Materials and Methods: Between July 2014 and March 2015, 6 female patients received refined plc technique by ureteral occlusion and tranurethral cystorrhaphy in nephroureterectomy with bladder cuff excision for upper tract urothelial carcinoma (UTUC). At beginning, the ureter orifice was occluded with intravesical silk suture tranurethrally aided by extracorporeal knot tying. Tranurethral excision of bladder cuff was performed by circumcision of the ureteric orifice and intramural ureter with a Collins knife. The bladder cuff is freed deeply to extravesical space allowing subsequent “plucking” of the entire ureter from above. The bladder defect is repaired with absorbable sutures tranurethrally. The tumor was pyelocaliceal in 4 cases, ureteral in 2 cases. The follow-up was performed by cystoscopy, urine cytology and computed tomography (CT) scan. We present our preliminary data.

Results: 4 transperitoneal robot-assisted laparoscopic nephroureterectomy with bladder cuff excision and 2 hand-assisted retroperitoneoscopic nephroureterectomy with bladder cuff excision were performed. All patients are female. Histology showed high grade in everyone. There were 2 patients with pT1 staging, 2 patients with pT2 staging and 2 patients with pT3 staging. There was no lymph node metastasis found in the specimen and all surgical margin were clear. No major perioperative complications occurred.

Conclusion: This refined plc technique by ureteral occlusion and tranurethral cystorrhaphy in nephroureterectomy with bladder cuff excision for upper tract urothelial carcinoma (UTUC) is a safe and effective alternative according to our preliminary experience. Long term follow-up and larger patient number are needed.

NDP051:
LAPAROSCOPIC URETEROLYSIS IN PATIENTS WITH RETROPERITONEAL FIBROSIS AND OBSTRUCTIVE UROPATHY: TAIPEI CITY HOSPITAL EXPERIENCE

Yu-Wei Lai 1,2, Thomas Y. Hsieh 1,2, Andy C. Huang 1,2, Yi-Chun Chu 1,2, Shiu-Sheng Chen 1,2, Allen W. Chiu 1,2. 1 Divisions of Urology, Department of Surgery, Taipei City Hospital, Taiwan; 2 National Yang-Ming University, School of Medicine, Taiwan

Purpose: To analyze the outcomes of laparoscopic ureterolysis (LU) in retroperitoneal fibrosis (RF) with obstructive uropathy.

Materials and Methods: Records of 5 patients with RF who had obstructive uropathy at presentation and had undergone LU at our hospital during January 2010 to December 2014 were collected and analyzed. Results: Two females and three males underwent RF for RF. Underlying causes of RF could not be found in 1 (20%) cases. All patients underwent single side LU. Mean operative time and estimated blood loss were 78 minutes (range, 45-125 minutes) and 180 ml (range, 60-400 ml), respectively. No case required conversion to open surgery. No significant intraoperative complication (0/5 [0%]) was noted. Only one patient (1/5 [20%]) need blood transfusion because intraoperative bleeding. The postoperative complication rate was 0% (0/5). Most complications were minor and did not need specific treatment. The mean follow-up period was 20 months (range, 6-45 months). The success rate at last follow-up was 100%. After operation, no patient had obstructive uropathy and symptomatic flank pain.

Conclusion: Treatment of RF is still controversial. Laparoscopic ureterolysis to treat obstructive uropathy because of retroperitoneal fibrosis is safe, feasible and effective.

NDP052:
EFFICACY AND OUTCOME OF TEP IN PATIENT WITH RECURRENT INGUINAL HERNIA

Kai-Yi Tzou 1, Chi-Chih Lien 1, Yen-Ting Liu 1, Chi-Yun Lan 1, Su-Wei Hu 1, Kuan-Chou Chen 1,2, Chia-Chang Wu 1,2. 1 Department of Urology, Taipei Medical University-Shuang Ho Hospital, Taipei, Taiwan; 2 Department of Urology, School of Medicine, College of Medicine, Taipei Medical University, Taiwan

Purpose: To evaluate the feasibility and surgical outcomes of totally extraperitoneal (TEP) laparoscopic inguinal herniorrhaphy compared with open inguinal hernia repair in overweight patients.

Materials and Methods: This is a retrospective cohort analysis. 109 consecutive patients undergoing TEP inguinal herniorrhaphy (TEP) and 116 patients undergoing open inguinal herniorrhaphy performed by a single surgeon between January 2009 and December 2012 were included. Perioperative data were obtained for all the patients including demographic data, operation time, pain scale, length of hospital stay, recurrence, and complications.

Results: For overweight patients, 54 patients of TEP group and 48 patients of open herniorrhaphy group had BMI >25. No significant differences were observed between the two groups in terms of post-operation recurrence and complications. A significant decreased of post-operation pain scale and shorter hospital stay were noted in TEP group. Within TEP group, there was no differences of all perioperative data of overweight patients compared with non-overweight patients.

Conclusion: In the era of laparoscopy, the overall use of totally extraperitoneal (TEP) laparoscopic inguinal herniorrhaphy in obese patients has increased significantly and appears to be safe, with a shorter stay and less pain.

NDP053:
CONTEMPORARY TRENDS IN ROBOT-ASSISTED LAPAROSCOPIC PARTIAL NEPHRECTOMY IN TAIWANESE PATIENTS

Chia-yen Lin, Cheng-Kuang Yang, Yen-chuan Ou 1, Kun-yuan Chiu, Chen-li Cheng, Hao-chung Ho, Chung-kuang Su, Shian-shiang Wang, Chuan-shu Chen, Jian-ri Li, Chi-feng Hung, Cheng-che Chen. Division of Urology, Department of Surgery, Taichung Veterans General Hospital, Taiwan

Purpose: Nephron-sparing surgery (NSS) has recently become the gold standard for treating small renal mass. Only few studies on the Taiwanese population report on the results of partial nephrectomy.

Materials and Methods: The database of a single medical center covering the period from January 2005 to October 2014 was reviewed and patients who underwent partial nephrectomy (OPN), laparoscopic partial nephrectomy (LPN), or robot-assisted laparoscopic partial nephrectomy (RLPN) were enrolled. The peri- and post-operative outcomes of the RLPN group were analyzed. The patients were then separated into three groups based on time periods to clarify trends in partial nephrectomy.

Results: Of 209 patients who received partial nephrectomy, 118 had OPN, 32 had LPN, and 59 had RLPN. Twelve patients of the RLPN group underwent zero ischemia procedure. In the RLPN group, the mean PADUA score was 8.63 ± 1.84, nephrometry score was 7.12 ± 1.95, and mean overall operation time was 138.1 ± 60.1 min, with mean warm ischemia time of 27.02 ± 12.15 min. The mean estimated blood loss was 190.43 ml (20-1200 ml) with vessel clamping and 409.17 ml (50-2200 ml) in the zero ischemia group. The first period (2005-2008) had 44 cases (28 OPN, 8 LPN, and 8 RLPN); the second period (2009-2011) had 61 cases (38 OPN, 9 LPN, and 14 RLPN); and the last period (2012-2014) had 104 cases (52 OPN, 15 LPN, and 37 RLPN). The percentage of RLPN increased from 18.18% in the first period to 35.58% in the third period. Changes in the ratio of RLPN to OPN and LPN revealed a trend towards RLPN.

Conclusion: RLPN is a feasible and safe method for small renal tumor, making it the treatment of choice recently.

Andrology
NDP054:
THE OUTCOME ANALYSIS OF AZF C SUBDELETION IN MALES WITH NON-OBSTRUCTIVE AZOOSPERMIA

Wei-Jen Chen 1, William J.S. Huang 1,2,3, I-Shen Huang 1,2,3, Alex T.L. Lin 1,2,3, Kuang-Kuo Chen 1,2,3. 1 Department of Urology, Taipei Veterans General Hospital, Taiwan; 2 Department of Urology, School of Medicine, Taiwan; 3 Shu-Tien Urological Science Research Center, National Yang-Ming University, Taiwan

* Corresponding author.
Purpose: Azospermia factors (AZF) are located on the long arm of Y chromosome and have been divided into three regions (AZFa, AZFb, AZFc). During homologous recombination of Y chromosome, deletions may occur in these regions. The AZFc region is particularly susceptible to deletions because its structure composed of many palindromes. To date, some deletions resulting in partial loss of AZFc region had been reported, and their relationship with male infertility had been discussed. We presented the treatment outcome in our hospital among non-obstructive azoospermia (NOA) patients with AZFc subdeletion.

Materials and Methods: We retrospectively enrolled and analyzed AZFc subdeletion patients from 2008 to 2014. The b2/b4 (AZFc total deletion) deletion cases were not included. Totally 95 patients were diagnosed AZFc subdeletion during this period, and among them, 48 patients were NOA. We recruited another 109 age-matched NOA patients without AZF subdeletion as control group. The hormone profile, sperm retrieval rate, pregnancy rate were compared between these two groups.

Results: Among the 157 NOA patients, 104 had received microdissection testicular sperm extraction (micro-TESE). The sperm retrieval rate was 31.2% in NOA patients with AZFc subdeletion, compared with 27.8% in control group. (p = 0.718) The most frequent AZFc subdeletion is g1/g3 (n = 23), followed by g1/g5 (n = 17). The sperm retrieval rate was 25% in g1/g5 deletion, 31.2% in g1/g3 deletion, and 50% in other AZFc subdeletions (p = 0.646).

The pregnancy rate was 18.8% in NOA patients with AZFc subdeletion, compared with 12.5% in control group (p = 0.439).

Conclusion: In our data from limited patients, the sperm retrieval rate seems poorer in NOA patients with g1/g5 deletion, but better in patient with other not g1/g5 AZFc subdeletion. Although g1/g5 deletion is reported as a risk factor in male infertility in Western population, further information from more patients is still needed to confirm its clinical value in Taiwanese population.

NDP055: 

SEPT12/SPAG4/LAMINB1 COMPLEXES ARE REQUIRED FOR MAINTAINING THE INTEGRITY OF THE NUCLEAR ENVELOPE IN POSTMEIOTIC MALE GERM CELLS

Chung-Hsin Yeh 1,2, Ya-Yun Wan 1, Ying-Yu Wu 3, Han-Sun Chiang 2,3, Ying-Hung Lin 1,2. 1 Division of Urology, Shin Kong Wu Ho-Su Memorial Hospital, Taipei, Taiwan; 2 School of Medicine, Fu-Jen Catholic University, New Taipei City, Taiwan; 3 Graduate Institute of Basic Medicine, Fu-Jen Catholic University, Taiwan.

Purpose: Our previous studies based on a knockout mice model indicated that SEPT12 proteins are critical for the terminal morphological formation of sperm. SEPT12 mutations in men result in teratozoospermia and oligospermia. In addition, the spermatooza exhibit morphological defects of the head and tail, premature chromosomal condensation, and nuclear damage. However, the molecular functions of SEPT12 during spermatogenesis remain unclear. To determine the molecular functions of SEPT12, we designed and carried out the present study.

Materials and Methods: We applied a yeast 2-hybrid system to identify SEPT12 interactors. The molecule-biological skills included the following items: Yeast 2-hybrid screening and β-galactosidase assay, Reverse transcription-PCR (RT-PCR), Preparation of human testicular spermatogenic cells and spermatooza, Immunofluorescence assay, Cloning, Transfection, and Coimmunoprecipitation assay.

Results: Seven proteins that interact with SEPT12 were identified: SEPT family proteins (SEPT4 and SEPT6), nuclear or nuclear membrane proteins (PRM2, SPAG4, and NDC1), and sperm-related structural proteins (PCMI and OBSL1). SPAG4; also known as SUN4 belongs to the SUN family of proteins and acts as a linker protein between nucleoskeleton and cytoskeleton proteins and localizes in the nuclear membrane. We determined that SEPT12 interacts with SPAG4 in a male germ cell line through coimmunoprecipitation. During human spermiogenesis, SEPT12 is colocalized with SPAG4 near the nuclear periphery in round spermatids and in the centrosome region in elongating spermatids. Furthermore, we observed that SEPT12/SPAG4/LAMINB1 formed complexes and were coexpressed in the nuclear periphery of round spermatids. In addition, mutated SEPT12 screened from an infertile man affected the integration of these nuclear envelope complexes through communoprecipitation.

Conclusion: SEPT12 interactors are active at various stages during human spermiogenesis. One of the interactors, SPAG4, is critical for the formation of the nuclear membrane of sperm and DNA integration in the differentiation of male germ cells.

Female Urology & Urodynamics

NDP056: 
PAIN PERCEPTION, FUNCTIONAL BLADDER CAPACITY, ANESTHETIC BLADDER CAPACITY AND COMORBID DISEASE IN INTERSTITIAL CYSTITIS / BLADDER PAIN SYNDROME

Ming-Huei Lee 1,2, Wei-Chih Chen 1, Hui-Ching Wu 1,2, 1 Department of Urology, Fong Yuan Hospital, Ministry of Health and welfare, Taiwan; 2 Central Taiwan University of Science and Technology, Taiwan.

Purpose: Interstitial cystitis/painful bladder syndrome is a pelvic pain condition that has been reported to be associated with other regional and systemic pain syndromes as Irritable bowel syndrome (IBS), fibromyalgia (FM), chronic fatigue syndrome (CFS), and depression. Some study considered that mild IC/PBS at baseline was associated with a mild IC/PBS endpoint and chronic fatigue syndrome (CFS), however, predicted a moderate/severe IC/PBS endpoint. Recently, the result from MAPP study showed systemic IC/PBS had more severe pain symptom than regional IC/ BPS. However, there is no objective finding regarding association between voiding diary, anesthetic bladder capacity during cystoscopy hydrodistension and non-bladder conditions. The purpose of this study was to examine association between functional, anesthetic bladder capacity and non-bladder conditions in a physician diagnosed of women with IC/PBS.

Materials and Methods: This was a retrospective cross-sectional study. Of 175 female patients who were compatible with AUA/SUFU criteria including unpleasant sensation (pain, pressure, discomfort) perceived to be related to bladder with duration >6 weeks were included. All of IC/BPS patients were assessed by cystoscopic hydrodistension and all of them have different severity of glomerulations. These patients were assessed by validated questionnaire including O'Leary-Sant Symptom (ICSI) and Problem Index (ICPI) was used to objectify subjective symptoms. Pelvic Pain and Urgency/Frequency (PUF) questionnaire and VAS pain and urgent score were also completed. Validated voiding diary and anesthetic bladder capacity during 2-minutes hydrodistension were also measured. All patients completed medical history questionnaire for non-bladder condition. Symptomatic duration was also asked. We separated IC/PBS patients into two groups: pure IC/PBS and IC/PBS with comorbid disease. These data were analyzed using independent T test.

Results: Patient demographics show the average age being 41.9 ± 12.8. The mean symptomatic duration is 8.97 ± 7.80 years. There is no association between symptomatic duration and symptom, voiding diary parameter, and anesthetic bladder capacity. There is no difference between ICSI, ICPI, PUF, urgent score and comorbid disease. However, systemic IC/PBS showed more severe pain perception than pure IC/PBS (6.00 ± 2.61 vs 4.90 ± 3.04, P = 0.02). According to validated voiding diary, the mean value of daytime frequency, daytime average voided volume, nocturnal frequency, and nocturnal average voided volume are 14.58 ± 6.91, 103.74 ± 61.9 ml, 3.92 ± 1.86, 101.96 ± 63.53 ml. Systemic IC/PBS showed more day-time voiding volume than pure IC/PBS (120.38 ± 51.3ml vs 102.87 ± 63.1ml, P = 0.05). However, there is no significant association between daytime, night-time frequency and comorbid disease. During cystoscopic hydrodistension, there is no difference between anesthetic bladder capacity and comorbid disease.

Conclusion: Systemic IC/PBS showed more severe pain perception than pure IC/PBS but not lower urinary tract symptoms. However, systemic IC/PBS did not showed smaller anesthetic bladder capacity than pure IC/ BPS.