

**V1995****COMBINED LAPARO-ENDOSCOPIC TREATMENT OF MULTIPLE LARGE STONES OF THE UPPER URINARY TRACT**

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**INTRODUCTION AND OBJECTIVES:** We describe the technique of combined laparo-endoscopic treatment of upper urinary tract complex and multiple stones in two patients. In the first case the patient had a 2,2 cm stone in the left lumbar ureter associated with multiple intrarenal stones. In the second case the patient had a nonobstructive enlargement and malformation of renal calyces with a bifid pelvis. Multiple large stones were present in the pelvis and all calyces.

**METHODS:** Both procedures were performed with transperitoneal approach. In the first case a ureteral stent was inserted at the time of diagnosis. To expose the left lumbar ureter a transmesocolic access was preferred. After the ureteral incision and the extraction of the large ureteral stone a flexible nephroscopy was introduced. All small stones in superior and inferior calyces were removed with a basket. Larger stones were first fragmented with laser before extraction with basket. The ureterotomy was finally sutured with a running suture and the mesocolic incision was closed after placing a drain. The stones were extracted in endobag. In the second case the epatic flexure and the duodenum were reflected medially and the right renal pelvis was isolated. A pyelotomy was performed allowing the extraction of pelvic stones. Therefore, a flexible nephroscopy was inserted to remove all remaining stones with a basket. The pyelotomy was finally closed with a running suture. A drain was inserted. At the end of the procedure a ureteral stent was inserted with a cystoscopy.

**RESULTS:** In both cases a retrograde cystogram was performed and showed vesico-ureteral reflux without leakage of contrast medium. The patients were discharged stone free in post operative day 4. The ureteral stents was removed twenty days after the procedure.

**CONCLUSIONS:** A combined laparo-endoscopic approach can be considered for the treatment of upper urinary tract complex and multiple stones. This technique is minimally invasive and allows a complete stone clearance in a single procedure.

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**V1996****CYSTOLITHOTOMY DURING ROBOTIC RADICAL PROSTATECTOMY: SINGLE-STAGE PROCEDURE FOR CONCOMITANT BLADDER STONES**

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**INTRODUCTION AND OBJECTIVES:** We present a case of a 64-year old male with biopsy Gleason 3+4 prostate cancer with concomitant multiple asymptomatic bladder stones diagnosed on preoperative endorectal magnetic resonance imaging of the prostate, the largest measuring 16mm. We describe our technique of single-stage cystolithotomy during robotic-assisted radical prostatectomy (RARP).

**METHODS:** Our technique of athermal nerve-sparing robotic prostatectomy has been previously described. We employ a six-port transabdominal approach using the da Vinci® Surgical System (Intuitive Surgical Inc, Sunnyvale, CA). After the bladder was dissected off the pelvis, the contours of the vesicoprostatic junction were visualized and bladder neck transection was commenced anteriorly. The right-sided Endowrist Hot shear™ scissors on the right robotic arm was then exchanged for a robotic ProGrasp™ forceps. Holding open the bladder neck with the left-sided Maryland forceps, the ProGrasp™ forceps were used to manually retrieve the bladder stones one at a time. Each stone was deposited into an EndoCatch™ Gold laparoscopic entrapment sac (Covidien Inc, Mansfield, MA) introduced through the right-sided assistant port. The bladder was then inspected for residual stones using both graspers to manipulate the transected bladder neck, and bladder irrigation with normal saline performed repeatedly to ensure complete

stone clearance. Thereafter, robotic prostatectomy and vesicourethral anastomosis was completed in our usual fashion, and the specimen and bilateral lymph nodes removed with the entrapped stones in the same Endocatch™ Gold sac.

**RESULTS:** Sixteen stones were retrieved in total. Total console time for complete stone clearance was six minutes. The patient was discharged home on the first postoperative day, and his Foley urethral catheter removed on the seventh postoperative day. The patient reported passage of two tiny stone fragments after catheter removal, with significantly improved urinary stream. Flexible cystoscopy at six weeks follow-up showed no evidence of residual stones in the bladder, with the patient using one pad a day for continence.

**CONCLUSIONS:** In conclusion, single-stage cystolithotomy during robotic radical prostatectomy is easy to perform given the augmented dexterity and repertoire of the available robotic grasping instruments, causes minimal morbidity, and obviates the need for prior transurethral cystolithotripsy or cystolitholapaxy that could potentially result in urethral stricture formation and compromise of continence recovery.

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**V1997****LAPAROSCOPIC ANATROPHIC NEPHROLITHOTOMY TECHNICAL MODIFICATIONS WITH REDUCED ISCHEMIA TIME**

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**INTRODUCTION AND OBJECTIVES:** The complete removal of the stone is the ultimate goal in their management. A result that might not be attained even after several sessions of percutaneous nephrolithotomy (PCNL) and/or extracorporeal shockwave lithotripsy (ESWL) and/or retrograde intrarenal surgery circumstances (ureteroscopy). In this video we present four cases with technical modifications with reduced ischemia time for laparoscopic anatomic nephrolithotomy for managing large staghorn calculi.

**METHODS:** Case 1: A 62-year-old female patient with complex staghorn stone in the right kidney and a 20-years history of persistent flank pain, urinary infection and haematuria. Background to two ESWL, and three PCNL. The tomography showed: staghorn right renal stone with hypotrophy and pelvic dilation. Case 2: A 42-year-old female patient with a chronic UTIs, persistently elevated WBC count at 13K, afebrile. The CT scan showed: left renal staghorn. The patient had prior surgeries: splenectomy and appendectomy. Case 3: A 46-year-old female patient with hematuria. The CT scan showed left renal staghorn. No prior surgery. Case 4: A 48-year-old male patient with hematuria. The CT scan showed left renal staghorn. No prior surgery. In all cases a double-J stent was placed prior to surgery. After clamping the hilum the incision is made laterally and longitudinally through full thickness of cortex using laparoscopic scalpel. The running cortical suture with hemolock reinforcement.

**RESULTS:** The operative time was 137 min. The mean blood loss was no significant. Ischaemia time was (13-30) 20 min. The hospital stay was 3.5 days. The opening of the kidney was scalpel in all cases. The type of ischemia was warm and the average surgical time was 20 minutes. There was a complication with the four case of bleeding that was resolved with selective embolization.

**CONCLUSIONS:** Laparoscopic surgery is feasible when anatomic nephrolithotomy is indicated. Laparoscopic scalpel allows for rapid, precise, smooth entry into the kidney, akin to open surgery and the reduces operating time. Renal functional results are pending to evaluate whether decreased WIT in this series has any functional impact.

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