai<sup>2</sup>

<sup>1</sup>Department of Urology, PSG Institute of Medical Sciences and Research, Coimbatore, India, <sup>2</sup>Urology Clinic, Coimbatore, India

**Introduction:** Pelvic lipomatosis is a benign proliferative disorder of the pelvic adipose tissue affecting middle aged individuals. The proliferative mass and the associated inflammation may cause compression or infiltration of the luminal structures such as ureter, bowel or the blood vessels. We report a case of pelvic lipomatosis with bilateral ureteric obstruction managed by bilateral laparoscopy assisted ileal ureter. **Materials and method:** A 45 years old male patient presented with lower urinary tract symptoms. He was evaluated and found to have pelvic lipomatosis with bilateral lower ureteric obstruction and small capacity, poorly compliant bladder, with minimal impairment in renal function. Under general anesthesia, using 5 ports both ureters and bladder was dissected. Using a 5cm sub umbilical incision, 30 cm ileal segment was harvested and a U shaped ileal ureter was constructed with both the ends anastomosed to the pelvis and the dependent part of the loop anastomosed with the dome of the bladder. **Results:** The duration of the surgery was 360 minutes and the blood loss was about 350 ml. Patient discharged on 10th post operative day. Renal function stabilized at S.Creatinine of 1.2 mg/dl. Post-operative urodynamic study revealed improved compliance of bladder. Patient is on self intermittent catheterization twice a day for the obstruction and incomplete emptying. He however voids varied quantities (100-200 ml) in between self intermittent catheterization. 3 months after surgery patient remains asymptomatic. **Conclusion:** Laparoscopy assisted bilateral ileal ureter is a feasible and effective procedure in the management of pelvic lipomatosis with bilateral ureteric obstruction.

### **VS05-01 LAPAROSCOPIC BILATERAL ADRENALECTOMY**

Manickam Ramalingam,<sup>1</sup> Kallappan Senthil,<sup>2</sup> Anandan Murugesan,<sup>1</sup> Mizar Pai<sup>2</sup>

<sup>1</sup>Department of Urology, PSG Institute of Medical Sciences and Research, Coimbatore, India, <sup>2</sup>Urology clinic

**Introduction:** Pheochromocytoma is one of the common tumours of the adrenal gland. 10% of adrenal tumours are bilateral. Laparoscopic adrenalectomy is the treatment of choice for pheochromocytoma. We present the video of laparoscopic excision of bilateral pheochromocytoma. **Materials and Methods:** A 34 year old male patient presented with uncontrolled hypertension. On evaluation he was found to have bilateral adrenal masses (8 cm on the right side and 4 cm on the left side) with elevated urinary catecholamines. Laparoscopic excision of the mass on left side (sparing normal adrenal gland) and laparoscopic adrenalectomy on right side was done. Patient was placed in the right lateral position initially. Using 4 ports, colon was mobilised and left adrenal mass was dissected. Pedicles were controlled and mass was excised. After completion on the left side, the position of the patient was changed to left lateral maintaining the previous epigastric port. Additional 3 ports were placed and right adrenalectomy was completed. The specimen were removed through a 6 cm muscle splitting incision in the right iliac fossa. Port sites were closed after placing a drain. **Results:** The operative time was 280 min. Blood loss was 150 ml (Approx). Post op stay was 3 days. Patient had adequate control of blood pressure with a single calcium channel blocker post operatively. He is on steroid and mineralocorticoid supplementation. **Conclusion:** Laparoscopic bilateral adrenalectomy is a feasible procedure with minimal morbidity in patients with bilateral adrenal tumour.

### **MP25-01 EARLY ONSET DRAIN SITE HERNIA - AN AUDIT**

Manickam Ramalingam,<sup>1</sup> Kallappan Senthil,<sup>2</sup> Anandan Murugesan,<sup>1</sup> Mizar G Pai<sup>2</sup>

<sup>1</sup>Dept of Urology, PSG Institute of Medical Sciences and Research, Coimbatore, India, <sup>2</sup>Urology Clinic, Coimbatore, India

**Introduction:** Laparoscopic procedures for children with urological problems are common in the present scenario. Laparoscopic surgery is associated with complications such as port site hernia, which are not associated with open surgery. Drain site hernia is one variety of port site hernia. **Materials and methods:** We undertook retrospective analysis of the pediatric patients who underwent laparoscopic procedures, for the development of drain site hernias. We also analysed the various methods of prevention. **Results:** Among the 148 children who underwent laparoscopic procedures, 5(3.4%) had a port site hernia in the early post operative period. All of them were drain site hernias with early presentations and the content was omentum. 3 patients had reduction under sedation. 2 patients needed laparoscopy, one for the reduction into preperitoneal space and the other for the non reducible hernia due to omental edema. All the patients had uneventful recovery. **Conclusion:** Port site hernia is an uncommon complication in children undergoing laparoscopy. Sedation during drain removal and judicious use of drain may help to decrease the complications.

### VP19-10 TRANSMESOCOLIC APPROACH TO LAPAROSCOPIC PYELOLITHOTOMY

M. Ramalingam, K. Senthil, M. Pai

**Background:** We describe the technique of transmesocolic approach to laparoscopic pyelolithotomy. Large renal pelvic stones can be managed by multiple puncture PCNL or sandwich therapy (PCNL + ESWL). Laparoscopic pyelolithotomy by a transmesocolic approach is an alternative nephron sparing technique.

**Methods:** A 35 year old man presented with left loin pain of short duration. IVU showed large left renal pelvic stone. The patient was placed in the 70° lateral position. Using 4 ports without mobilizing the colon, the left renal pelvis and upper ureter were approached by incising the mesocolon. A stay was taken from the cephalic segment of pelvis. A linear pyelotomy was made and large pelvic stone extracted in toto. A double pigtail stent (6Fr) was introduced antegrade through a Veress needle cannula. Pyelotomy was closed using 4-0 interrupted vicryl sutures. A tube drain was left in. Mesocolic rent was closed using 3-0 vicryl. This method gives good illumination as the colon is not mobilized.

**Results:** The operative time was 150 minutes, post operative period was uneventful. The tube drain was removed on day 5. IVU done 3 months post operatively showed good functioning left kidney.

**Conclusion:** Laparoscopic transmesocolic pyelolithotomy is safe and effective alternate method to treat the large pelvic stones. The calculus can be usually removed in toto. This also gives good illumination as the colon is not mobilized.

### VP19-06 LAPAROSCOPIC PORTSITE ASSISTED (TRANSPORTAL) ILEAL URETER

M. Ramalingam, K. Senthil, M. Pai

**Background:** We describe the technique of laparoscopic port site assisted (transportal) ileal ureter reconstruction in a tuberculous ureteric stricture.

**Methods:** A 40 year old female patient presented with recurrent UTI and evaluation revealed multiple strictures in the left upper and mid ureter. Right kidney was poorly functioning. Serum creatinine was raised (2.3 mg/dl). Patient had undergone ureteric reimplantation on the right side for lower ureteric stricture 5 years ago. Patient was placed in 45° left loin position. Using 5 ports, the left colon was mobilized and the strictured upper 2/3rds of ureter excised. The 10 mm port in the left iliac fossa was enlarged to 20 mm port and the distal ileum was delivered through this port. This ileal segment (about 20 cm) was isolated and the ileal continuity was restored. The intestine was returned to the peritoneal cavity. The port site was narrowed so as to admit a 12 mm port. Upper end of the isolated ileum was anastomosed to pelvis of the left kidney using 3-0 vicryl over a stent. The lower end of the ileal ureter was anastomosed to the bladder.

**Results:** The operative time was 7 hours and the blood loss was about 100 ml. The recovery was uneventful. The patient was discharged on the 9th post operative day. The serum creatinine settled to 1.5 mg. The nephrostogram done on 14th post operative day showed good drainage. At 15 months followup the serum creatinine is normal and there is no dilatation of the collecting system on the left side.

**Conclusion:** Port site assisted (transportal) laparoscopic ileal ureter is less morbid. The procedure is less time consuming compared to pure laparoscopic ileal ureter.

### VP13-06 LAPAROSCOPIC TRANSURETEROURETEROSTOMY WITH ILEAL CONDUIT IN RADIATION INDUCED VESICOVAGINAL FISTULA

M. Ramalingam, K. Senthil, M. Pai

**Background:** Management of radiation induced VVF can be very frustrating to the patient and the physician. We describe a case of cancer cervix with post radiotherapy VVF. This patient already had rectovaginal fistula for which loop colostomy was done.

**Methods:** Background – 55 year old female presented with locally advanced carcinoma cervix for which she underwent radiotherapy in 2006. She was on regular follow up. She developed rectovaginal fistula in September 2007 and had a sigmoid loop colostomy. Unfortunately she developed a vesicovaginal fistula. Clinically and on imaging, the whole pelvis was found to be frozen and there was a large communication from the bladder to the vagina and rectum and she had bilateral hydronephrosis. Repair of VVF was not technically feasible and the option of diversion by an ileal conduit was discussed. During mobilization the left lower ureter was found to be stuck. As it was an irradiated pelvis and as the patient had renal impairment, it was not possible to take a long loop of ileum to reach the left ureter. Hence a left to right ureteroureterostomy was done laparoscopically and ileal conduit was fashioned transportally.

**Results:** The operative time was 4 hours. The blood loss was about 150 ml. There was no complication during the post operative period. Even though the patient has two stoma bags she is comfortable, ambulant and happy at 15 months follow-up. CT scan done at

### VP2-10 LAPAROSCOPIC UNDIVERSION FROM ILEAL CONDUIT TO ILEOCYSTOPLASTY

M. Ramalingam, K. Senthil, M. Ganapathy Pai—India

**Background:** Laparoscopic ileocystoplasty is a well documented procedure. But laparoscopic ileocystoplasty from an ileal conduit has not been described. Here we illustrate the technique of laparoscopic undiversion.

**Methods:** A 6 years old boy had sacral agenesis with neurogenic bladder and mild renal failure. To stabilize the renal function laparoscopic ileal conduit was done in 2008. One year later his renal function stabilized at Serum creatinine of 1.5 mg/dl. Patient's parents were counselled for undiversion and possible clean intermittent catheterisation and chemoprophylaxis. Using 4 ports the conduit was detubularised along its antimesenteric border using electrocautery. A transverse cystostomy was done to match the length of conduit (about 7 cm). Intracorporeal suturing of cystostomy edge to the conduit was started in the posterior layer using 3-0 Polyglactin sutures. An suprapubic cystostomy was done as a vent. Subsequently the anterior layer suturing is completed. Finally the urostoma is disconnected and extracorporeally closed with 3-0 Polyglactin suture. The stomal site is closed with 2-0 interrupted polyglactin sutures. A tube drain was introduced through one of the flank ports.

**Results:** The operative time was 190 min. Blood loss was about 75 ml. Patient made an uneventful recovery. The SPC was left to drain the mucus plugs as the 8Fr urethral catheter may get blocked with mucus. He was discharged on the 6th postoperative day. The renal function remains stable. Post operative cystogram at 3 months and urodynamic study at 6 months are presented.

**Conclusion:** Laparoscopic undiversion is safe feasible and less invasive method.

**VP2-09 LAPAROSCOPIC EXTENDED PYELITHOTOMY WITH PYELOPLASTY**

M. Ramalingam—India

**Background:** Management of staghorn calculi has always been complex. Partial staghorn calculi have been managed by multiple percutaneous nephrolithotomy with or without ESWL or open extended pyelolithotomy with nephrolithotomy. Laparoscopic extended pyelolithotomy or anatomic nephrolithotomy are less commonly done. The submitted video highlights the technique of laparoscopic extended pyelolithotomy with pyeloplasty.

**Methods:** Equipment: 45 year old male presented with a partial staghorn calculus involving the lower calyces (anterior and posterior) and pelvis. He also had a pelviureteric junction obstruction. As the patient had two pathologies, the options were open surgery or laparoscopy. PCNL with endopyelotomy was not considered due to the need for multiple punctures for the stone and the unsatisfactory results of endopyelotomy. Using 5 ports the colon was mobilized and the ureter and pelvis were dissected. Pyelotomy was planned such that a nondismembered pyeloplasty (fengerplasty) could also be done. Extension into the lower calyx was done. The calculus was removed in toto. Secondary calculi were removed by irrigation during which a few calculi slipped into the perirenal area. A 20 mm port was used for removing the stag horn calculus intact. Nondismembered pyeloplasty (Fengerplasty) was done with 5-0 polyglactin sutures. Subsequently the calyceal incision was sutured. Stent was placed antegrade. Nephrostomy was placed in the middle calyx with an idea to consider second look nephroscopic retrieval of residual calculi. Drain was placed through the flank port.

**Results:** The operating time was 210 minutes. The blood loss was about 50 ml. Nephrostogram was done on the 5th postoperative day. A few secondary calculi were present outside the renal area. A few secondary calculi all less than 4 mm were in the lower minor calyx. These inaccessible calculi were left behind with an idea to manage later by RIRS or ESWL. There was no immediate or delayed surgery related morbidity. At 6 months of follow-up, patient remains asymptomatic, urine culture is sterile and renal function is good.

**Conclusion:** Thus laparoscopic pyelolithotomy with pyeloplasty is an option (even though technically demanding) with the benefits of minimally invasive surgery, minimal morbidity with correction of the pelviureteric junction obstruction.

#### **V2-04 LAPAROSCOPIC ORCHIOPEXY FOR CANALICULAR PALPABLE UNDESCENDED TESTIS**

Manickam Ramalingam, Kallappan Senthil, Mizar Ganapathy Pai  
Urology Clinic Coimbatore.

**Introduction:** When a testis is undescended but felt along inguinal canal or at the level of external ring, the tendency is to explore the inguinal canal. This video describes the technique of laparoscopic approach for the canalicular testis.

**Material and methods:** Since 1995 we have performed laparoscopy on 78 children having undescended testis. 68 had intra abdominal testis, 8 had canalicular testes and 2 had testis at external ring. We were able to mobilize the cord structures within the canal and perform the pexy by scrotal incision (avoiding inguinal incision).

**Results:** There was no conversion in our series. The mean operative time was 75 minutes. There was no immediate complications. There was no hernia in the follow up of 6 months to 13 years.

**Conclusion:** Laparoscopic orchiopexy for canalicular testis is safe and less morbid.

#### **VVL1-033 LAPAROSCOPIC REPAIR OF COLOVESICAL FISTULA**

Manickam Ramalingam, Kallappan Senthil, Mizar Ganapathy Pai  
Urology Clinic, Coimbatore.

**Introduction:** Colovesical fistula is an uncommon complication of colonic diverticulosis. The patients commonly present with irritative LUTS, pneumaturia, fecaluria and recurrent UTI. In general, colectomy and or diversion is carried out after disconnecting the fistula. We describe the technique of laparoscopic repair of colovesical fistula without colectomy or diversion.

**Method:** 74 year old male presented with fecaluria. Investigations confirmed colovesical fistula. Colonoscopy and cystoscopy ruled out malignancy. Using 5 ports the fistula was identified and excised. In both of our patients the colon did not show any active inflammation and was pliable. The colonic defect was closed primarily without colectomy or proximal diversion. Bladder rent was closed in two layers. The omentum was interposed.

**Result:** The operative time was 210 and 230 minutes respectively. The average blood loss was 100 ml. There were no intraoperative or postoperative complications. The first patient was discharged on the 7th post operative day. The second patient had status asthmaticus on the 6th postoperative day and hence had to stay for 4 more days. Cystogram on 14th day did not show any leak and hence catheter was removed. Cystoscopy done after three months showed a well healed scar.

**Conclusion:** Laparoscopic repair of colovesical fistula may be carried out without colectomy or colonic diversion in selected situations. Laparoscopic approach is less invasive and is an effective method of management of colovesical fistula.

#### **VVL1-106 LAPAROSCOPIC URETERIC REIMPLANTATION IN MEGA URETER WITH TRANSPORTAL TAILORING**

Manickam Ramalingam, Kallappan Senthil, Mizar Ganapathy Pai  
Urology Clinic Coimbatore.

**Introduction:** We describe the hybrid technique of laparoscopic reimplantation of ureter with extracorporeal tailoring (transportal) in megaureter.

**Method:** Since 2007 we have used the transportal technique of tailoring the mega ureter during laparoscopic reimplantation. The transected distal ureter was delivered through the port in the ipsilateral iliac fossa and extracorporeal tailoring was done and stent was placed. The tailored ureter was returned to the abdominal cavity and laparoscopic extravesical ureteric reimplantation was done using Lich Gregoir's technique.

**Result:** The overall operative time was reduced by about 45 minutes when compared to pure laparoscopic reimplantation. The patients were discharged on the fourth post operative day. Follow-up cystograms are presented.

**Conclusion:** This hybrid technique of a laparoscopy combined with extracorporeal port site assisted tailoring offers the benefit of easy ureteric tailoring and stenting.

#### **V4-11 LAPAROSCOPIC TRANSPORTAL ILEO CYSTOPLASTY**

Manickam Ramalingam, Kallappan Senthil, Mizar Ganapathy Pai  
Urology Clinic Coimbatore.

**Introduction:** Open augmentation cystoplasty using ileal loop is an acceptable option for poorly compliant low volume bladder with gross instability. This video explains the technique of transportal ileocystoplasty.

**Method:** Since January 2004, 2 patients had undergone laparoscopic ileocystoplasty.

The first patient was a 9 year girl with spinal dysraphism with a patent urachus and poorly compliant small bladder with gross instability and bilateral grade 4 reflux.

The second patient was 32 year old with post spinal injury poorly compliant bladder with gross instability. In both these patients the bowel loop was brought out through the port (12 mm or 15 mm) in the pararectus area for isolating the ileal loop and restoring ileal continuity. Subsequently the prepared patch of ileum was returned into the peritoneal cavity and sutured to the bladder laparoscopically.

**Result:** The operative time for the procedure is 270 and 290 minutes respectively. The patients were discharged on the 5th day post-operative day. Second patient had catheter blockage, leak and ileus which settled with conservative management. Follow-up cystogram and urodynamic study are presented

**Conclusion:** Extracorporeal anastomosis of the ileum reduced the over all time for surgery. Results were comparable with open augmentation ileocystoplasty.

### V3-03

#### LAPAROSCOPIC FINGERPLASTY IN HORSESHOE KIDNEY

*Manickam Ramalingam, Kallappan Senthil, M.Ganapathy Pai  
K.G. Hospital and Post Graduate Institute, Coimbatore, India*

**Introduction:** Pelvi ureteric junction obstruction occurs in about 15 – 33 % of patients with horseshoe kidney. The technique of pyeloplasty in a horseshoe kidney may not be exactly the same as in normal kidney. We describe the technique and the modifications.

**Method:** An 18-year-old girl presented with a symptomatic obstructed left hydronephrosis (pelviureteric junction) in a horseshoe kidney. The patient was put in the left loin position with a 70-degree tilt. The camera port was placed at the level of the umbilicus, which generally would be placed higher in a normal placed kidney with PUJ obstruction. Care was taken to avoid injury to anomalous vessels to the pelvis. The ureter was found to be inserted high into the pelvis. The lie of the ureter and the pelvis was such that they were opposing each other and hence a fengerplasty was carried out with a stent.

**Result:** The operative time was about 150 minutes (similar to a laparoscopic pyeloplasty in a normal placed kidney in our centre). The patient did not have any immediate or delayed postoperative complications. At six months follow-up she was asymptomatic and imaging revealed improvement in the drainage.

**Conclusion:** The video is presented to highlight the modification in position, trocar placement and the technique of pyeloplasty in horseshoe kidney.

### V13-02

#### LAPAROSCOPIC PARTIAL CYSTECTOMY IN ENDOMETRIOSIS OF BLADDER

*Manickam Ramalingam, Kallappan Senthil, Renugadevi Ramalingam  
K.G. Hospital and Post Graduate Institute, Coimbatore, India*

**Introduction:** When hormonal manipulation is not effective in the management of endometriosis involving the bladder, surgical management may be considered. Laparoscopic partial cystectomy is a good option especially when endometriosis does not involve the ureteric orifice.

**Method:** We present the procedure and results in a 35-year-old lady who had suprapubic pain and cyclical hematuria. CT Scan or MRI Scan is helpful to plan the procedure.

Transperitoneal approach is preferable to access most of the areas of bladder.

The patient was put in the supine position with Trendelenburg tilt with provision for intraoperative cystoscopy. Using 4 ports (umbilical telescope port, 2 para-rectal ports and a flank port for hand instruments) the bladder lesion was approached. Cystoscopy helped to plan the cystotomy laparoscopically. Once the edge of the lesion was seen it was easier to complete the excision. Bladder defect was closed with interrupted 2 – 0 vicryl sutures. Distending the bladder did not reveal any leak. Omental reinforcement was also done. Tube drain was left in through the flank port.

**Result:** Operative time was 210 minutes. She did not have any immediate or delayed postoperative complications. Postoperative cystogram on day 7 did not show any extravasation and foley catheter was removed on day 10. She was asymptomatic at 6 months follow-up.

**Conclusion:** Partial cystectomy for benign conditions like endometriosis is a fairly straight forward procedure with obvious advantages especially when the specimen can be removed by colpotomy avoiding extension of the port incision.

### MP7-19

#### LONG TERM FOLLOW UP OF LAPAROSCOPIC PYELOPLASTY – LESSONS LEARNT

*Manickam Ramalingam, Kallappan Senthil, Krishnasamy Selvarajan,  
M.Ganapathy Pai  
K.G.Hospital and Post Graduate Institute, Coimbatore, India*

**Introduction:** Laparoscopic pyeloplasty produces comparable results to open surgery. We report our follow up of 68 patients who underwent laparoscopic pyeloplasty. The results are presented.

**Method:** Since 1998, 41 adults and 27 children had laparoscopic pyeloplasty for congenital pelviureteric junction obstruction. Approaches were either transperitoneal or retroperitoneal. A transmesocolic approach on the left side was done if mesentery was thin with less vasculature. Several simple modifications in the procedure like use of stay sling through abdominal wall were evolved. The decision to do dismembered or non-dismembered pyeloplasty is exactly as in open surgery. All patients had a stent inserted and all had a drain.

**Result:** The mean operating time has reduced from 300 minutes to less than 200 minutes now. The patients stayed in the hospital for a mean of 5 days. 3 patients had UTI; 2 urinary leak which settled; and 2 had prolonged ileus. One patient needed an open redo pyeloplasty. The results of the follow up are presented.

**Conclusion:** Over a period of 7 years laparoscopic pyeloplasty has become an established procedure in our unit. Lessons were learnt and new technical modifications were instituted. The results were comparable to open pyeloplasty.

### VP8-02

#### TRAINING IN LAPAROSCOPIC UROLOGY IN DEVELOPING COUNTRIES – EVOLUTION OF SIMPLE TRAINING MODULES AND THEIR EVALUATION

*Manickam Ramalingam, Kallappan Senthil, Krishnasamy Selvarajan,  
M.Ganapathy Pai  
K.G. Hospital and Post Graduate Institute, Coimbatore, India*

**Introduction:** Training methodology and evaluation of acquired skills in Laparoscopic Urology are still not standardized. Different models have been described to develop skills in suturing and knotting. We have evolved animal modules and endotrainer suitable in developing countries. The trainees were evaluated by a questionnaire after 6 months.

**Method:** Since 2002 we have instituted a training program in Urological Laparoscopy lasting for 4 days. Till 2004 the training involved inanimate objects and live animal lab laparoscopy. Since 2004 we have incorporated several wet models to develop the skills simulating pyeloplasty, pyelolithotomy, ureteric stenting, urethrovesical anastomosis using bovine kidney and ureter, chicken skin and intestine. We have also developed a low cost endotrainer for the trainees to take home and practice continuously.

**Result:** 103 trainees completed the training program and filled a self-assessment form at the end of the program. They were all subsequently reevaluated at the end of 6 months. The results are presented.

**Conclusion:** Introduction of animate models in the Urological Laparoscopic training helps in improving the skills. Continuous training with a low cost endotrainer was an important aspect of developing skills in suturing and knotting.

### MP23-01

#### LAPAROSCOPIC TRANSVESICAL URETERIC REIMPLANTATION FOR VUR AND URETEROCELE – EVALUATION OF AN EVOLVING PROCEDURE

*Manickam Ramalingam, Kallappan Senthil, Krishnasamy Selvarajan, M.Ganapathy Pai  
K.G. Hospital and Post Graduate Institute, Coimbatore, India*

**Introduction:** Laparoscopic correction is one of the options for any patient who needs a surgical correction of the high-grade vesicoureteric reflux and ureterocele. Transperitoneal laparoscopic extravesical ureteroneocystostomy has been performed with good results. Only three laparoscopic transvesical cross-trigonal reimplant has been described to our knowledge. We describe the technique with our modifications and present the results.

**Method:** Since Jan 2005, 2 children and one adult with surgical vesicoureteric reflux and another adult with ureterocele had transvesical reimplantation. Our modifications include using bladder stay using sharp trocar for balloon tipped port and urethral foley catheter for suction and irrigation. Surgical steps were same as in open Cohen's procedure. In ureterocele the dissection of the thin ureter has to be meticulous. A suprapubic catheter was left through one of the ports. Urethral foley was left in for a week.

**Result:** The mean operative time was 200 minutes. None of the patients had any major morbidity except for mild febrile episode in one of the three patients. The patients are being followed up.

**Conclusion:** Follow up revealed resolution of reflux in all the patients. The long-term outcome and potential physiological effects of carbon dioxide pneumovesicum on the bladder and upper-tract function will need evaluation. Laparoscopic transvesical reimplantation reproduces all the steps of open Cohen's reimplantation with minimal morbidity.

### MP27-02

#### LAPAROSCOPIC ILEO CYSTOPLASTY – OUR EXPERIENCE IN 3 PATIENTS

*Manickam Ramalingam, Kallappan Senthil, Krishnasamy Selvarajan, M. Ganapathy Pai  
K.G. Hospital and Post Graduate Institute, Coimbatore, India*

**Introduction:** Open augmentation cystoplasty using ileal loop is an acceptable option for poorly compliant low volume bladder with gross instability. We describe our experience with laparoscopic ileocystoplasty in 3 patients and their follow up.

**Method:** Since January 2004, 3 patients with had undergone laparoscopic ileocystoplasty.

The first was a 14 year old girl with severe intractable detrusor instability with high bladder pressures not responding to prolonged conservative treatment. Ileocystoplasty was done completely by intracorporeal suturing.

The second patient was a 9 year girl with spinal dysraphism with a patent urachus and poorly compliant small bladder with gross instability and bilateral grade 4 reflux.

The third patient was a 32 year old patient with post spinal injury poorly compliant bladder with gross instability.

In these two patients ileoileal continuity was restored extracorporeally.

**Result:** The overall operative time was 370 minutes for the first patient done entirely intracorporeally. The second and third patients took about 290 minutes. The patients were discharged on the 5th day post-operative day. Second patient had catheter blockage and leak and ileus. Follow-up cystogram and urodynamic study are presented.

**Conclusion:** Extracorporeal anastomosis of the ileum reduced the overall time. Results were comparable with open augmentation ileocystoplasty.

**V13-10****LAPAROSCOPIC URETEROCYSTOPLASTY AND NEPHRECTOMY IN CHRONIC RENAL FAILURE ( PRETRANSPLANT )***Manickam Ramalingam, Kallappan Senthil, M.Ganapathy Pai, Raju Balasubramaniam**K.G. Hospital and Post Graduate Institute, Coimbatore, India*

**Introduction:** In a patient with valve bladder and recurrent UTI with chronic renal failure nephrectomy ( to reduce posttransplant infection) and ureterocystoplasty is ideal. We present this video describing the technique of laparoscopic ureterocystoplasty and nephrectomy.

**Method:** A 25 year old male who had PUV with bilateral VUR who has had multiple previous surgeries (valve fulguration, bilateral cutaneous ureterostomy and closure, bilateral open pyelolithotomy). At the age of 24 he presented with features of end stage renal disease. MCU revealed Grade IV right VUR. Urine culture was positive on many occasions. Cystometrogram revealed poorly compliant bladder and hence we planned right nephrectomy and ureterocystoplasty. Preliminary cystoscopy was done to have an idea of ureteric orifice location and ureteric catheter was placed to guide intraoperatively. With the patient in 70 degree right flank up position right ureter was mobilized. Ureter was transected above pelvic brim level and detubularized medially up to juxtahiatal level. Corresponding cystotomy was done and ureterocystoplasty was done using 3 – 0 vicryl suture. Adding one more port in epigastrium nephrectomy was completed and specimen was retrieved through a 5 cm incision in right flank.

**Result:** Patient made uneventful recovery and was discharged on 7th postoperative day, Cystogram was done on 14th postoperative day which showed improved capacity. Cystometrogram done 6 weeks later showed better compliance. There was no immediate or delayed complication. Now the patient is being prepared for renal transplantation.

**Conclusion:** Laparoscopic ureterocystoplasty and nephrectomy can be done in a CRF setting if done by an experienced team.

**V10-11****LAPAROSCOPIC ASSISTED ILEOCYSTOPLASTY - OUR EXPERIENCE IN 2 CASES***Manickam Ramalingam, Kallappan Senthil, M.Ganapathy Pai**G.K.N.M. Hospital, Coimbatore, India*

**Introduction:** Hyperreflexic poorly compliant neurogenic bladders are a threat to the upper tract. These bladders need to be augmented with bowel. Laparoscopic ileocystoplasty done totally intracorporeally has been described. As this is quite time consuming, we performed the harvesting of ileal loop and ileoileal anastomosis extracorporeally.

**Method:** 2 patients with hyperreflexic poorly compliant bladders with bilateral hydroureteronephrosis underwent laparoscopic assisted ileocystoplasty. Preliminary MCU, IVU, cystometry, cystoscopy and urine culture are essential. Bowel needs to be prepared well. With the patient in supine position, using supraumbilical telescope port and two pararectal hand instrument ports, the bladder and bowel segment to be selected were inspected. The supraumbilical port was extended to about 3 cms to bring out the distal ileum for isolation and restoring ileoileal continuity in one patient and in the other patient the 12 mm pararectal port was used. Subsequently the bowel segment was pushed into the peritoneal cavity and rectus closed tightly around the camera port. Rest of augmentation is done with free hand suturing intracorporeally. An extraperitoneal trocar SPC was preferable. Omental tacking was done. A tube drain was introduced through flank port.

**Result:** The operative time was about 240 minutes. The first patient had prolonged ileus which settled conservatively. Catheters were removed after a cystogram was done to rule out any extravasation. The patients are being followed up and followup cystogram and urodynamic study are presented.

**Conclusion:** Laparoscopy assisted ileocystoplasty is a hybrid of open and laparoscopic approach, and it helps to reduce the operating time by about 1 hour.

**V3-05****LAPAROSCOPIC CULP FLAP PYELOPLASTY***Manickam Ramalingam, Kallappan Senthil, Arjunan Rajachandran K.G. Hospital and Post Graduate Institute, Coimbatore, India*

**Introduction:** Long avascular strictures, total obliteration of the UPJ, and severe periureteral fibrosis are clear contraindications to endourological procedures. Overall results have, in general, been unsatisfactory. Patients with these features are treated by open repair or laparoscopic surgery whenever possible. Culp-deweered flap is one of the option in this situation. We describe laparoscopic Culp flap pyeloplasty.

**Method:** A 35-year-old man presented with right hydronephrosis due to a long UPJ stricture. Initial retrograde pyelogram confirmed the same. Patient was put in the loin position and using 3 ports the UPJ and ureter were dissected out. As the narrowed segment was long a spiral flap was raised from the pelvis. This was flipped and sutured to the UPJ and ureter after the ureterotomy was extended up to the normal caliber ureter. The preplaced stent was pushed into the pelvis and the pyelotomy was closed. A tube drain was left in.

**Result:** The operative time was 250 minutes (more than the usual dismembered laparoscopic pyeloplasty). Apart from a short febrile episode, the patient did not have any problems. Postoperative renogram showed good drainage.

**Conclusion:** Culp flap is a good option for a long UPJ stricture with good pelvis. This can be performed laparoscopically with obvious benefit to the patient.

**V10-09****LAPAROSCOPIC REPAIR OF VESICOUTERINE FISTULA***Manickam Ramalingam<sup>1</sup>, Kallappan Senthil<sup>1</sup>, Varadarajan Raja<sup>2</sup>**<sup>1</sup>K.G.Hospital Hospital and Post graduate Institute, Coimbatore, India, <sup>2</sup>Balaji Hospital, Coimbatore, India*

**Introduction:** Vesicouterine fistula is a rare complication after lower segment caesarean section. Patients usually present with cyclical hematuria. Though combined abdominal and vaginal approach has been described the preferred management is disconnection by abdominal route.

**Method:** We describe the repair of vesicouterine fistula in a 35-year-old female who presented with cyclical lower abdominal pain and recurrent UTI. Preliminary cystoscopy and CT Cystogram confirmed the presence of the fistula. Patient was placed in the lithotomy position to facilitate intraoperative cystoscopic view and to maneuver uterus and to instill methylene blue into the uterus for confirming the fistulous connection to the bladder. 4 ports (Umbilical camera port, 2 pararectal and one right flank port for hand instruments) were used. Fistula was disconnected from uterus using bipolar scissors. Cystotomy was made and the fistula was excised. Uterine rent was closed with interrupted 2 – 0 vicryl. Omentum was tacked onto the anterior lip of cervix. Bladder rent was closed in 2 layers using 3 – 0 vicryl sutures. Tube drain was left in for about 5 days. Bladder was drained by foley catheter for 7 days.

**Result:** The operative time was 190 minutes. The patient did not have any significant immediate or delayed postoperative complication. A cystogram was done on day 7 to rule out urinary extravasation. Foley catheter is removed on day 10. Follow up cystoscopy and cystogram revealed well healed scar and the patient was asymptomatic.

**Conclusion:** With increasing laparoscopic suturing skill, vesicouterine fistula repair can also be managed laparoscopically.

## V10-05

### LAPAROSCOPY ASSISTED ILEAL CONDUIT IN NEUROGENIC BLADDER

*Manickam Ramalingam, Kallappan Senthil, M.Ganapathy Pai*  
*K.G.Hospital and Post Graduate Institute, Coimbatore, India*

**Introduction:** In noncompliant bladders, one of the options is augmentation with intermittent self catheterization. Ileal conduit is done occasionally when major reconstructive procedures are not possible or not suitable. Major reconstruction may be planned later.

**Method:** We describe the procedure in a 4 year old boy with sacral agenesis with a noncompliant bladder with bilateral reflux who was not willing for any form of self catheterization. The primary port for the camera is inserted mid way between epigastrium and umbilicus to gain access to both ureters and ileum. A 12 mm port was inserted at the proposed site of the ileal conduit. Two 5 mm working ports were inserted. The ureters were identified where they cross the pelvic brim and dissected down up to the bladder, and ligated and divided. The left ureter was brought to the right behind the sigmoid mesocolon. The loop of ileum and the ureters were brought out through the 12 mm trocar and the ureteroileal anastomosis was done extracorporeally with a 5 F infant feeding tube as stent. Once the anastomosis was carried out the pneumoperitoneum was again created and the ileal loop and conduit were pulled back into the peritoneal cavity. The ileal conduit stoma was fashioned in the usual manner. A drain was brought out through the left 5 mm port.

**Result:** The procedure took 180 minutes. There were no immediate or delayed post procedural complications.

**Conclusion:** Laparoscopic assisted procedures reduce the overall operating time and hence may be suitable in select situations.

## V20-11

### LAPAROSCOPIC URETEROCYSTOPLASTY

*M.Ramalingam, K.Senthil, K.Selvarajan, M.G.Pai*  
*K.G.Hospital and Post graduate Institute*  
*Coimbatore, India*

#### Introduction

Ureter is probably one of the ideal tissues to augment the bladder. We present details of the procedure performed for a 9-year-old girl with spinal dysraphism with a noncompliant unstable small bladder.

#### Methods

A 9-year-old girl with lipomeningocele operated in childhood had severe urgency and frequency. IVU and voiding cystourethrogram showed poorly functioning left kidney with bilateral grade 5 reflux. Urodynamics revealed a small poorly compliant grossly unstable bladder. Laparoscopy revealed grossly dilated ureters bilaterally. The left ureter was dissected out and a side-to-side ureterocystoplasty was carried out using 3-0 vicryl sutures.

#### Results

Patient was discharged on the 7<sup>th</sup> postoperative day. Urethral foley catheter was removed as outpatient after 3 weeks. The girl did not have any immediate or delayed postoperative complications. She is being followed up.

#### Conclusion

Laparoscopic ureterocystoplasty can be successfully performed in centers with good reconstructive laparoscopic experience. We describe our technique and results.

## V19-07

### LAPAROSCOPIC URETEROCALICOSTOMY – OUR EXPERIENCE IN 3 PATIENTS

*M.Ramalingam, K.Senthil, K.Selvarajan, M.G.Pai*  
*K.G.Hospital and Post graduate Institute*  
*Coimbatore, India*

#### Introduction

Ureterocalicostomy is a salvage procedure that is used when it is not possible to anastomose the upper ureter to the pelvis. To our knowledge only 1 report has been published in the world literature. We present our experience in 3 patients.

#### Methods

Laparoscopic ureterocalicostomy was performed in 3 patients since June 2004. The first patient was a 50-year-old man with stricture upper ureter close to the pelviureteric junction. The 2<sup>nd</sup> patient was a pelviureteric junction obstruction. The 3<sup>rd</sup> patient was a 30-year-old lady with scarred intrarenal pelvis and secondary calculi. Preliminary cystoscopy and retrograde study was done to delineate the anatomy of the obstruction. A stent was preplaced to lie below the obstruction with the guide wire in the pelvis. With the patient in the 70-degree kidney position the upper ureter and the dilated lower calyx with thin cortex were exposed. Harmonic scalpel was used to take out a button from the thinned out dependent cortex at close proximity to the ureter. The anastomosis was carried out with 3-0 vicryl and the stent was placed into the dilated lower calyx. The 1<sup>st</sup> patient and the 3<sup>rd</sup> patient had nephrostomy tube insertion. The 3<sup>rd</sup> patient had secondary stones that were removed using flexible nephroscope and ureteroscopy.

#### Results

There were no immediate or delayed postoperative complications. The patients are being followed up.

#### Conclusion

Laparoscopic ureterocalicostomy is a feasible procedure. We present this for the technical details and extraperitoneal insertion of the nephrostomy catheter during laparoscopy.

## MP28-18

### LAPAROSCOPIC TRANSMESOCOLIC PYELOPLASTY – OUR EXPERIENCE IN 22 PATIENTS

*M.Ramalingam, K.Senthil, K.Selvarajan, M.G.Pai*  
*K.G.Hospital and Post graduate Institute*  
*Coimbatore, India*

#### Introduction

Several reports have shown that laparoscopic pyeloplasty produces comparable results to open surgery. We report our experience in 22 patients with transmesocolic approach to the left ureteropelvic junction. This direct approach appears to be even less invasive and the results were comparable.

#### Methods

Since 1998, 22 patients, 8 children and 14 adults had laparoscopic transmesocolic pyeloplasty for congenital pelviureteric junction obstruction. Obstruction was confirmed by IVU and isotope renogram. Soon after the insertion of the telescope a decision is made regarding whether transmesocolic approach is feasible. If the mesentery has less fat and if the vasculature of the mesocolon is conducive to approach the pelviureteric junction then a transmesocolic mobilization of the pelviureteric junction is undertaken. The decision to do dismembered or non-dismembered pyeloplasty is exactly as in open surgery. As the colon is not mobilized the operating field is clear. Only 2 adults and 2 children had no dismembered pyeloplasty. All patients had a stent inserted and all had a drain.

#### Results

The mean operating time was 150 minutes. The patients stayed in the hospital for a mean of 5 days. 3 patients had UTI; 2 urinary leak which settled; and 2 had prolonged ileus. The patients were followed up with IVU or isotope renogram or both as needed. The results of the follow up are presented. The results were comparable to 43 laparoscopic pyeloplasty procedures performed during the same period by the same group.

#### Conclusion

Laparoscopic pyeloplasty has become an established procedure. We describe our technical modification of using a transmesocolic approach to the left pelviureteric junction with similar results.

## V 24 / 5

### URO LAP TRAINING IN INDIA-DEVELOPING COUNTRY SCENARIO

**M. RAMALINGAM**, K. Senthil, M. G. Pai, K. Selvarajan  
KG Hospital and Postgraduate Institute, India

#### **Introduction :**

The need for training in laparoscopy is evident from the number of trainees wanting to undergo training in laparoscopy.

#### **Method :**

The basic course in Urologic laparoscopy is a four day intensive training which involves several modules. The trainees are usually practicing Urologists or Post-graduate trainees who have just completed their training. On day one and day two the trainees are taught a set of six endotrainer exercises (shown on video) after lectures on the basic instruments. The locally developed endotrainer box is very cost effective and does not need a telescope and an assistant to hold the camera. The trainees may be involved in live surgery on the second day. On the day three the trainees operate on live anesthetized pig in the animal laboratory. Day four is reserved for furthering their endotrainer skills and studying the various videos of the entire range of Urologic laparoscopy procedures that have been performed at our centre. Suturing and knotting techniques are taught to the trainees. All the trainees complete the evaluation form at the end of the training, which is analysed for two purposes. Firstly to correct the shortcomings and secondly to assess the trainees. An advanced animal lab training has been instituted to help Urologists who are already doing Urologic laparoscopy and wanting to do advanced reconstructive procedures.

#### **Result :**

A total of 64 urologists have undergone the training. 2 were from United Kingdom, and one was from UAE. All of them completed the assessment form. The results were analysed. Most of them were satisfied with the programme and were able to start of doing laparoscopy. Most of the trainees purchased the endotrainer boxes and continued the endotrainer exercises.

#### **Conclusion :**

In a developing country like India, structured Urologic Laparoscopic training is not available in teaching institutions and hence the urologists have to resort to training available in the private setup. Following the basic training most of the Urologists continue on the endotrainer exercises at their own hospital as they cannot spend long periods of time at the training centers. The entire programme (and the endotrainer box) is cost effective and suitable for the trainees.

## V 23 / 1

### LAPAROSCOPIC PYELOLITHOTOMY IN CHILDREN

**M. RAMALINGAM**, K. Senthil, K. Selvarajan, M. G. Pai,  
KG Hospital and Post Graduate Institute, Coimbatore, India

#### **Introduction:**

It is generally safe to do any laparoscopic procedure in children that are safe in adults. Retroperitoneoscopy also has been safely performed in children. PCNL in young children may cause significant nephron damage and open surgery certainly has increased morbidity. Laparoscopic pyelolithotomy would be an option especially in large calculi in extrarenal pelvis, secondary pelvic calculi with PUJ obstruction and ectopic kidney with calculi.

#### **Method:**

We describe our experience in 3 children with a single large and multiple pelvic calculi. Intraoperative stent placement was facilitated by verres needle or ureteroscopy through one of the ports.

#### **Result:**

The children recovered well with minimal morbidity.

#### **Conclusion:**

Laparoscopic pyelolithotomy in children has the advantage of minimal morbidity and without any nephron damage.

## V 10 / 7

### LAPAROSCOPIC EXCISION OF SEMINAL VESICLE CYST

**M. RAMALINGAM**, K. Senthil, K. Selvarajan, M. G. Pai,  
Urolap Training Centre, India

#### **Introduction :**

Cysts of the seminal vesicles are rare. Usually they are associated with renal agenesis. When they are symptomatic, open surgical excision has been the treatment of choice. We present our experience with laparoscopic excision.

#### **Method :**

A 35 year old patient presented with hematospermia and dysuria. Investigations for genitourinary tuberculosis were negative. Transabdominal and transrectal ultrasound showed the presence of the cyst involving the left seminal vesicle. Computerized tomography confirmed the exact location of the cyst to be involving the left seminal vesicle. The left kidney was normal. Cystoscopy did not show any bulge in the prostatic urethra. Using a 10 mm umbilical port and two 5mm ports pararectally on either side the cyst was dissected out. A rectal finger was inserted to know the exact plane and avoid injury to the rectum.

#### **Result :**

The laparoscopic operative time was 190 minutes and estimated blood loss was 50 ml. Catheter and drain were removed on the third postoperative day. The patient stayed in the hospital for four days. The patient did not have any significant intraoperative or postoperative morbidity.

#### **Conclusion :**

Seminal vesicle cysts are rare but they should be considered in men with otherwise inexplicable irritable voiding symptoms, hematospermia, perineal discomfort or other genitourinary complaint of unclear etiology. Evaluation should include transrectal and transabdominal ultrasound, computerized tomography and cystoscopy. Laparoscopy provides excellent intraoperative access and visualization with minimal postoperative morbidity.

## V 10 / 2

### LAPAROSCOPIC BOARI FLAP REIMPLANTATION

**M. RAMALINGAM**, K. Senthil, K. Selvarajan, M. G. Pai  
KG Hospital and Post Graduate Institute, Coimbatore, India

#### **Introduction :**

Boari flap reimplantation is indicated in lower ureteric pathology when the length of the ureter is not sufficient for direct reimplantation. The vesicoureteral anastomosis requires considerable skill and training in suturing and knotting when done laparoscopically.

#### **Method :**

A 22-year-old male presented with recurrent right loin pain. On IVU and Retrograde pyelogram the lower 8 cm of the ureter was adynamic. Through a 5 port technique the lower ureter was transected above the adynamic segment and spatulated. A bladder flap was dissected from the dome and left anterior wall and anastomosed to the ureter using 3-0 polyglycolic acid sutures after inserting a ureteric stent. A second layer of reinforcing sutures was placed. A trocar suprapubic catheter was inserted extraperitoneally into the bladder and the anastomosis was wrapped with omentum.

#### **Result :**

The procedure took a total of 420 minutes. There was no intraoperative or immediate postoperative morbidity. The histopathology of the segment was reported as adynamic segment of ureter.

The patient is being followed up.

#### **Conclusion :**

Laparoscopic Boari flap reimplantation is a rewarding procedure but needs significant skill in laparoscopic intracorporeal suturing. To our knowledge his has not been reported in literature.

## V 8 / 11

### LAPAROSCOPIC REPAIR OF VESICOVAGINAL FISTULA- OUR EXPERIENCE

**M. RAMALINGAM**, K. Senthil, K. Selvarajan, M. G. Pai  
KG Hospital and Post Graduate Institute, Coimbatore, India

#### **Introduction :**

The approach to VVF depends on the site of the fistula and the experience of the surgeon.

#### **Method :**

35-year-old patient developed a VVF following hysterectomy for benign condition. Repair of VVF was carried out after 3 months by transperitoneal route by laparoscopy. The bladder was bivalved and the fistula was excised and closure of vagina and bladder were done using 3-0 polyglycolic acid sutures. Omentum was transposed between the bladder and vagina. Similar repair was done in another 38-year-old post hysterectomy VVF. The next was a 48-year-old lady who developed a VVF, had a successful repair through a transvesical and transurethral approach. The repair was carried out 2 weeks post hysterectomy. The suturing was done through a needle holder passed through the urethra. A telescope port and a working port were passed into the bladder for the repair. Water was used as a medium instead of CO<sub>2</sub> to avoid bladder collapse keeping a vaginal pad.

#### **Result :**

The hospital stay was around 5 days. There was no significant immediate postoperative morbidity. The patients have been followed for 6 months to 1 year postoperatively and did not develop any leak.

#### **Conclusion :**

In women with VVF a minimally invasive repair has the obvious advantage of minimal morbidity but also reduces the emotional anxiety due to a major open procedure in these patients who already have had a major procedure.

## V 4 / 8

### LAPAROSCOPIC URETEROPYELOSTOMY- OUR EXPERIENCE IN 3 PATIENTS

**M. RAMALINGAM**, K. Senthil, K. Selvarajan, M. G. Pai  
K. G. Hospital and Post Graduate Institute, Coimbatore, India

#### **Introduction :**

In duplex system surgery may be indicated in both obstructed moieties and refluxing moieties.

#### **Method :**

Laparoscopic ureteropyelostomy was done in a 4 1/2-year-old baby with duplex system and refluxing lower pole moiety for recurrent infection. The second was a 18-year-old girl with duplex system with UPJ obstruction in the lower moiety. The third patient was a 45 year old with a similar situation as above. 5-0 sutures were used for the ureteropyelostomy anastomosis.

#### **Result :**

The operative time was around 210 minutes. The hospital stay was for about 5 days. Postoperative recovery was rapid and there was no significant morbidity. Postoperative intravenous urograms were performed which showed improvement in drainage or function.

#### **Conclusion :**

We present this in view of its rarity and to demonstrate that age is not a limiting factor for reconstructive laparoscopic surgery.