

hypertension, diabetes and long operative time much influence the postoperative outcomes. Correct choice of operative time, operative time reasonable control, well controlled comorbidities do not increase the operative risk. Supine position MPCNL on patients with chronic obstructive pulmonary disease can reduce the operative risk.

#### UP-3.184

##### **Holmium Laser Lithotripsy for Ureteral Calculi: 13-Year Single-Center Experience**

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**Introduction and Objective:** We reviewed our 13-year experience with ureteroscopic holmium laser lithotripsy procedures for ureteral calculi by comparing two cohorts of patients.

**Materials and Methods:** Cohort 1 consisted of 105 ureteroscopic holmium laser lithotripsy procedures on 94 patients performed between 1996 and 2005. In cohort 2, 108 procedures were performed on 89 patients between 2005 and 2008. Data recorded were sex, age, stone size, stone location, and surgeon experience. Outcomes were success (stone-free rate after three months) and complication rate. Multivariate analysis was used to define possible predictive factors for successful procedures and complications.

**Results:** Success rate of all 213 procedures was 84% and complication rate was 8.9%. In cohort 2, the success rate was 83.3%, compared to 84.8% from cohort 1 ( $p=0.776$ ). The complication rate decreased from 12.4% to 5.6% ( $p=0.081$ ). Overall, surgeon experience was significantly related to success rate ( $p=0.029$ ), with a success rate of 89.2% in the most experience group and 53.3% in the least experience group. Sex, age, stone size, stone location did not significantly influence complication and success rates.

**Conclusions:** Surgeon experience is a predictive factor for success for ureteroscopic holmium laser lithotripsy. Success rate has not merely changed through the years, while a trend towards fewer complications is observed. Overall, holmium laser lithotripsy is a safe and effective treatment modality for ureteral calculi.

#### UP-3.185

##### **Salvage Extracorporeal Shockwave Lithotripsy (ESWL) Treatment after Initial Lithotripsy Failure by Semirigid Ureteroscopy**

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**Introduction and Objectives:** To evaluate the efficacy of salvage extracorporeal shockwave lithotripsy after initial lithotripsy failure by semirigid ureteroscopy.

**Materials and Methods:** From April 2004 to March 2008, 326 cases of ureter stones were treated initially by semirigid ureteroscopy with holmium laser or pneumatic ballistic lithotripter. Subarachnoid space block anesthesia and epidural anesthesia were used in all cases. 7.5Fr (Storz) in diameter ureteroscopy was used for lithotripsy. ESWL was performed with the DESUNIT6030 (China) Compact lithotripter. Each treatment included 2000 shock waves per patient with 11 kv shock energy and lasted 30 minutes. The mean diameter of ureter stone was 1.2 cm (range from 0.7-2.1 cm). 36 cases had stone migration into the renal pelvic (Group 1), 15 cases had large residual stone fragments which diameter was over 0.8 cm in ureter (Group 2) and 12 cases cannot access stone due to ureter kink or stricture (Group 3). Then all these cases were treated by salvage ESWL.

**Results:** In group 1, 32 of 36 stone migration cases had complete stone free after 1 or 2 ESWL treatments. The average interval from ureteroscopy to ESWL was 3.6 days. 6 of 15 cases had complete stone free after 1 or 2 ESWL treatments in group 2, while 7 of 12 cases in group 3.

**Conclusions:** Salvage extracorporeal shockwave lithotripsy is an effective method after initial lithotripsy failure by semirigid ureteroscopy, especially in stone migration cases. The movement of ureter stone and the exclusion of distal ureter obstruction may cause the efficient stone-free rate in Group 1.

#### UP-3.186

##### **Retroperitoneal Laparoscopic Pyelolithotomy for Complicated Renal Calculi**

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**Introduction and Objective:** Complicated renal calculi may bring technical challenges in the surgical management even when percutaneous nephroscopy

lithotripsy (PCNL) is available. We report our experience with retroperitoneal laparoscopic pyelolithotomy in the treatment of complicate renal pelvic calculi.

**Materials and Methods:** Five patients (aged 35-55 yr) were diagnosed as multiple renal pelvic calculi in our clinic using intravenous urography and contrast CT scan. All patients received retroperitoneal laparoscopic pyelolithotomy under general anesthesia and one of them transferred to open pyelolithotomy. During the laparoscopic surgery, renal pelvis was dissected and incised. The pelvic calculi were removed and the incisions of pelvis were sutured after placement of double-J stents. Duration of this procedure was 90-115 minutes.

**Results:** All four patients receiving laparoscopic pyelolithotomy recovered well and no urinary leakage was detected. Repeat X-ray was done 1-3 month after surgery and only small calculi less than 6mm in diameter remained in lower calyce in 1 patient.

**Conclusions:** Retroperitoneal laparoscopic pyelolithotomy, primarily using laparoscopic graspers, is an efficient procedure in selected patients without significant increase in operative time or morbidity.

#### UP-3.187

##### **Middle and Upper Segmental Ureterolithotomy with Laparoscopy**

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**Introduction and Objective:** Discuss the curative effect and clinic meaning of the laparoscopy set when it is used for middle and upper segmental ureterolithotomy.

**Materials and Methods:** Twenty-four patients who has upper and middle segmental concretion have been accepted during Sept. 2006 to Dec. 2008. There are 16 male and 8 female. There are 14 patients having the stone in the left kidney, 10 in the right side. The upper and middle segmental ureterolithotomy were operated by retroperitoneal laparoscopic way. Insert double "J" tube when the stone was taken out, then sew up the cut ureter.

**Results:** The 24 operation cases are all successful and no one needed conversion to open operation. The time for the operation is 50 to 120 mins; mean time is 54 mins. The capacity of blood loss is 20 ml to 60 ml; mean 35 ml and no one need blood transfusion. Patients can walk the next day. The celiac drainage tube can be