MP1-3.
THE TREND OF MEDICAL COST FOR UPPER URINARY TRACT STONE AND BLADDER STONE DISEASE IN TAIWAN, FROM 2000 TO 2010
Che-Yuan Hu1,2, Kuo-How Huang 1,2. 1 National Cheng Kung University Hospital, Taiwan; 2 National Taiwan University Hospital, Taiwan

Purpose: To investigate the medical utilization and costs of urolithiasis in Taiwan using a nationwide population-based database.

Materials and Methods: This study is based on Taiwan’s National Health Insurance Research Database (NHIRD), which contains the data of all medical beneficiary claims from 22.72 million enrollees. To assess the annual medical care visits for urolithiasis, we first identified all patients enrolled in NHIRD during the study period, 2000–2010 whose claims records included at least one diagnosis of urolithiasis. The medical cost of urolithiasis was calculated by claim records of all beneficiaries enrolled in NHIRD, including all diagnosis- and treatment-related costs at inpatient, emergency and ambulatory services associated with the diagnosis of urolithiasis.

Results: UUT stone disease consists of 97.9% of medical costs for stone disease. There were rising trends in the medical utilization and costs for UUT stone disease during the period by increasing 9.5% in medical care visits/100,000 subjects (r2=0.48; p=0.0077) and by 31.1% in medical costs (r2=0.81; p=0.001). The peak age strata of medical care visits for UUT stone diseases in both genders were 60–69 years. For LUT stone disease, there is a declining trend in the medical utilization, but it is not statistically significant (r2=0.25; p=0.061). However, the medical costs disease significantly increased by 21.6% during the 11-year period (r2=0.34; p=0.03). The peak age strata of medical costs for UUT stone disease was 70–79 years in both gender.

Conclusion: The present study provides important information on the increasing trends in medical utilization and cost of stone disease in Taiwan. The reason why LUT stone disease exists more in older age may be related to the prevalence of bladder outlet obstruction in the elders.

MP1-4.
DOES AGING AFFECT THE EFFICIENCY OF EXTRACORPOREAL SHOCK WAVE LITHOTRIPSY (ESWL) ON URETER STONE?
Pang-Yu Ku, Yu-Wei Lin, Jeng-Cheng Wu, Ming-Che Liu, Ching-Hsin Chang, Hsiao-Yun Lin, Chien-Chih Wu, Han-Sheng Chiang, Shauth-Der Yeh. Taipei Medical University Hospital, Department of Urology, Taiwan

Purpose: Current evidence concerning the effect of aging on the treatment outcome of extracorporeal shock wave lithotripsy (ESWL) is still conflicting. Our study aimed to investigate whether age has an impact on treatment outcome of ESWL on ureter stone by means of retrospective chart review and analysis.

Materials and Methods: Our study was a match-paired analysis comparing the 3-month stone free rate (SFR) after primary ESWL. Between March 1st, 2013 and December 31st, 2015, a total of 1204 patients received ESWL in our facility. 131 patients were above 65 years old and 72 of whom met our inclusion criteria. These patients were stratified into Group A to compare the treatment outcome between different age group, patients in Group A were matched 1:1 to patients aged under 65 by their stone size, location and gender. These patients were sorted into Group B. We compared the treatment efficiency, co-morbidities and demographic characters between two groups.

Results: 72 patients were included in each Group with 36 male and female patients. Average stone size was 6.74 mm (95% CI: 5.49-7.96) and 6.61 mm (95% CI: 6.25-5.96) in Group A and B, respectively (p=0.8). There were no differences in 3 month SFR between Group A and B (63.81% vs 66.67%, p=0.073) and subgroup analysis by stone location and size also did not suggest any significance. However, re-stratification of patients regardless of age revealed stone size >10mm had an inferior SFR than that of <10mm (37.5% vs 68.75%, p=0.01). Demographic analysis also showed baseline differences in renal function, coagulation between 2 groups and higher prevalence of diabetes mellitus, hypertension, coronary artery disease and patients receiving anticoagulant in Group A.

Conclusion: In our study, age did not affect the 3-month SFR of ESWL regardless of stone location, but stone size was predictive of SFR. Further research concerning the mechanism affecting the efficiency of ESWL is required in the future.

MP1-5.
OUTCOME OF LAPAROSCOPIC URETEROLITHOTOMY AND INITIAL 2-CASES EXPERIENCE OF RETROPERITONEAL LAPAROSCOPIC SINGLE SITE URETEROLITHOTOMY
Lin Chia-Da. Urology Department, Taipei Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Taiwan

Purpose: To report our surgical outcomes in laparoscopic ureterolithotomy (LU) and retroperitoneal laparoscopic single site ureterolithotomy (LESS-RU).

Materials and Methods: From July 2014 to February 2016, 14 conventional 3-port LU and 2 LESS-RU were performed by a single surgeon. The patients with large ureteral stone (>1.5 cm) on KUB or CT scan were included in our study. In the 2 cases of LESS-RU, the patients were placed in prone position and 2.5 cm skin incision was done below 12 rib.

Results: Totally 14 conventional LU were done by a single surgeon. The mean age was 61.35 (46–81) years old, and the stones mean size was 2.4 cm (1.5–5.5). The mean operation time was 164 (100–300) mins. After these cases, we performed 2 LESS-RU with stone size of 1.8 and 2.0 cm, respectively. The operation time was 200 and 130 mins for the 2 cases. Surgical outcome is excellent with no complication in these 16 cases.

Conclusion: Laparoscopic ureterolithotomy is an ideal method in treating giant ureteral stone. LESS surgery with retroperitoneal approach may be a better fashion for these patients in experienced hands.

Laparoscopy

MP1-6.
A PROSPECTIVE RANDOMIZED SINGLE-BLINDED COMPARISON OF URETERAL STENT WITH DISTAL LOOP DESIGN AND ITS EFFECT ON EARLY STENT DISCOMFORT AND QoL

Purpose: Ureteral stent discomfort causes significant morbidity. The Polaris™ loop ureteric stent has a unique soft distal loop, which reduces stent discomfort by minimizing stent material in the bladder. Early impact of ureteral stents on Quality of Life (QoL) within 1 week remains unclear. Patient-administered Ureteral Stent Symptoms Questionnaire (USSQ) was used to assess QoL post stent insertion. This pilot single-blinded prospective randomized study compared the loop stent with pigtail stent.

Primary endpoint; determine the comfort profile of the loop stent using the Visual Analog Scale (VAS) and USSQ. Secondary endpoint; to investigate the presence of early stent discomfort and effects on QoL.

Materials and Methods: 40 adults requiring retrograde unilateral ureteral stent placements for 14–21 days were enrolled from April 2014 to July 2015 at a single institution. The USSQ was administered before placement (baseline), on Day 3, 7 and 14 to assess QoL. VAS was administered on Day 3, 7 and 14 to assess pain. Patients were randomized in 1:1 ratio to the loop and pigtail arm. Laser lithotripsy for single ureteric stone or benign stricture were selected. Stent for malignant conditions or previous ureteric stenting in the preceding year were excluded.

Results: 60 patients were approached, 40 were enrolled. 2 from the pigtail group were excluded as they did not complete the USSQ and VAS. Mean age was 50 vs 52 years, gender distribution was 14 males & 6 female vs 14 males & 4 female in the loop and pigtail group. Mean duration of stent was 19 vs 25 days. Median USSQ scores were 82.0, 81.5 and 77.1 and 86.5, 91.0 and 81.2 on day 3, 7 and 14 in the loop and pigtail group. Median USSQ scores were 2.9, 2.6 and 2.0 and 4.0, 2.6 and 2.9 on day 3, 7 and 14.

There were no significant differences between the USSQ scores. Median VAS on day 3 were lower in the loop group (2.9 vs 4.0, p=0.047). There was a significant reduction in pain from day 3 to 7 (0 vs –1, p=0.016) in the pigtail group. Multivariate analysis showed a downward time-trend in VAS scores (p=0.018) while higher baseline USSQ scores result in higher USSQ scores at the end of the study (p=0.018).
Conclusion: The loop stent offers a better QoL and pain profile although it lacks statistical significance. The loop stent achieves baseline pain by day 3. The pigtail stent only achieves pain comparable to loop stent by day 7. Within the 1st week of stent insertion, stent pain is most pronounced in both groups and improves with time. Peak impact of QoL in the loop group occurs early after stent insertion while the peak effect of QoL in the pigtail group occurs at day 7.

MP1-7. RECURRENT URETERIC SCATIC HERNIA

Chih-jen Wang, Jen-Ta Lin, Chia-Cheng Yu. Divisions of Urology, Department of Surgery, Kaohsiung Veterans General Hospital, Kaohsiung, Taiwan

Ureteric scatic hernia is extremely rare. Here we report a case of a 74-year-old woman who initially presented with urinary frequency and urge incontinence, then renal sonography revealed left hydronephroenuresis. Computed tomography revealed left ureterocistic herniation. Ureteral stent was placed for 3 months, and the herniated ureter and hydronephrosis were corrected. Regular image followup up to 7 years did not show obvious abnormality. Recurrence of the left ureterocistic herniation was found 7 years after. We performed robotic surgery to correct the recurrent herniation. We presented this unusual case and literature review will be done.

MP1-8. ROBOTIC-ASSISTED LAPAROSCOPIC PARTIAL NEPHRECTOMY IN CLINICAL T1B RENAL TUMORS – SINGLE CENTER EXPERIENCE

Yuan-Tao Cheng, Yen-Ta Chen, Hao-Lun Luo. Department of Urology, Kaohsiung Chang Gung Memorial Hospital, Kaohsiung, Taiwan

Purpose: Robotic-assisted laparoscopic partial nephrectomy (RALPN) has surpassed traditional laparoscopic surgery and be considered alternative standard form of treatment as well as open surgery in small renal mass (tumor size <4cm,T1a). We investigate the applicability of RALPN in larger counterpart T1 tumor (4cm- tumor size <7cm, T1b) in a single tertiary medical center.

Materials and Methods: We retrospectively review record of patient received RALPN in our institute since 2015 April. Exclusion criteria are patients tumor size less than 4 cm and tumors were considered benign lesion such as hamartoma preoperatively. RALPN performed in 9 patients having single renal tumor size between 4cm to 7cm preoperatively. The perioperative data is evaluated and discussed.

Results: The average tumor size is 4.7 ± 0.7cm (range 4.1 to 6cm). The average R.E.N.A.L Nephrometry is 7.4±1.7 (range 6 to 10). Two patients had tumor size in longest diameter underestimated more than 15% in preoperative image study. Guided by intracorporeal ultrasonography, all tumors are resected with margin free of malignant tumor. Using Clavien-Dindo classification, no grade 3 or above complication. Two patients experience intraoperative blood loss more than 500ml and received blood transfusion. All patient regain strength to daily activity within 4 days and average postoperative hospital stay is 3.3 days.

Conclusion: RALPN can be safely performed in clinical T1b renal tumors, even in surgeons in the learning curve of Robotic surgery. The long-term oncological outcome requires further evaluation.

MP1-9. LAPAROSCOPIC PARTIAL NEPHRECTOMY IN THE ELDER (AGE>65 Y/O) WITH MULTIPLE MORBIDITIES

Yin-Lun Chang, Wei-Yu Lin, Chih-Shou Chen, Kuo-Cai Huang, Jian-Hui Lin, Yung-Chin Huang, Dong-Ru Ho, Chih-Shou Chen, Kuo-Hsiung Chiu, Tzu-Hsin Yang. Division of Urology, Department of Surgery, Chiayi Chang Gung Memorial Hospital, Taiwan

Purpose: Laparoscopic partial nephrectomy (LPN) is the standard treatment for localized tumors nowadays. The objective of this study is to compare perioperative and postoperative outcome between young and old patients in LPN.

Materials and Methods: A retrospective analysis was performed in a total of 20 patients from 2013 to 2016. We analysis the retrospective data, including age, ASA classification, tumor size, tumor location, estimated blood loss, length of hospital stay, recurrence rate, renal function deterioration rate, 30-days mortality rate and 90 days mortality rate. We separate 20 patients into the older group (age ≥ 65 N-7) and younger group (age <65 N=13).

Results: The tumor location were 15 in upper or lower pole, 5 in central pole. The section margin was free of malignancy in 20 patients except one patient with capsule rupture. The significant difference between the older and younger group were mean age (70.8 vs 55.2 yrs); tumor size (2.8 vs 3.5cm); estimated blood loss (231 vs 355 ml) and ASA classification ≥3 rate (71.4% vs 30.7%). However, the open conversion rate, 30-day and 90-day mortality rate are all zero in both groups. Overall, there was no significant difference in length of hospital stay (13.4 vs 11.5 days); renal function deterioration rate (14.2% vs 15.3%), recurrence rate (till now all zero), mortality rate (till now all zero) between these the two groups.

Conclusion: Laparoscopic partial nephrectomy was feasible and safe in old age (age ≥65) with multiple morbidities.

MP1-10. SINGLE-DOCKING ROBOTIC RADICAL NEPHROURETERECTOMY WITH BLADDER CUFF EXCISION IN A SINGLE INSTITUTION

Chao-Yen Hsu, Yi-Chia Lin, Te-Fu Tsai, Chung-Hsin Yeh, Guang-Dar Jiang, Yi-Hong Cheng, Kuang-Yu Chuo, Hung-En Chen, Thomas I.S. Hwang. Division of Urology, Department of Surgery, Shin Kong WHS Memorial Hospital, Taipei, Taiwan

Purpose: Radical nephroureterectomy with bladder cuff excision (RNU) is the standard treatment for upper tract urothelial carcinoma. Robotic platform can be utilized in this procedure. However, re-docking is required for bladder cuff excision. Herein, we report our experience on single-docking technique for robotic RNU.

Materials and Methods: From June 2014 to February 2016, a total of 16 patients who underwent robotic RNU were identified. A total of 11 patients underwent RNU without patient repositioning or robotic redocking. Demographics, perioperative parameters and post-operative details were collected and analyzed. Comparison was made between the single docking group and re-docking group.

Results: The median operation time of the 11 patients was 280 (185–375) minutes and median blood loss is 150 (100–300) ml. No intraoperative complication was found among the single docking group. The median hospital stay was 9 days and no significant operative-related complication was noted. Pathologically, 3 patients was in Ta/T1 stage, 2 patients were in T2 stage and 5 patients were in T3/T4 stage. Recurrence over bladder was noted in 2 patients (one patient is pT2 and one is pT3). A trend of shorter operation time was noted in the single docking group (280 min vs 380 min).

Conclusion: Single-docking robotic RNU using our technique can be performed safely. Decreased operative time can be achieved compared to re-docking technique.