MP1-3. THE TREND OF MEDICAL COST FOR UPPER URINARY TRACT STONE AND BLADDER STONE DISEASE IN TAIWAN, FROM 2000 TO 2010
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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 < 0.007) and by 31.1% increase 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 UUT 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 UUT 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?
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Purpose: Current evidence concerning the effect of aging on the treatment outcome of extracorporeal shock wave lithotripsy (ESWL) is still contradictory. 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: 5.71–5.96) and 6.61 mm (95% CI: 7.25–5.96) in Group A and B, respectively (p = 0.8). There were no differences in 3 month SFR between Group A and B (63.89% vs 66.67% in Group A and B, respectively (p = 0.001). There were no differences in 3 month SFR between Group A and B (63.89% 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 RETРОPERITONEAL LAPARO-ENDOSCOPIC SINGLE SITE URETEROLITHOTOMY
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Purpose: To report our surgical outcomes in laparoscopic ureterolithotomy (LU) and retroperitoneal laparo-endoscopic 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.

MP1-6. LAPAROSCOPY

A PROSPECTIVE RANDOMIZED SINGLE-BLINDED COMPARISON OF URETERAL STENT WITH DISTAL LOOP DESIGN AND ITS EFFECT ON EARLY STENT DISCOMFORT AND QOL
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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 VAS 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).