Moderated Poster 1
Infertility, andrology, sexual dysfunction 1

Wed., April 18, 2018 10:45-11:45
Poster Room 2 | Annex Hall, Kyoto International Conference Center 1F

Chairperson: Hideyuki Kobayashi (Toho University, Japan)
Chairperson: Saint Shiou-Sheng Chen (Taipei City Hospital Hepingfyou Branch, National Yang-Ming University, Comission for General Education, National United University, Taiwan)

MP-001
Modifiable lifestyle factors in the assessment of male infertility

Speaker: Akira Komiya 1,2, Speaker: Tatsuya Harada 1, Speaker: Kiyotaka Kawai 1, Speaker: Tomohiko Ichikawa 2

1: Kameda IVF Clinic Makuhari, 2: Chiba University Graduate School of Medicine

Purpose) We examined lifestyle factors evaluated in our male infertility clinic.

Patients and Methods) Of the couples who visited for fertility evaluation, 90 consecutive male partners were enrolled.

Results) The average age was 36 years. Ten cases (11.1%) were considered as normal. Twenty-one (23.3%) had grades II-III varicocele, 4 (4.4%) had erectile dysfunction, chromosomal abnormality was found in 1 (1.1%) and 42 (57.8%) were thought to be idiopathic male infertility. Among patients with male infertility, azoospermia was found in 4 (4.4%).

Seminal findings (in average) in 80 male infertility cases were as follows: semen volume was 2.8 mL, sperm concentration was 52.5 x 10^6/mL, sperm motility was 18.6%, total motile sperm count was 26.8 x 10^6. Among patients with idiopathic male infertility, 55 (61.1% of the total, 71.1% of idiopathic) had modifiable lifestyle factors. As such factors, 21 (26.3%) were current smokers, 14 (17.5%) had periodic alcohol intake and 39 (48.8%) had lifestyles of raising testicular temperature. Compared with cases considered as normal, the proportion of cases with lifestyles to raise the temperature of the testes was significantly higher in those with male infertility (1/10 vs. 39/80, respectively, P = 0.03832).

Conclusions) Idiopathic infertility is considered as the most common cause of male infertility, but it was reconfirmed that many cases have the modifiable lifestyle factors. In order to acquire more sperm with better quality, it is necessary to ask lifestyles and to guide patients to avoid accountable factors influencing male fertility potential.
MP-002
Evaluation of retained testes in adolescent 46XY patients with complete androgen insensitivity syndrome

Speaker: Yoshinobu Moritoki 1, Speaker: Taiki Kato 1, Speaker: Kentaro Mizuno 1, Speaker: Takahiro Yasui 3, Speaker: Yutaro Hayashi 1
1:Nagoya City University Graduate School of Medical Sciences

BACKGROUND: Gonads with Complete Androgen Insensitivity Syndrome (CAIS) in post-puberty present precancerous state or malignancy than that with pre-pubertal ones. Gonadectomy is, therefore, performed against post-pubertal CAIS. However, recent study suggests strict follow-up is also an option as the gonad location are easy to examine. In order to validate whether imaging can capture pathological outcomes, we compare Magnetic Resonance Imaging (MRI) and Ultrasonography (US) with pathological findings.

METHOD: 4 patients (8 gonads) performed gonadectomy between 2011 and 2015 are analyzed. We demonstrated if pathological findings such as i) stroma, ii) Sertoli Adenoma iii) paragondal cyst iv) Germ Cell Neoplasia in situ (GCNIS) are detected by MRI or US.

RESULTS: Sensitivity of MRI for detection of gonads is 100%, and specificity is 75%. In 2 gonads, outline of gonads were vague because of surrounding iso-intensity area around gonads. However, in these gonads, US can detect clearly capsulized gonads. Sensitivity of US for gonads in groin area is 100%. Although GCNIS was detected in 2 gonads pathologically, MRI could not reveal the finding.

DISCUSSION: The sensitivity of MRI for gonads have been reported to be nearly 100%, but infrequently intensity of surrounding tissues shade off the outline of gonads, by which gonad size or properties could not be assessed accurately. Although US sensitivity is inferior to MRI, it clearly shows properties of gonads as long as they are located to be close to body surface. GCNIS was hard to be recognized by imaging.

MP-003
Testicular histopathology of male infertility with past history of cryptorchidism

Speaker: Hideyuki Kamisawa 1, Speaker: Kenko Kawase 1, Speaker: Hidenori Nishio 2, Speaker: Shoiciro Iwatsuki 2, Speaker: Yukihiro Umemoto 2,3, Speaker: Takahiro Yasui 3, Speaker: Yutaro Hayashi 3
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INTRODUCTION AND OBJECTIVES: Cryptorchidism is recommended for early orchiopexy. We previously reported that in cryptorchid testes spermatogonial stem cell (SSC) was harmed by the month age of 6. In this study, to elucidate the influence of cryptorchidism against spermatogenesis in adolescence, we investigated histopathology of testes in male infertility and relationship between past history of cryptorchidism and spermatogenesis.

METHODS: We retrospectively reviewed the medical records of obstructive azoospermia. All patients were performed MESA (Microsurgical Epididymal Sperm Aspiration). We divided these patients into two groups whether they had past history of orchiopexy (UDT group; 4 patients) or not (DT group; 6 patients). Each testis was performed testicular biopsy, and examined histopathology. We also examined SSC’s activity, maturation of Sertoli cells, and apoptosis of SSCs.

RESULTS: UTF1 immunohistochemistry showed that UTF1-positive Ad spermatogonia to -negative one ratio (SSC’s activity) of UDT group (3.2 ± 1.1) was higher than DT group (1.4 ± 0.9). Anmatured Sertoli cells in UDT group (11.3 ± 3.4%) were higher than those of DT group (5.9 ± 2.2%). Apoptotic SSCs in UDT group (0.7 ± 0.5/tubules) were higher than those of DT group (0.4 ± 0.3/tubules). All exam in UDT group had tendency of higher score than in DT group.

CONCLUSIONS: Our results showed no significant differences whether they had past history of cryptorchidism. However cryptorchidism might harm testicular function by SSCs activity loss, activation of apoptosis and disturbance of maturation of Sertoli cells.
MP-004
Impact of Physical Characteristics on Fertility in Azoospermic Adult Patients Receiving Varicocelectomy

Speaker: Kuan-Ting Chen 1, Speaker: Hong-Chiang Chang 1, Speaker: Yi-Kai Chang 1
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Purpose: We examined whether physical characteristics correlate with disease severity or influence the fertility outcome after varicocelectomy.

Materials and Methods: Adult patients (age ≥ 18) underwent varicocelectomy by two andrology subspecialist physicians in our hospital during the past ten years were enrolled. Physical characteristics data included height, body weight, sonographic testicular volume and varicocele grading were collected through chart review. Fertility outcome was determined by differences of semen parameter before and after varicocelectomy.

Results: Totally 172 men receiving varicocelectomy were enrolled from February 2006 to August 2017. The average height was 172.5 ± 5.7 cm, and average body weight was 68.0 ± 9.1 Kg. Taller patients tend to have more severe varicoceles. (Grade 2 vs. Grade 3: 170.1 ± 5.24 cm vs. 172.9 ± 5.09 cm, p = 0.03) Varicocelectomy significantly improved semen parameters in both Oligoasthenoteratozoospermic (OAT) and azoospermic patients. In subgroup analysis, azoospermic patients with higher body weight before surgery were associated with better fertility outcomes. (Semen improvement vs. no improvement: 74.3 ± 6.8 kg vs. 66.2 ± 6.5 kg, p = 0.04) No correlations between physical characteristics and semen parameter change has been found among normal or OAT patients.

Conclusions: In adult males receiving varicocelectomy, taller patients were associated with worse varicocele grading. Higher body weight is associated with better semen parameter outcomes after varicocelectomy among azoospermic patients.

MP-005
3D-reconstruction of human seminiferous tubule and analysis in spermatogenesis in the longitudinal axis

Speaker: Kentaro Ichioka 1
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Introduction: In 30% of male infertile patients, causes and associated factors of decreased spermatogenesis are unknown. This fact indicates the clinical necessity for new insights into spermatogenesis in human testis. We usually use cross sections of seminiferous tubule to evaluate patients’ spermatogenesis in testis, however, we cannot detect subtle differences with this method. In the present study, we intended to 3D-reconstruct seminiferous tubule and to develop new method to analyze spermatogenesis in the longitudinal axis of the human seminiferous tubule. Method: The testis sample was obtained from an obstructive azoospermia patient with a written informed consent. The sample was fixed with Bouin solution and embedded in paraffin. Serial sections were made with 50μm intervals, and stained with hematoxylin and eosin. All sections were scanned with a slide scanner with the 20-fold objective lens, and digital images of the all sections were visualized with a viewer software. Data was analyzed and 3D-reconstructed with the Amira software. Result: 3D-reconstruction of seminiferous tubule was successful and observing the seminiferous epithelium in the longitudinal axis was possible. In the longitudinal axis of the human seminiferous tubule, segments with one cell association are formed in patchy distribution and do not encircle the seminiferous tubule, which is compatible with previous study. Conclusion: 3D-reconstruction and observing human seminiferous tubule in the longitudinal axis might be useful for better understanding of spermatogenesis in male infertile patients.
**MP-006**

Lamina propria thickening of seminiferous tubules in patients with azoospermia progresses with aging

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**INTRODUCTION:** Thickening of lamina propria (LP) is the major histological findings in testes with male infertility, and is variably present in patients with azoospermia. However, the clinical significance of the different degrees of thickening of LP is unknown. In this study, we assessed thickening of LP according to age in men with azoospermia.

**PATIENTS AND METHODS:** A total of 3,682 seminiferous tubules of 12 patients with active spermatogenesis (AS), 14 with germ cell arrest (GCA), and 15 with Sertoli cell-only syndrome (SCOS) diagnosed by testicular biopsy were assessed. Thickness of LP were measured in cross-sections, and average values were calculated in each patient. Correlation between the thickness of LP and testicular volume, Johnsen’s score count (JSC), or patients’ age were assessed using Pearson’s product-moment correlation coefficient.

**RESULTS:** The mean thickness of LP of the patients with AS, GCA, and SCOS were 5.9 ± 2.1 (range 1.5 - 19.1) μm, 12.9 ± 5.8 (range 2.2 - 64.4) μm, and 13.6 ± 6.3 (range 2.0 - 39.0) μm, respectively. There were significant negative correlations between thickness of LP and testicular volume (r = -0.342, p < 0.01) or JSC (r = -0.625, p < 0.01). Thickness of LP had significant positive correlations with age in all groups (r = 0.654, p < 0.05, r = 0.555, p < 0.05, and r = 0.607, p < 0.05 for patients with AS, GCA, and SCOS, respectively).

**CONCLUSIONS:** This study showed that thickening of LP progresses with aging, suggesting that immediate planning for sperm extraction is necessary for patients with azoospermia.

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**MP-007**

Outcomes of Varicocele Embolization for Pain

Speaker: Daniel Ness 1, Speaker: Hassan Gali 1, Speaker: Rahul Gujadhur 1, Speaker: Ralph Marsh 1

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Introduction: Pain associated with varicocele is a common presenting problem for a urologist but there is scant evidence guiding the treatment of it. We aimed to investigate the effectiveness of our embolization programme and at the same time investigate those patients in which embolization had failed to relieve symptoms.

**Materials and Methods:** This was a retrospective study. Data was collected on all patients who underwent varicocele embolization specifically for pain between 2006 and 2016. Information on patient demographics and varicocele grading was obtained as well as the follow-up clinical assessment at 3 months. It was ascertained whether the treatment had been a success or not in improving symptoms.

**Results:** A total of 72 patients received varicocele embolization for pain relief. Median age was 33 years old. 58 patients (81%) reported symptomatic improvement or resolution. 14 patients (19%) reported no significant improvement. These 14 patients either underwent surgery (open or laparoscopic) in 50% of the cases or were managed conservatively, and in one patient it was shown to not improve his symptoms despite clearance of the varicocele. In all seven patients treated with surgical ligation after failed embolization, success was achieved.

**Conclusion:** Varicocele embolization is successful in resolving orchalgia in the majority of patients that suffer from it. In those patients who fail varicocele embolization, surgical ligation is another excellent option where there is evidence of recurrent varicocele.
**MP-008**

**Testosterone replacement therapy contributes to improving lower urinary tract symptoms in Men with Testosterone Deficiency Syndrome**

Speaker: Hong Seok Shin, Speaker: Hyun Jin Jung, Speaker: Duk Yoon Kim, Speaker: Jae Shin Park

1: Catholic University of Daegu

Objectives: There has long been a concern among clinicians that testosterone replacement therapy (TRT) might have an adverse effect on lower urinary tract symptoms (LUTS). We investigated the effect of TRT on LUTS and prostate-specific antigen (PSA) levels in patients with testosterone deficiency syndrome (TDS).

Material and Methods: Fifty two patients with TDS without BPH medication received testosterone (injection with 1000mg testosterone undecanoate) every 3 months. We compared digital rectal examination, serum testosterone levels, PSA levels, International Prostate Symptoms Scores (IPSS), maximal flow rates (Qmax) and post-voiding residual volumes (PVR) at baseline and 12 months after treatment.

Results: Mean follow-up periods were 12.6 months. TRT significantly increased serum testosterone levels ($p<0.05$). IPSS decreased significantly and Qmax increased significantly over the study period ($p<0.05$). PSA levels and PVR showed no significant changes ($p>0.05$). No patients experienced urinary retention, BPH-related surgery, or admission for urinary tract infection.

Conclusion: A considerable improvement in serum testosterone levels, IPSS and Qmax were found but PSA levels and PVR were not changed significantly after mean 12.6 months follow up periods. TRT improved LUTS in TDS patients with mild to moderate BPH.

**MP-009**

**Effects of testosterone replacement therapy on quality of life in patients with chronic Kidney disease**

Speaker: Min Gu Park, Speaker: Jeong Woo Lee, Speaker: Jeong Kyun Yeo, Speaker: Hae Won Lee, Speaker: Jae Heon Kim

1: Inje university, Seoul, Korea, 2: Dongguk university, Ilsan, Korea, 3: Dongguk University Ilsan Hospital, Dongguk University, Goyang, Korea, 4: Soondhunhyang University Hospital, Soul, Korea

Objective: We investigated the effect of testosterone replacement therapy (TRT) on the QoL of patients with chronic kidney disease (CKD) and tried to confirm the safety of TRT.

Material and Methods; Forty male patients with grade III-IV CKD whose serum testosterone level is less than 350 ng/dl were consecutively enrolled in this study. The patients were randomly divided into two groups; group 1 patients were recommended to exercise and group 2 patients were treated with testosterone gel for 3 months. Before and after treatment, BMI, vital sign, and hand grip strength was checked and serological tests and self-questionnaire such as SF-36, AMS, and IPSS were performed.

Results: Compared to baseline, there was no significant difference in serum testosterone levels, scores of SF-36, AMS, and IPSS, and grip strength in group 1 after 3 months. In group 2, significant increase in testosterone, Hb, and Hct were found, and the grip strength was significantly increased after TRT. Significant improvement in scores of SF-36, AMS, and IPSS was also confirmed after TRT. There was a significant difference in testosterone, Hb, Hct, grip strength, and scores of SF-36, AMS, and IPSS between the two groups after 3 months. In group 2, there was no statistically significant change in glomerular filtration rate after TRT. All patients in group 2 were satisfied and wanted to continue TRT.

Conclusion; TRT improves QoL as well as TD symptoms in the patients with moderate to severe CKD safely, and is expected to have a good effect on the improvement of anemia, which is common situation in CKD.
Crossover trial of testosterone enanthate alone v.s. testosterone and tadalafil 10mg every other day combination therapy in men with late-onset hypogonadism

Background In Japan, on androgen replacement therapy for patients suffered from Late Onset Hypogonadism, the only agent which has insurance adaptation is Testosterone Enanthate (A.K.A. T.E.). In ART with T.E. the efficacy is limited within 2 weeks, and patient must visit hospital frequently, or suffered from loss of treatment efficacy. On the other hand, pelvic blood flow enhancing activity of PDE5 inhibitor has been attracted attention, so Tadalafil gained insurance adaptation against Benign Prostate Hyperplasia in Japan. Now we set a hypothesis that tadalafil might increase efficacy of ART with T. E. Aim To evaluate the efficacy of Tadalafil against LOH Syn. we done a crossover trial between T.E. alone therapy and T.E. plus Tadalafil combination therapy. Method Patients was divided into two groups at random. In group1, patients was treated by T.E. alone therapy first for 12 weeks, and followed by T.E. plus Tadalafil combination therapy for 12weeks. Patients take Tadalafil 10mg tablet every other day. In group2, patients was treated by reverse sequence. Patients was evaluated at point of 0, 12, 24 weeks, by laboratory data, hormonal examination, IIEF5, AMS, IPSS, OABSS. At the point of 24 weeks, patients were offered there preference of treatment as primary endpoint of this study. Result Through the whole study, concentration of serum total teststeron made no significant difference between group1 and group2. AMS total score, body domain, sexual domain, and IIEF5 were significantly improved in the T.E. plus Tadalafil combination therapy period of the group2.
Moderated Poster 2
Management of ureteral obstruction
Wed., April 18, 2018 10:45-11:45
Poster Room 2 | Annex Hall, Kyoto International Conference Center 1F
Chairperson: Teruo Inamoto (Osaka Medical College, Japan)
Chairperson: Chuyen Vu Le (Binh Dan Hospital, Vietnam)

MP-011
In vivo assessment in a porcine model of the first homogeneous biodegradable ureteral stent

Speaker: Alexandre A.A. Barros 1, Speaker: Carlos Oliveira 2, Speaker: Ana Ribeiro 3, Speaker: Riccardo Autorino 4, Speaker: Rui L. Reis 1, Speaker: Ana Rita Duarte 1, Speaker: Estevão Lima 2

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2: Life and Health Sciences Research Institute (ICVS), School of Health Sciences, University of Minho, Braga, Portugal
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4: Virginia Commonwealth University Health System, Richmond, Virginia, USA

To perform an in vivo assessment of a newly developed biodegradable ureteral stent (BUS) produced with natural based polymers. The study was conducted with a total of 10 domestic pigs were used. In animals the experimental BUS stent was inserted, whereas in the remaining a commercially available stent was used (6-Fr Biosoft® duo). Post-stenting intravenous pyelogram was used to evaluate the degree of hydronephrosis. The in vivo stent degradation was measured as the function of the weight loss. Moreover, the tensile properties of the BUS were tested during in vivo degradation. After maximum 10 days, animals were sacrificed and necropsy was performed. Tissues were compared between the stented groups as well as between the nonstented contralateral ureters and stented ureters in each group. Biocompatibility was assessed by histopathological grading. In all cases, the BUS was only visible during the first 24 hours on X-ray, and in all cases, the BUS was completely degraded in urine after 10 days, as confirmed on necropsy. At all time-points after stent insertion, the level of hydronephrosis was minimal. Overall, animals stented with BUS had an average grade of hydronephrosis which was lower compared to the controls. The BUS showed better pathological conditions, and hence better biocompatibility when compared with commercial stents. Notwithstanding the limitations of the present study, the in vivo testing of our novel natural origin polymer-based BUS suggests this device to feature homogeneous degradation, good urine drainage, and high biocompatibility.
**MP-012**

Do renal functions deteriorate in the long-term despite the initial improvement after the relief of ureteric obstruction?

Speaker: Fayez Hammad, Loay Lubbad

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**Introduction:** Following release of short periods of ureteric obstruction (UO), renal functions recover by time e.g. in the rat, release of 3-day unilateral UO (UUO) was associated with total recovery of renal functions by 14 days post-reversal despite the ongoing interstitial fibrosis which continued up to 28 days post-reversal. Interstitial fibrosis causes deterioration in glomerular filtration rate (GFR) and it is not known if it results in an ongoing slow deterioration in the renal functions despite the apparent recovery post-reversal.

**Methods:** Wistar rats underwent 72 hours reversible left UUO. Renal functions of the right non-obstructed (NOK) and left obstructed (OK) kidneys were measured one month (G-1), 4 months (G-2) and 18 months (G-3) post-UUO reversal.

**Results:** In G-1, all renal parameters in OK were similar to NOK. This include renal blood flow, GFR, urine volume, total urinary sodium and potassium excretion and fractional excretion of sodium and potassium (6.39 ± 0.50 vs. 7.04 ± 0.59, 0.83 ± 0.06 vs. 0.93 ± 0.09, 17.1 ± 1.8 vs. 18.7 ± 2.7, 3.02 ± 0.38 vs. 3.86 ± 0.58, 1.17 ± 0.11 vs. 1.52 ± 0.09, 0.04 ± 0.003 vs. 0.04 ± 0.003 and 0.54 ± 0.03 vs. 0.68 ± 0.05, respectively, P>0.05 for all).

Up to 18 months, the functions of OK did not show any deterioration as shown by the similarity of the renal parameters between the OK and NOK in G-2 and G-3.

**Conclusions:** Despite the prolonged interstitial fibrosis, both hemodynamic and tubular functions did not deteriorate in the long-term post-UUO reversal indicating a large reserve in kidney function to withstand certain periods of UO.

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**MP-013**

Robotic-Assisted Vesico-vaginal Fistula Repair: Analysis of A Decade of Experience from Kuala Lumpur General Hospital

Speaker: Kay-Seong Ngoo, Murali Sundram, Noor Ashani Md Yusoff

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**Introduction:** Vesico vaginal fistula (VVF) is not an uncommon entity, especially in a developing country. Traditionally, VVF is repaired using open surgical techniques. With the advent of robotic-assisted surgery, we aim to report our initial experience managing VVF.

**Method:** A retrospective review was performed on all VVF cases referred from 2007 until 2017. We analysed the patients demography, intra-operative parameters and also post-operative outcomes of this unique cohort of patients.

**Results:** A total of fifteen ladies were referred with symptomatic VVF. The mean age of presentation was 48.2 years (SD ± 8.8), with the majority having a primary pathology whilst one had recurrent VVF. Of the 13 patients with complete records, VVF was mainly attributable to post-hysterectomy. The mean interval between diagnosis and surgery was 7.4 months (SD ± 4.1). The average fistula size measured 12 mm (SD ± 7). Various tissues were utilized as interposition material. The mean overall duration of surgery was 303 min (SD ± 111). One patient required conversion to open surgery due to intense adhesions. Most patients recorded a blood loss of up to 50ml. The urinary catheter was removed after a median duration of 18 days (range: 7 to 101), while the median length of hospital stay was 6 days (3 to 25). There were no significant complications reported, with patients being followed up for a median duration of 3 months (1 to 60).

**Conclusions:** Robotic-assisted VVF repair has gained acceptance as a safe and feasible minimally invasive modality of treatment, even in developing economies.
MP-015
Predictive Factor for Successful Retrograde Ureteral Stent Insertion in Obstructive Uropathy due to Advanced Cervical Cancer

Speaker: Akhmad Mustafa ¹, Speaker: Bambang Sasongko Noegroho ¹

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Introduction. Cervical cancer is the 3rd most common cancer in women. Most of the patients came with kidney failure due to malignant ureteral obstruction. Retrograde ureteral stent insertion as palliative urinary diversion often performed on these patients, but it has a high failure rate and often has to be converted to nephrostomy, giving the patient unnecessary burden due to failed procedure. In this study, we evaluate factors that may predict successful ureteral stenting in cervical cancer patients to avoid unnecessary burden to the patient.

Material and Methods. The data were collected from 2014-2017. We evaluate the clinical, ultrasound and laboratory findings before stent insertion of the patient with successful compared to failed insertion.

Result of the Study. There were 41 patients diagnosed with cervical cancer attempted to do ureteral stenting. From 41 patients, 20 (48.7%) were successful and 21 (51.3%) failed. Low hydronephrosis grade (OR=85.8; p<0.0001), low stage (OR=6.0; p=0.0098), radiotherapy (OR=3.7; p=0.04) were strong predictor for successful stent insertion. In bilateral hydronephrosis, more daily urine output (OR=29.2; p=0.002) and normal creatinine level (OR=6.3; p=0.03) were strong predictors for successful retrograde stenting, while bladder infiltration was strong predictor for stent failure (OR=0.0684; p=0.0021).

Conclusion. Low hydronephrosis grade, no bladder infiltration, low creatinine level, more daily urine output, low clinical staging and radiotherapy might be factors to predict a successful ureteral stenting in cervical cancer patients.

MP-016
Survival Rate of Cervical Cancer Patients with Percutaneous Nephrostomy for Urinary Diversion

Speaker: Sandha Medika Permana ¹, Speaker: Bambang Sasongko Noegroho ¹

¹: University of Padjadjaran, Hasan Sadikin Hospital Bandung, Indonesia

Introduction: Urinary diversion by percutaneous nephrostomy (PN) is the commonly procedure to improve renal function in advanced cervical cancer patients.

Methods: This is a prospective study. We gather the epidemiological data from hospital medical records and followed up the patients regularly. Patients who died not because of cancer were excluded. Statistical analysis was done using Kaplan Meier method.

Result: From September 2014 to August 2017 there were total 341 patients with cervical cancer consulted to our department. All of them had various degree of hydronephrosis, with or without any elevation of ureum and creatinine level. We performed PN in 306 patients, 20 patients with double J stent insertion and 15 patients (4.4%) refused to had a urinary diversion or with poor general condition. Median survival of 306 cervical cancer patients who underwent PN was 271 days with probability of survival at 6 months 60.1% and 12 months by 32.6%. Median survival of 15 respondents who did not undergo PN was 63 days with a chance of survival at 6 months 25.4% and 12 months 9.1%.

Conclusion: Patients who underwent PN have better survival than patients who did not. Further studies with an adequate amount of samples and variables were needed.

Keywords: cervical cancer, percutaneous nephrostomy, survival rate
MP-017
Predictor Factors of Mortality in Cervical Carcinoma Patients who Underwent Percutaneous Nephrostomy

Speaker: Zola Wijayanti, Speaker: Bambang Sasongko Noegroho

1: Hasan Sadikin Hospital, Padjajaran University, Bandung, Indonesia

Introduction: Cervical cancer is the 3rd most common female cancer in Indonesia. Malignant ureteral obstruction (MUO) due to tumor compression presents in advanced stages of the disease and associated with poor prognosis. Percutaneous nephrostomy (PN) is a common method to manage this complication. Some patients gained benefits from this procedure while others were not and even developed worsening condition. In this study, we evaluate factors that might predict mortality after PN in cervical cancer patients with MUO.

Methods: Patients’ characteristics, laboratory and radiographic findings prior to PN were collected and compared between patient with improved condition and who deceased after PN. Odds ratio were calculated and multivariate analysis was done using SPSS Ver 21.0.

Result: There were 306 cervical cancer patients who underwent PN as urinary diversion and 53 patients were deceased after PN during hospitalization. Leukocytosis (OR 2.5, CI 95%, p=0.04), hypoalbuminemia (OR 23.9, CI 95%, p<0.01), hyponatremia (OR 2.7, CI 95%, p=0.02), moderate hydronephrosis (OR 19.9, CI 95%, p<0.01), presence of metastasis (OR 3, CI 95%, p=0.01) were strong predictors of mortality after PN. In multivariate analysis, hypoalbuminemia is the most significant predictor of mortality (B = 6.8, p 0.0001).

Conclusion: Metastasis, leukocytosis, hypoalbuminemia, hyponatremia, moderate hydronephrosis were a strong predictor of mortality after PN in cervical cancer patients. Therefore, PN should be reconsidered in these kind of patient to ensure that these patients gain benefit from the procedure.

MP-018
Quality of Life in Cervical Cancer Patients who Underwent Desobstruction Procedures

Speaker: Rudy Eka Arthusa Putra, Speaker: Besut Daryanto, Speaker: Kurnia Penta Seputra

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Objective
Obstructive uropathy is a common condition in hospitalized cervical cancer patients. Many patients underwent surgical procedures to improve their QoL. This study was aimed to compare the quality of life (QoL) in cervical cancer with obstructive uropathy pre and post operative in the Urology Department at Saiful Anwar General Hospital Malang Indonesia from July 2016 to August 2017.

Materials and Methods
75 patients with obstructive uropathy in cervical cancer underwent desobstruction procedures. Inclusion criteria was patient with bilateral or unilateral hydronephrosis. Exclusion criteria was patient refusing all treatments. QoL was assessed using WHO QoL-BREF which has 4 domains; (I: physical health, II: physiological health, III: social relationships and IV: environmental health). The score before and after procedure were compared using t-test in a prospective manner.

Results
From 75 patients, 43 (57%) patients underwent desobstruction procedures as follows: retrograde DJ stent in 31 patients; internal ureteral DJ stent in 2 patients; ureterocutaneostomy in 9 patients; percutaneous nephrostomy in 1 patient. Result showed that patient’ s QoL in the domain I to IV were significantly decreased in 6 months and 1 year follow up period. There was no significant difference of QoL between all surgical procedures (p=0.872). The mortality rate between surgical and non surgical group were not significantly different (p=1.356).

Conclusion
Desobstructions procedure did not improve QoL in cervical cancer patients with obstructive uropathy at 6 months and one year follow up period.
MP-019
Is It Useful to Insert Ureteral Catheter on the Risk of Iatrogenic Ureteral Injury During Gynecologic Surgery?

Speaker: Irfan Firmansyah 1, Speaker: Bambang Sasongko Noegroho 1
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Introduction: Ureteral trauma accounts for 1-2.5% of urinary tract trauma. The most common cause of ureteral injury is iatrogenic, especially from gynecological surgery. The prevention of iatrogenic trauma to the ureters depends upon the visual identification of the ureters and careful intraoperative dissection in their proximity. The use of prophylactic pre-operative ureteral catheter insertion is probably advantageous in visualization and palpation of ureters, especially in complicated cases. The end of this study is to describe the advantage of ureteral catheter insertion on the risk of iatrogenic ureteral injury during gynecologic surgery.

Method: This is a retrospective cohort study. Data were collected from medical records. The outcome of iatrogenic ureteral trauma was compared between patient with or without ureteral catheter insertion. Data were analyzed using a chi-square test.

Result: There were 150 patients who underwent gynecologic surgery. All of them had various degree of iatrogenic ureteral trauma. Ureteral injury occurred in 32 (21.33%) out of 150 patients and all of them did not performed pre-operative ureteral catheter insertion. Pre-operative ureteral catheterization was performed in 20 (13.33%) patients and none of them experienced any ureteral injuries. There was statistically significant difference in the incidence of ureteral injury between the different groups (RR 1.327, CI 95%, p 0.008).

Conclusion: Ureteral catheterization reduced the risk of iatrogenic ureteral injury 1.327 times compared to patients without pre-operative ureteral catheter insertion.

MP-020
Ureteroscopic double j stenting in ureteral injury by gynecological surgery: is it effective?

Speaker: Dong H. Lee 1, Speaker: Kang S. Kim 1, Speaker: Yong S. Choi 1
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Introduction and objectives: Ureteral injury caused by gynecological surgery is not uncommon and double J stenting in affected ureter promotes spontaneous healing, however, it is sometimes impossible to do by cystoscopic insertion. This study was done to evaluate the efficacy of ureteroscopic insertion of double J in patients with ureteral injury after gynecological surgery.

Materials and methods: We retrospectively reviewed 11 patients who underwent ureteroscopic double J stenting due to ureteral injury by gynecological surgery. Double J stents were removed between 1 to 3 months after insertion, and follow-up intravenous pyeloureterography was performed at 3, 6, 12, and 24 months after removal of double J.

Results: Ureteral injury was recognised by abdominal pain in 9 and ureterovaginal fistula in 2 patients. Right to left ratio was 6:5, mean duration from gynecological surgery to double J stenting was 10.8 days. Mean hospital stay after insertion was 6.6 days and mean duration from insertion to removal was 13 weeks. 6 out of 11 were successful without residual stricture, however, 5 (45.5%) remained ureteral stricture at the site of injury.

Conclusion: Although double J stenting under ureteroscopy, which was simple, could promote healing of fistular site and avoid immediate invasive urological surgery, this procedure should be reestimated because of high incidence of stricture. Therefore, if cystoscopic or antegrade insertion of double J were failed, we should decide whether ureteroscopic double J stenting could be much effective than invasive urological surgery or not.
Moderated Poster 3
Renal tumors 1
Wed., April 18, 2018 10:45-11:45
Poster Room 2 | Annex Hall, Kyoto International Conference Center 1F

Chairperson: Takahiro Kojima (Tsukuba University, Japan)
Chairperson: Teng Aik Ong (University of Malaya, Malaysia)

MP-021
Pharmacogenetics-based area-under-curve model can predict efficacy and adverse events of axitinib in the treatment of advanced renal cell carcinoma

Speaker: Yoshiaki Yamamoto 1, Speaker: Masahiro Samoto 1, Speaker: Junichi Mori 1, Speaker: Kosuke Shimizu 1, Speaker: Yoshihisa Kawai 1, Speaker: Ryo Inoue 1, Speaker: Hiroaki Matsumoto 1, Speaker: Ryousichi Tsunedomi 2, Speaker: Yusuke Fujita 3, Speaker: Yoshihiko Hamamoto 3, Speaker: Toru Otori 4, Speaker: Kanji Matsuyama 4, Speaker: Hideyasu Matsuyama 1

1: Graduate School of Medicine, Yamaguchi University, 2: Department of Gastroenterological, Breast and Endocrine Surgery, Yamaguchi University Graduate School of Medicine, 3: Department of Computer Science and Systems Engineering, Yamaguchi University Graduate School of Sciences and Technology for Innovation, 4: Faculty of Pharmacy, Kindai University

Background: Although axitinib offers a good objective response rate (ORR) for metastatic renal cell carcinoma (RCC), the optimal initial dose remains unclear because dosing is based primarily on hypertensive reaction. We investigated the relationship between axitinib pharmacogenetics and clinical efficacy/adverse events (AEs) and established a model to predict clinical efficacy and AEs using pharmacokinetic and gene polymorphisms related to drug metabolism and efflux in a phase II trial. Methods: We prospectively evaluated ORR and AEs in 44 consecutive advanced RCC patients treated with axitinib. To establish a model for predicting clinical efficacy and AEs, polymorphisms in genes including ABC transporters, UGT1A, and OR2B11 were analyzed by whole-exome sequencing, Sanger sequencing, and DNA microarray. An exponential regression model was used to predict the area under the plasma concentration-time curve (AUC) of axitinib. To validate this prediction model, calculated AUC was compared with actual AUC in 16 additional consecutive patients prospectively. Results: Actual AUC significantly correlated with the best ORR and AEs (hand-foot syndrome and hypothyroidism). Calculated AUC significantly correlated with actual AUC, and correctly predicted best ORR as well as AEs. In the validation study, calculated AUC prior to axitinib treatment precisely predicted actual AUC after axitinib treatment. Conclusions: Our pharmacogenetics-based AUC prediction model may determine the optimal initial dose of axitinib, and thus facilitate better treatment of patients with advanced RCC.
MP-022
Nivolumab (NIVO) v everolimus (EVE) in advanced renal cell carcinoma (aRCC): 3-year follow-up in Japanese patients (pts) from CheckMate 025

Speaker: Satoshi Fukasawa 1,2, Speaker: Nobuo Shinhara 2, Speaker: Hiroshi Kitamura 2, Speaker: Mototsugu Oya 2, Speaker: Masatoshi Eto 2, Speaker: Kazunari Tanabe 2, Speaker: Mitsuru Saito 2, Speaker: Go Kimura 2, Speaker: Junji Yonese 2, Speaker: Masahiro Yao 2, Speaker: Lingfeng Yang 3, Speaker: Elmer Berghorn 3, Speaker: Robert J. Motzer 2, Speaker: Yoshihiko Tomita 2

1:Prostate Center, Chiba Cancer Center, 2:CheckMate 025 study group, 3:Bristol-Myers Squibb

Background: With >2 years of follow-up in previously treated Japanese aRCC pts from CheckMate 025, the objective response rate (ORR) was higher with NIVO v EVE (43% vs 8%) and median overall survival (OS) was not reached (NR). We report the 3-year follow-up.

Methods: Pts were randomized to receive NIVO 3 mg/kg every 2 weeks or EVE 10 mg once daily until progression/intolerable toxicity. Primary endpoint: OS. Key secondary endpoints: ORR, progression-free survival (PFS), adverse events (AEs).

Results: Of 821 pts, 63 were Japanese (NIVO, 37/410; EVE, 26/411). Median follow-up: 40 months (mo). Median OS: NIVO, 45.9 mo; EVE, NR (hazard ratio [HR] 1.08; 95% CI 0.50-2.34; P=0.8496); 36-mo OS rates were 58% and 54%. Global population median OS: 25.8 mo (HR 0.74; P=0.0005). ORR in Japanese pts: NIVO, 43%; EVE, 8% (odds ratio 6.80; 95% CI 1.60-28.91; P=0.0035); median duration of response: NIVO, 13.4 mo (n=16); EVE, NR (n=2). Global population ORR: 26% v 5%. Median PFS in Japanese pts: NIVO, 5.6 mo; EVE, 9.4 mo (HR 1.26; 95% CI 0.66-2.38; P=0.4783). Global population median PFS: 4.2 v 4.5 mo (HR 0.85; P=0.0371). Any-grade treatment-related (TR) AEs occurred in 81% v 100% of pts (grade 3/4: 22% v 58%; no grade 5).

Conclusions: In Japanese pts, ORR was significantly higher with NIVO v EVE with a lower incidence of grade 3 or 4 TRAEs. Although an OS benefit v EVE was not shown, median OS with NIVO was long in Japanese pts. Efficacy outcomes were better in Japanese pts v the global population.

[Note] If accepted, the abstract will be presented at the 16th UAA and at the 106th JUA.

MP-023
The clinical impact of baseline serum C-reactive protein level in patients with metastatic renal cell carcinoma treated by targeted therapy

Speaker: Kinikaru Takamatsu 1, Speaker: Ryuichi Mizuno 1, Speaker: Toshikazu Takeda 1, Speaker: Shinya Morita 1, Speaker: Kazuhiro Matsumoto 1, Speaker: Takeo Kosaka 1, Speaker: Toshiaki Shinojima 1, Speaker: Eiji Kikuchi 1, Speaker: Hiroshi Asanuma 1, Speaker: Masafumi Oyama 2, Speaker: Mototsugu Oya 1

1:Keio University, Tokyo, Japan, 2:Saitama medical university international medical center, Saitama, Japan

Background and purpose: Currently, the International Metastatic Renal Cell Carcinoma Database Consortium (IMDC) classification was reported and used for metastatic renal cell carcinoma (mRCC). However, in the IMDC classification, about half of patients are classified as intermediate risk group. In this study, we evaluate the effectiveness of pretreatment serum C-reactive protein (CRP) levels as a prognostic predictor in the intermediate risk group.

Patient and methods: We retrospectively investigated 227 patients with mRCC treated with molecular target therapies at our two institutions. We evaluate the impact of clinico-pathological factors.

Result: The median OS was 34.6 months in all cohorts, 36.8 months in intermediate (I) group (117 cases, 51.1%). In the I group, high pretreatment CRP levels (≥ 0.6 mg/dl) was confirmed in 51 cases (43.6%). By univariate analysis, patients with 2 or more metastatic organs (p = 0.012), non-clear cell pathological tissue type (p = 0.001), and high CRP levels (p = 0.003), had significantly shorter OS. By multivariate analysis, it was found that high CRP levels (hazard ratio = 2.17, 95% confidential interval; CI = 1.24-3.10, p = 0.007) and non-clear cell carcinoma (hazard ratio = 3.44, 95% CI = 1.72-6.89, p = 0.001) was significantly related to OS. Among the I group, the median OS in the high CRP group was 18.7 months and in the non-high CRP group 49.7 months.

Conclusion: By subdividing patients in the I group by CRP, the prognosis could be more accurately predicted with lower cost and clinically convenience.
MP-024
Predictive factors of metastatic renal cell carcinoma in the era of molecular targeted therapy: A single institutional study

Speaker: Hideyuki Kondo ¹, Speaker: Suguru Shiratori ¹, Speaker: Takashi Okabe ², Speaker: Gou Kaneko ¹, Speaker: Koshiro Nishimoto ¹, Speaker: Masafumi Oyama ¹

1:Saitama Medical University International Medical Center, Saitama, Japan

Objectives: To identify prognostic predictive factors of metastatic renal cell carcinoma (mRCC) in the molecular targeted therapy (MTT) era.

Methods: Advanced RCC cases (n=209) treated with sorafenib, sunitinib, axitinib, pazopanib, temsirolimus, and everolimus in our single institution were included in this study. Several known prognostic predictive factors including metastatic sites and the rate of early tumor shrinkage (eTS) were analyzed using a Kaplan-Meier survival estimate analysis followed by Cox’s proportional hazards model analysis. eTS was measured by three independent physicians.

Results: Four metastatic sites in the liver, bone, lymph nodes, and brain as well as greater eTS were identified as potential independent predictors of overall survival (OS) in several cohorts: (i) metastatic RCC (n=194), (ii) metastatic clear cell RCC (n=119), and (iii) mRCC patients with eTS data (n=127). In sub-analyses of patients treated with each 1st line tyrosine kinase inhibitor, eTS was identified as a potentially potent predictor of OS in patients treated with axitinib.

Conclusions: We identified independent predictive factors of OS by analyzing a large cohort in a single institution.

MP-025
Comparative efficacy and safety of bone-modifying agents for the treatment of bone metastases in patients with renal cell carcinoma

Speaker: Kenji Omae ¹, Speaker: Yasushi Tsuji moto ³, Speaker: Michitaka Houda ², Speaker: Tsunenori Kondo ⁵, Speaker: Kazunari Tanabe ⁵, Speaker: Shinichi Fukuhara ¹, Speaker: Toshiaki Furukawa ⁴

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⁵:Tokyo Women’s Medical University, Tokyo, Japan

Objective: To determine the comparative efficacy and safety of all available bone-modifying agents (BMAs) for the treatment of bone metastases in patients with advanced renal cell carcinoma (RCC).

Materials and Methods: We searched the MEDLINE database, Cochrane Library, WHO ICTRP, and ClinicalTrials.gov databases up to January 2017 without language restriction. Only randomized controlled trials were included. The Grading of Recommendation Assessment, Development, and Evaluation approach was used to assess the evidence certainty.

Results: Three studies (259 patients) were identified for the systematic review. Two studies that compared zoledronic acid with placebo or no zoledronic acid showed that zoledronic acid reduced the risk of skeletal-related events (SREs) by 68% (pooled hazard ratio [HR]: 0.32; 95% confidence interval [CI]: 0.19-0.55). The quality of evidence was moderate. The incidence of serious adverse events (AEs) was identical (80%) for both treatment arms in one study and not reported in the other study. In the third study that compared denosumab and zoledronic acid among patients with solid tumors or myeloma, a post-hoc subgroup analysis with individual patient data (155 patients) showed an HR of 0.71 (95% CI: 0.43-1.17) for SREs and a risk ratio of 0.86 (95% CI: 0.68-1.08) for serious AEs for denosumab compared to zoledronic acid.

Conclusions: Our moderate-quality evidence indicates that zoledronic acid significantly reduces SREs risk among patients with bone metastases of RCC.
MP-026
Influence of perirenal fat on renal cell carcinoma growth pattern

Speaker: Eiji Kashiwagi 1, Speaker: Taturo Abe 1, Speaker: Fumio Kinoshita 1, Speaker: Takashi Dejima 1, Speaker: Ario Takeuchi 1, Speaker: Masaki Shiotai 1, Speaker: Keijiro Kiyoshima 1, Speaker: Junichi Inokuchi 1, Speaker: Katunori Tatsugami 1, Speaker: Masatoshi Eto 1

1: Kyushu University

Purpose:
We examined the relationship between growth direction of renal cell carcinoma and visceral/perirenal fat volume.

Materials and Methods:
We retrospectively reviewed computed tomography of 60 renal cell carcinoma patients in stage 1 who underwent radical or partial nephrectomy in our hospital between November 2015 and July 2016. We calculated the volume of visceral fat/subcutaneous fat/perirenal fat using SYNAPSE VINCENT. Immunohistochemical staining was also performed on perirenal fat with leptin, adiponectin, COX-2, UCP-1, and the association with outward protrusion was evaluated.

Results:
Outer expansion was confirmed in 41 cases (68.3%) out of 60 cases. pT1a was 45 cases (outer expansion 27/inner expansion 18 cases), pT1b was 15 cases (outer expansion 14/inner expansion 1 case) (P = 0.008). Visceral fat/subcutaneous fat ratio less than 0.80 was 22 cases (outer expansion 11/inner expansion 11 cases), 0.80 or more was 38 cases (outer expansion 30/inner expansion 8 cases) (p = 0.021). Perirenal fat/abdominal volume percentage less than 1.0 was 31 cases (outer expansion 17/inner expansion 14 cases), 1.0 or more was 29 cases (outer expansion 24/inner expansion 5 cases) (P = 0.018). In immunohistochemical staining, UCP-1 expression was positive in 31 cases (75.6%) out of 41 outgrowth types, in 19 cases were positive out of 19 endogenous types (100%) (P = 0.003).

Conclusion:
Renal cell carcinoma with thick perirenal fat tended to develop outward protrusion. It is suggested that the distribution of fat may affect the development of renal cell carcinoma.

MP-027
Over expression of AKT3 protein and its effect to expression of Hypoxia Inducible Factor alpha subunit protein

Speaker: Keiichi Kondo 1, Speaker: Masahiro Yao 1, Speaker: Hiroji Uemura 2

1: Yokohama City University Graduate School of Medicine, Yokohama, Japan, 2: Yokohama City University Medical Center, Yokohama, Japan

Renal cell carcinoma (RCC) is a most frequent cancer occurs in adult kidney. Eighty percent of them are clear cell subtype. ccRCC acquires mutation or deletion of von Hippel-Lindau tumor suppressor gene (vhl) in early phase of carcinogenesis. Alteration of vhl gene leads over expression of hypoxia inducible factor (HIF) protein through loss of degradation mechanism. HIF is composed of constitutive β subunit and oxygen dependent α subunit. Three subtypes of human HIF α subunit have been found.

AKT - mammalian target of Rapamycin (mTOR) pathway was frequently mutated or abnormally expressed in most of human cancers. According to whole exome sequencing analysis of ccRCC, half of cases showed mutation or abnormal expression of genes on this pathway. Three subtypes of human AKT subunit have been found.

It was reported that individual AKT subtype expression controlled HIF α expression in human RCC cell lines. However, it has not yet reported whether this relationship occurs in clinical RCC.

In this study, we use surgical specimens to performed Western blotting with anti-HIF1 & 2 α subtype antibodies and anti-AKT1 to 3 subtype antibodies to estimate relationship between these subtypes.
Objective: We evaluated the efficacy of $^{18}$F-fluorodeoxyglucose positron emission tomography/computed tomography (PET/CT) for the detection of distant metastases in patients with renal cell carcinoma (RCC). Material and Methods: A total of 7 patients with metastatic RCC were enrolled on this study (67-81 y.o.). All patients were underwent nephrectomy and postoperative pathological examination revealed clear cell RCC. CT showed 13 abnormal lesions (lung 4, lymph node 3, adrenal 2, pancreas 1, stomach 1, pleura 1, retroperitoneum 1). PET/CT and contrast-enhanced CT were performed. The positive metastatic lesions on PET/CT were diagnosed by low or high grade of FDG avidity of abnormal lesions. When contrast-enhanced CT showed hypervascular mass typical for clear cell RCC, abnormal lesions were diagnosed of positive metastases of clear cell RCC. Results: PET/CT showed low grade of FDG avidity in 4 lesions and negative uptake in 9 lesions. Twelve out of 13 abnormal lesions, contrast-enhanced CT showed hypervascular lesions which were diagnosed metastases of clear cell RCC. The sensitivity of contract-enhanced CT for the detection of metastases was higher than that of PET/CT. Conclusions: All of distant metastatic lesions of clear cell RCC showed negative or low grade of FDG avidity on PET/CT. The potential value of PET/CT for detection of metastases was thought to be low in patients with clear cell RCC. We should perform contrast-enhanced CT before choosing PET/CT in the diagnosis of metastatic lesions of clear cell RCC.
Is robot-assisted retroperitoneoscopic partial nephrectomy suitable for anterior renal tumor?

Speaker: Chye Yang Lim 1, Speaker: Kau Han Lee 1, Speaker: Steven Kuan-Hua Huang 1,2, Speaker: Chien-Liang Liu 2, Speaker: Allen Wen-Hsiang Chiu 4

1: Department of Surgery, Chi Mei Medical Center, Tainan, Taiwan, 2: Department of Surgery, Chi Mei Medical Center, Tainan, Taiwan, 3: College of Human Ecology, Chia-Nan University of Pharmacy & Science, Tainan, Taiwan, 4: National Yang-Ming University, Taipei, Taiwan

Purpose: To compare the results of anterior renal tumor and posterior renal tumor treated with robot-assisted retroperitoneoscopic partial nephrectomy (ARPN) in our hospital in terms of oncologic and functional outcomes.

Patients and Methods: From 2012 June till 2017 June, 54 ARPN was performed for malignant small renal masses in our hospital. There were 17 patient with anterior renal tumor and 20 patients with posterior renal tumor. Patient demographics (age, body mass index, tumor size, R.E.N.A.L. nephrometry score), perioperative outcomes (operative time, warm ischemic time, estimated blood loss, length of stay, complications, pathology) and functional outcomes (pre and postoperative renal function change) were compared.

Results: There was no significant differences in patient’s age, body mass index, tumor size, R.E.N.A.L. nephrometry score, pre and postoperative renal function change and complications. The console time was significant shorter in posterior renal group (108.6mins vs 138.9mins, p =0.0057) but there was no significant difference in warm ischemic time, estimated blood loss or complications rate.

Conclusion: Although longer console time, ARPN is a safe and feasible technique in treating malignant small renal masses even the tumor is located at anterior portion as it provides good traction and exposure on surgical field, thus reducing the warm ischemic time.
MP-030
Open Partial Nephrectomy versus Robot-assisted Laparoscopic Partial Nephrectomy for Single Renal Mass with More 4cm

Speaker: Younsoo Chung, Speaker: Sangchul Lee, Speaker: Dong Hwan Lee, Speaker: Sung Kyu Hong, Speaker: Seok-Soo Byun, Speaker: Sang Eun Lee

1:Seoul National University Bundang Hospital, Seongnam, Korea

Object
We compared the surgical outcomes and complications between open partial nephrectomy (OPN) and robot-assisted partial nephrectomy (RPN) for ≥4cm single renal mass (SRM).

Materials and Methods
We retrospectively reviewed the data of 220 patients who underwent partial nephrectomy for ≥4cm SRM between June 2003 and April 2017. Various clinicopathological factors were analyzed by multivariate logistic regression analysis. The cancer specific survival (CSS) and recurrence free survival (RFS) were evaluated using Kaplan-Meier analysis.

Results
There were no significant differences in mean age, gender, body mass index, R.E.N.A.L. score, and clinical T stage. For perioperative outcomes, the operative time, radical conversion, and postoperative transfusion rate were not significantly different between two groups. RPN group showed significantly less estimated blood loss, less intraoperative transfusion rate, less postoperative day 1 VAS pain score, less postoperative Clavien grade III, IV complication and the shorter length of hospitalization. Although the ischemic time was longer in the RPN group, there was no significant difference between OPN and RPN groups in terms of change of serum creatinine and estimated glomerular filtration rate. Two groups showed significantly similar rate of pathologic T stage and positive resection margin except Fuhrman nuclear grade. There were no significant differences for CSS and RFS between two groups.

Conclusion
RPN should be considered to be safe and favorable surgical procedure for ≥4cm SRM.

MP-031
Highly selective arterial embolization with tumor capsular dye staining before partial nephrectomy, preliminary report

Speaker: Cheng En Mei, Speaker: Cheng Kuang Yang, Speaker: Siu Wan Hung, Speaker: Yen Chuan Ou, Speaker: Yen Ting Lin, Speaker: Ming Cheng Liu

1:Department of Surgery, Taichung Veterans General Hospital, Taichung, Taiwan, ROC, 2:Department of Radiation, Taichung Veterans General Hospital, Taichung, Taiwan, ROC, 3:Department of Surgery, Tungs’ Taichung Metro Harbor Hospital, Taichung, Taiwan, ROC

Introduction
According to EAU guideline, partial nephrectomy (PN) for patients with T1 renal mass is recommended. For the deepest margin of renal mass might be close to the collecting system, sinus fat and interlobular vessel. In this study, we used methyl blue dye for tumor capsular staining during trans arterial embolization (TAE). It helps us to identify tumor margin during operation. We can excise the tumor more precisely without tumor capsule rupture and injury to vessel and collection system.

Materials & Methods
From Oct. 2016 to Oct. 2017, 43 patients accepted PN via single surgeon. Before PN, there were 21 underwent TAE; 4 underwent TAE with dye, and 18 without TAE. TAE was performed by Radiologist. Creatinine level was checked after operation.

Conclusions
Methyl blue dye for tumor capsular staining during TAE before partial nephrectomy helps us to identify the capsule during the operation. We can excise the tumor more precisely and preserve more nephron. Creatinine level has no significant elevation after operation. This procedure might be used in robotic assisted PN or laparoscopic PN.
MP-032
Tumor volume occupying renal parenchyma have an impact on the ischemic time in laparoscopic partial nephrectomy done by a single surgeon

Speaker : Yuki Kyoda 1, Speaker : Toshiaki Tanaka 1, Speaker : Keishi Ogura 2, Speaker : Takeshi Maehana 1, Speaker : Koji Ichihara 1, Speaker : Naoya Masumori 1

1:Sapporo Medical University, Sapporo, Japan, 2:Division of Radiology and Nuclear Medicine

Introduction & Objectives: We hypothesized that tumor volume occupying renal parenchyma (TVORP), i.e. tumor volume excluding protruded part, would be associated with tumor complexity and difficulty in partial nephrectomy. We investigated the impact of TVORP on surgical outcomes in laparoscopic partial nephrectomy (LPN).

Methods: A total of 76 patients who received LPN done by a well-skilled single surgeon from April 2010 to March 2016 in our institution were included. Intra-abdominal approach and hilar clamping were used in all cases. VOT was calculated using three-dimensional computerized tomography by a radiological technician, preoperatively.

Results: Median age was 63 years (36-83). Median body mass index was 23.9 kg/m^2 (17.0-33.3). Median tumor diameter and R.E.N.A.L Nephrometry Score (RNS) were 25 mm (IQR 10-57) and 6 (IQR 4-10), respectively. Median operating time and ischemic time (IT) was 163 minutes (101-296) and 24 minutes (11-48), respectively. Median TVORP was 8.1 ml (0.8-62.9). There was stronger correlation between IT and TVORP (R=0.482, p<0.001) than between IT and RNS (R=0.289, p=0.011).

Conclusions: Our results suggest that TVORP, a novel simple radiographic parameter reflects difficulty of surgery and can predict ischemic time during LPN. TVORP may be useful for selection of optimal surgical procedure.

MP-033
Do we need ureteral catheter and renorrhaphy during partial nephrectomy?

Speaker : Yoichiro Tohi 1, Speaker : Noriyuki Makita 1, Speaker : Issei Suzuki 1, Speaker : Mizuho Akabane 1, Speaker : Ryosuke Suzuki 1, Speaker : Arinobu Fukunaga 1, Speaker : Masashi Kubota 1, Speaker : Takashi Matsuoka 1, Speaker : Toshihumi Yano 1, Speaker : Yoshio Sugino 1, Speaker : Koji Inoue 1, Speaker : Takuya Okada 1, Speaker : Mutsushi Kawakita 1

1:Kobe City Medical Center General Hospital

Purpose: In order to investigate whether ureteral catheter(UC) and cortical renorrhaphy during partial nephrectomy(PN) are necessary, we compared the groups with and without both procedures on perioperative outcomes.

Methods: From February 2002 to August 2017, 321 patients underwent laparoscopic PN or robot-assisted PN. They were divided into two groups, 158 patients without UC and without renorrhaphy (Group1), and 81 patients with UC and with renorrhaphy (Group2). We retrospectively collected clinical data and compared the two groups on perioperative outcomes. In Group2, a 5Fr. UC was temporarily placed into the renal pelvis during surgery, and renorrhaphy was performed after the tumor resection.

Results: The two groups(Group1 vs Group2) were similar in radiographic tumor size (Mean30 vs 30mm p=0.365). In Group1, operative time, warm ischemic time were significantly shorter (Mean 183.5 vs 350min: p=0.00, 19 vs 46min p=0.00, respectively). The rate of positive surgical margin was not significantly different between two groups(5.6 vs 2.4%: p=0.283). The frequency of postoperative complications in all grades(Clavien classification) was 15.8 vs 25.9% (p=0.095). The incidence of renal artery pseudoaneurysm(RAP) was significantly lower(0 vs 3.7%: p=0.015). In Group2, grade3 RAP occurred in 3 cases. The incidence of urine leak was not of statistically significant difference in the two groups(5.6 vs 2.4%: p=0.283).

Conclusions: PN without UC nor renorrhaphy could be safe and feasible because the rates of complications such as urine leak and bleeding as low as PN with both procedures.
MP-034
Radiofrequency Ablation of Renal Tumors: 5 year follow-up

Speaker: Gyung Tak Mario Sung 1, Speaker: Yang Gyu Bae 2
1:Dong-A University Hospital, Busan, Korea, 2:Jeil Hospital, Ulsan, Korea

Objective: The aim of this study was to retrospectively evaluate the long-term results of radiofrequency ablation (RFA) of small renal masses (SRMs).

Materials and Methods: Percutaneous or laparoscopic RFA was performed on 55 renal tumors in 53 patients. The follow-up included physical examination, chest radiography, creatinine, and contrast-enhanced CT or MRI. To confirm pathologic criteria of complete ablation, 35 patients underwent follow-up biopsy. Recurrence was defined as contrast enhancement after 3 months or lesion growth at subsequent imaging or viable cancer cells on follow-up biopsy.

Results: Technical success was achieved in 52/55 renal tumors (94.5%). The mean tumor size was 2.25 cm and the mean follow-up period was 62.5 months. Repeated RFA was necessary in 8 tumors due to incomplete ablation. The overall complication rate occurred in 43% in 19 patients and the low-grade complications accounted for 95.6% of the overall complications. Five patients were found to have recurrence at various follow-up intervals and distant metastasis was found in 4 cases and 50 of 53 patients are alive on serial follow-up.

Conclusion: RFA is considered useful treatment for selected patients with SRMs and also for nephron-sparing. Our long-term data suggest excellent therapeutic outcome with RFA, while achieving effective local tumor control.

MP-035
Functional and Oncological Outcome of Percutaneous Cryoablation versus Partial Nephrectomy for Clinical T1b Renal Tumor

Speaker: Takafumi Yanagisawa 1, Speaker: Jun Miki 3, Speaker: Shouta Kawano 1, Speaker: Minoru Nakazono 1, Speaker: Yozo Inaba 1, Speaker: Kagenori Ito 1, Speaker: Hajime Onuma 1, Speaker: Seiro Tanaka 1, Speaker: Kanichiro Shimizu 2, Speaker: Hiroshi Sasaki 3, Speaker: Takahiro Kimura 3, Speaker: Koichi Kishimoto 1, Speaker: Shin Egawa 3
1:Jikei University Kashiwa Hospital, Chiba, Japan, 2:Department of Radiology, Jikei University Kashiwa Hospital, Chiba, Japan, 3:Jikei University, Tokyo, Japan

Purpose: Nephron sparing surgery (NSS) for cT1 renal tumor has become standard, especially in cT1b tumors. However, the efficacy of cryoablation for cT1b tumors is unclear. We compared the outcomes in patients treated with percutaneous cryoablation (PCA) or partial nephrectomy (PN) for cT1b renal tumor.

Material and Methods: We retrospectively analyzed the patients who underwent NSS in our institution between November 2011 and June 2017. We evaluated the oncological outcome, perioperative outcome, and renal function.

Results: A total of 71 patients underwent NSS (PN: n=43, PCA: n=28). The median follow-up period for the PN and PCA was 17 and 22 months, respectively (p=0.45). Patients in the PCA group had significantly higher age, Charlson co-morbidity index than the PN group. Perioperative overall complication rate had no significant difference in both groups. Patients in the PCA group had significantly lower preoperative eGFR, however, the postoperative preservation rate of eGFR was similar in the both groups. The 3-year local recurrence-free survival rate was PN: 100% vs. PCA: 78.3% (p=0.01). Five patients (17.8%) were received repeat PCA as salvage therapy for recurrence, the 3-year local control rate after repeat PCA is 100%. The 3-year cancer specific survival rates (PN vs. PCA: 100% vs. 95.8%, p=0.28) were comparable between PN and PCA.

Conclusions: PCA has higher local recurrence rate than PN, however, the local control rates were the same between PCA and PN in cT1b cases by repeat PCA. PCA including repeat PCA had acceptable mid-term oncological outcomes.
**MP-036**
Comparison of risk factors for developing proteinuria after radical nephrectomy for RCC assessed by glomerular filtration rate per functional renal volume

Speaker: Don Kyoung Choi 1, Speaker: Young Goo Lee 1, Speaker: Hwang Gyun Jeon 2

1: Hallym University Kangnam Sacred Heart Hospital, 2: Samsung Medical Center, Sungkyunkwan University, Seoul, Korea

Purpose: To estimate structural hypertrophy and functional hyper-filtration as compensatory adaptations following radical nephrectomy (RN) in patients with renal cell carcinoma (RCC) according to the proteinuria.

Materials and Methods: We retrospectively identified 471 patients who underwent RN for RCC between 2005 and 2013. Patients were classified according to post-operative proteinuria. CT images taken pre-operatively and 1 year after surgery were used to assess functional renal volume (FRV) for measuring the degree of hypertrophic volume of the remnant kidney, and the pre- and postoperative CKD-EPI GFR per unit volume of FRV (GFR/FRV) was used to calculate the degree of hyper-filtration.

Results: Among all patients (mean age: 54.7 years, IQR: 47.0-63.0), the mean preoperative CKD-EPI GFR, FRV and GFR/FRV were 89.3 mL/min/1.73 m² (IQR: 79.5-99.4), 357.2 cm³ (IQR: 306.7-402.1), and 0.26 ml/min/1.73 m²/cm³ (IQR: 0.22-0.29), respectively. The percent reduction in GFR was not statistically significant according to proteinuria (Normal: -28.5% vs. proteinuria -28.7%; p=0.902); however, hypertrophic FRV was statistically significant (Normal: 17.5% vs. proteinuria: 13.8%; p=0.001). The change in GFR/FRV was statistically not significant (Normal: 21.1% vs. proteinuria: 23.8%; p=0.324). Multivariate regression analysis revealed that age (p=0.010) and GFR/FRV (p<0.001) were significant factors predicting post-operative proteinuria.

Conclusions: Compensatory adaptation, structural hypertrophy and functional hyper-filtration were act as a positive adaptation to lower the occurrence of proteinuria.

**MP-037**
Prediction of the chronic kidney disease after nephrectomy for renal cancer.- On the usefulness of predicted postoperative renal volume-

Speaker: Yutaro Hori 1, Speaker: Shugo Suzuki 1, Speaker: Shou Hashimoto 1, Speaker: Shinichiro Yamamoto 1, Speaker: Fuminori Sakurai 1, Speaker: Shogo Takada 1, Speaker: Yasutaka Murata 1, Speaker: Daisuke Obinata 1, Speaker: Tsuyoshi Yoshizawa 1, Speaker: Tsuyoshi Mochida 1, Speaker: Kenya Yamaguchi 1, Speaker: Satoru Takahashi 1

1: Nihon University, Tokyo, Japan

Background: Surgical treatments for renal cell carcinoma (RCC) show favorable result of cancer free survival rate, however recent studies identified that renal dysfunction is an important prognostic factor of overall survival after surgery.

Purpose: We developed a novel marker for prediction of postoperative renal function by using CT volumetry.

Subjects and Methods: We retrospectively studied 181 patients who underwent total or partial nephrectomy at Nihon University Itabashi Hospital from 2004 to 2014. Evaluated parameters for the association of peri- and postoperative renal function include age, gender, diabetes, proteinuria, serum creatinine, eGFR, surgery performed, pathological diagnosis, TNM classification and estimated residual kidney volume. Also, we examined the presence or absence of acute kidney injury (AKI) and chronic kidney disease (CKD) in each patients before, immediately after and 5 years after surgery.

RESULTS: For patients with total nephrectomy, age significantly associated with the postoperative CKD, while age and postoperative AKI for patients with partial nephrectomy. Multiple logistic regression analysis identified AKI, eGFR, and estimated residual kidney volume as significant prognostic factors for the postoperative CKD. Moreover, in cases with triple positive factor of these three, postoperative CKD free survival rate were significantly lower than those with negative factors.

Conclusion: Early intervention with renal protective treatment may be required for patients with high risk for CKD estimated by these predictive factors.
Moderated Poster

The 16th Urological Association of Asia Congress 2018

MP-038
Preoperative Measurement of the Modified Glasgow Prognostic Score Predicts Patient Survival in Non-Metastatic Renal Cell Carcinoma Prior to Nephrectomy

Speaker: Takuya Tsujino 1, Speaker: Kazumasa Komura 1, Speaker: Tomohisa Matsunaga 1, Speaker: Kazuyoshi Hayashi 1, Speaker: Kyohei Okita 1, Speaker: Naokazu Ibuki 1, Speaker: Hajime Hirano 1, Speaker: Hayahito Nomi 1, Speaker: Teruo Inamoto 1, Speaker: Haruhito Azuma 1

1: Osaka Medical College

Purpose
The modified Glasgow Prognostic Score (mGPS) by measurement of serum C-reactive protein and albumin level has been shown to provide prognostic value in various cancer types. The purpose of the study is to evaluate whether preoperative assessment of the mGPS Score predicts the patient survival outcome in renal cell carcinoma (RCC).

Materials and Methods
The clinicopathological and follow-up data in 219 RCC patients, all of whom underwent nephrectomy, were collected. Overall survival (OS) and cancer-specific survival (CSS) after nephrectomy were evaluated, and univariate and multivariate analysis were conducted to assess predictive value of the variables, including the mGPS.

Results
During the median follow-up time of 57 months, 53 patients (24.2%) were deceased with 22 months of the median OS. The 5-year OS rate from nephrectomy were 85.9% and 18.8% in non-metastatic (n=195) and metastatic (n=24) patients, respectively. Increasing mGPS was associated with shorter OS in non-metastatic patients (HR: 9.96, 95%CI: 4.88-20.13, p<0.001), whereas no significant difference in OS according to the mGPS was seen in metastatic patients (HR: 2.01, 95%CI: 0.79-5.16, p=0.137). On multivariate analysis, the mGPS remained as an independent predictor for OS (HR: 5.24, 95%CI: 1.39-19.77, p=0.015) and CSS (HR: 4.69, 95%CI: 1.13-20.96, p=0.034) in non-metastatic RCC patients.

Conclusions
The mGPS appeared to be a reliable predictive marker preoperatively defined with widely-standardized protocol in non-metastatic RCC, and should be considered in treatment decision-making for RCC patients.

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**Moderated Poster 5**  
**Male LUTS & gerontology 1**

*Wed., April 18, 2018 10:45-11:45*  
*Poster Room 2  |  Annex Hall, Kyoto International Conference Center 1F*

Chairperson: Hiromitsu Negoro (university of Tsukuba Hospital, Japan)  
Chairperson: Seongil Seo (Samsung Medical Center, Sungkyunkwan University, Korea)

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**MP-039**  
The influences of preoperative acute urinary retention to Holmium Laser Enucleation of Prostate

Speaker: Yong Hyun Cho ³, Speaker: Sang Rak Bae ¹, Speaker: Joon Se Jung ¹, Speaker: Ji Woon Park ¹, Speaker: Bong Hee Park ³, Speaker: Hong Chung ², Speaker: Yong Seok Lee ¹, Speaker: Sung Hak Kang ¹, Speaker: Chang Hee Han ¹

1: The Catholic University of Korea, Uijeongbu St.Mary’s Hospital, 2: Konkuk University Chungju Hospital, 3: Pyeongtaek St.Mary's Hospital, Korea

Objectives: The purpose of this study was to investigate the effect of previous history of acute urinary retention on result of HoLEP.

Methods: The patients who had performed HoLEP for LUTS at 3 hospitals from March 2013 to May 2017 were included in this study. Perioperative variables was analyzed retrospective method in EMR. All patients was analyzed the physical examination, TRUS, PSA, comorbidity, perioperative uroflowmetry with post-voiding residual, IPSS questionnaire, and operative parameter.

Results: Total 486 patients were included in this study. Within 486 patients, 150 patients had history of AUR (AUR group) and 336 patients (retention group) did not. There were no significant difference in mean ages and prostate volume, PSA. In preoperative uroflowmetry parameter, AUR group was presented lower voiding volume and PVR were identified compared to retention group. In preoperative IPSS, intermittency and QoL were higher and lower in total score in AUR group. During operation, higher energy (130.6J vs. 103.5J), energy efficacy (0.651 vs. 0.461), time-resection efficacy (0.526 vs. 0.409), enucleation efficacy (0.669 vs. 0.501) and morcellation efficacy (3.98 vs. 3.27) Postoperative 1 month, residual urine, intermittency, weak stream, voiding/storage and total score in IPSS were lower in AUR group.

Conclusions: In AUR, symptom improvement after operation was superior than non-retention patients. Higher energy use and transfusion risk is identified. So urologists recommend the operation easily because history of AUR patients expected better efficacy and patients’ satisfaction.
**MP-040**

Can the penile cuff test predict the outcome of Holmium laser enucleation of the prostate for benign prostatic obstruction?

Speaker: Chung Un Lee¹, Speaker: Kwang Jin Ko¹, Speaker: Kyu Sung Lee¹

1: Samsung Medical Center, Sungkyunkwan University, Seoul, Korea

**Introduction**: The penile cuff test (PCT) was introduced as a non-invasive alternative to pressure-flow study to diagnose bladder outlet obstruction (BOO). The aim of study was to determine whether the PCT can predict surgical outcomes prior to Holmium laser enucleation of the prostate (HoLEP) for benign prostatic obstruction.

**Methods**: Men scheduled to undergo HoLEP were enrolled, and all patients underwent the PCT prior to and 3 months after surgery. Patients were categorized as obstructed, non-obstructed, or uncertain by nomogram. Surgical outcomes were assessed by change in international prostate symptom score (IPSS), quality of life (QoL) index, and maximum flow rate (Qmax) pre-operatively and 3 months post-operatively. The proportion of patients with good outcome was compared among PCT nomogram-classified groups, and postoperative changes in position on the PCT nomogram were assessed.

**Results**: A total of 125 patients were analyzed. After HoLEP, overall efficacy and symptom efficacy were not different between obstructed and non-obstructed patients. However, functional efficacy and QoL were significantly higher in obstructed patients than non-obstructed patients. After HoLEP, 75.7% of patients with BOO and 63.6% of patients categorized as uncertain were moved to the non-obstructed category, while 77.3% of non-obstructed patients remained in the non-obstructed category.

**Conclusions**: A PCT nomogram can be used in patients with BOO to predict good functional outcome and QoL. The majority of patients were classified as non-obstructed after HoLEP.

**MP-041**

Usefulness of a novel technique involving dissection of the prostatic apex using a bipolar system prior to holmium laser enucleation of the prostate

Speaker: Yuya Ota¹, Speaker: Yosuke Ikegami¹, Speaker: Kengo Kawase¹, Speaker: Takashi Hamakawa², Speaker: Hideyuki Kamisawa¹, Speaker: Yasue Kubota³, Speaker: Tetsuji Maruyama¹, Speaker: Takahiro Yasui²

¹: Nagoya City East Medical Center, Nagoya, Japan, 2: Nagoya City University, Graduate School of Medical Sciences, Nagoya, Japan, 3: Department of Clinical physiology, Nagoya City University Graduate School of Nursing, Nagoya, Japan, 4: Nagoya City University, Graduate School of Medical Sciences, Nagoya, Japan

**Introduction**: Holmium laser enucleation of the prostate (HoLEP) has been performed as a minimally invasive surgery to treat benign prostatic hyperplasia. However, stress urinary incontinence (SUI) can occur as a postoperative complication. We evaluated the efficacy of dissection of the prostatic apex using a bipolar transurethral resection in saline (Bipolar-TURis) system prior to performing a retrograde enucleation of a prostatic adenoma using laser.

**Methods**: We studied 22 patients who underwent a HoLEP procedure at our hospital between August 2015 and September 2016. We used the maximum output 26.4 W holmium laser equipment. Intraoperatively, using a Bipolar-TURis system, we made an incision in the urethral mucosa peripherally, proximal to the sphincter, followed by enucleation of the adenoma in a retrograde fashion using the laser. Operative time, weight of the enucleated prostate, the change in voiding status, and complications were evaluated.

**Results**: The median operative time was 104 minutes (54-234 min), and the median weight of the enucleated prostate was 30 g (8-80 g). The maximum urine flow rate improved from 6.9 mL/s to 15.6 mL/s, and the residual urine volume was observed to have reduced from 81.3 mL to 31.2 mL postoperatively. SUI was reported in 1 patient a month postoperatively, but no patient reported SUI 3 months postoperatively.

**Conclusions**: We propose that the Bipolar-TURis system could reduce sphincter damage and help to avoid postoperative SUI. This is a safe procedure that can reduce the risk of postoperative SUI.
**MP-042**

Prostatic artery embolization (PAE) for benign prostatic hyperplasia: A pilot study

Speaker: Peter Ka-Fung Chiu, Speaker: Chi Fai Ng, Speaker: Chi Hang Yee, Speaker: Jeremy Yuen-Chun Teoh, Speaker: Carmen Cm Cho, Speaker: Esther Hy Hung, Speaker: Simon Ch Yu

1: Department of Surgery, The Chinese University of Hong Kong, 2: SH Ho Urology Centre, The Chinese University of Hong Kong, 3: Department of Imaging & Interventional Radiology, The Chinese University of Hong Kong

**Objective:**
To evaluate the efficacy and safety of Prostatic artery embolization (PAE) for benign prostatic hyperplasia (BPH).

**Materials & Methods:**
This is a prospective cohort study approved by the institutional review board. 73 consecutive men of age 50-80 with prostates 40g or above were recruited for PAE, among them 24 had AUR on catheter. Bilateral PAE was performed with microspheres of size 100 microns under local anaesthesia.

**Results:**
Mean prostate size was 84ml. Embolization of prostatic arteries was successful on both sides in 89%. 88% (21/24) of AUR group weaned off Foley. Mean IPSS improved from 20.9 to 4.9 at 3 months and 4.3 at 12 months (p<0.001). Mean QOL reduced from 4.7 to 1.6 at 3 months and 1.2 at 12 months (p<0.001). Mean peak flow rate (Qmax) improved from 5.3 to 12.5 at 3 months and 10.8 at 12 months (all p<0.001). Urodynamic studies were performed in 32 patients before and after PAE. The mean bladder outlet obstruction index reduced from 92 to 53 (p<0.001). Prostate volume reduced by 19% at 2 weeks (p<0.001) and 25% at 12 months (p<0.001). There was no worsening of ejaculatory or erectile function. 1(1.4%) had AUR with obstructive uropathy, 1(1.4%) had detached necrotic prostatic tissue in bladder requiring endoscopic evacuation, 1(1.4%) had mild intermittent claudication of right calf for 6 weeks, and a total of 4(6.9%) eventually required TURP.

**Conclusion:**
PAE under local anaesthesia was a safe and effective treatment for men with BPH with or without AUR. Most men with AUR on catheter had successful weaning off of catheter after PAE.

**MP-043**

Outcomes of single session office-based transurethral needle ablation of the prostate - a retrospective study in a local tertiary Asian centre

Speaker: Yu Xi Terence Law, Speaker: Kelven Chen, Speaker: Liang Shen, Speaker: Wei Jin Chua

1: National University Hospital, Singapore, 2: National University of Singapore, Medicine Biostatistics Unit, Singapore

**Objective:** Transurethral needle ablation (TUNA) is a minimally invasive procedure for the treatment of symptomatic BPH. Compared to TURP, office-based TUNA is an attractive alternative as it is minimally invasive and avoids general anaesthesia. The aim of this study is to evaluate the efficacy of single session office based TUNA.

**Methods:** Data of 121 patients who had undergone TUNA was retrieved from June 2008 - March 2017. Patients were followed up with visits at 1, 3, 6 and 12-months with the International Prostate Symptom Score (IPSS), Quality of life (QoL) scoring and uroflowmetry.

**Results:** Patients were 39-85 years old. The prostate volumes were 9.45 to 96.90ml with a mean of 26.1ml. The median IPSS score pre-TUNA was 19, median QOL score pre-TUNA was 4 and mean Qmax pre-TUNA was 10.8ml/s. There is 65% improvement of IPSS post-TUNA (p<0.001). There is 75% improvement of QOL post TUNA QOL (p<0.001). There is 38% improvement of Qmax post TUNA Qmax (p<0.001). In total, 43 out of the 121 patients needed to restart medical therapy, undergo repeat TUNA or went on to have TURP. The 1st, 3rd and 5th year Kaplan-Meier relapse free survival rate were 91.7%, 76.6% and 63.7% respectively. The mean relapse-free survival time for TUNA is 6.123 years.

**Discussion:** Our study is the first single setting office based TUNA requiring minimal sedation done in the Asian community. Complication rates were low in our series, with no associated mortality. When applied to selected patients, TUNA is an effective and reasonably safe alternative for the treatment of symptomatic BPH.
Double Blind Placebo Controlled Trial of Dutasteride to Determine its Effect in Peroperative Blood Loss During Transurethral Resection of Prostate (TURP)


A prospective double blind comparative study was designed to compare the effects of Dutasteride on per operative blood loss in TURP in patients with LUTS due to BEP. Patients underwent TURP were divided into 2 groups. Experimental group (A) patients were given Cap. A (dutasteride 0.5 mg) and group B (controlled) were given Cap. B (placebo) before two weeks of TURP. A total 60 patients were admitted for TURP in the department of Urology of BSMMU were included in this study conducted during the period of Jan 2016 to April 2017. Preoperatively no significant differences were found in baseline variables: age of the patients, preoperative prostate size, and preoperative hemoglobin level. Postoperative comparison between two groups showed that There was no significant difference between the weight of resected prostatic tissue (control = 22.41 ± 6.83 gm, experimental = 25.38 ± 7.22 gm; p = 0.107). After the surgery postoperative hemoglobin level of both groups was 10.78 ± 0.64 gm/dL and experimental group = 10.83 ± 0.51 gm/dL) revealed no significant difference (p = 0.774). The mean hemoglobin loss per gram of prostate tissue in both groups (control = 1.81 ± 0.81 gm/gm and experimental = 1.79 ± 0.88 gm/gm) did not show any statistical difference (p = 0.938). In this the study it was found that if the BPH patients are subjected with dutasteride 0.5mg before 2 weeks of TURP, bleeding decrease slightly (Control group = 20.35 ± 7.99 ml/gm and Experimental groups = 17.41 ± 7.70 ml/gm). However, these data of bleeding loss did not show any statistical significance.

10 year experience in using prostatic stent on frail elderlies in a major urological center in Hong Kong

Speaker: Henry Chow, Speaker: Hui Tung Chloe Yu, Speaker: Chun Ki Chan, Speaker: Fu Keung Cheung

Frail elderlies with urinary retention may end up with long term catheterization as they may not be good surgical candidates. Prostatic stent (Memokath®) is a good alternative which can make them catheter free and enjoy better quality of life. Patients with prostatic stent inserted from January 2007 to June 2017 in Princess Margaret Hospital, Hong Kong were reviewed and data were analyzed. 110 stents were inserted in the past 10 years. Patients mean age was 83.3 years old and 72% of them suffered from two or more medical comorbidities. 79 patients had recurrent urinary retention while 31 patients suffered from obstructive uropathy. Prostatic stent insertion was performed under local anesthetic using flexible cystoscopy with mean operative time of 17.8 minutes. All were performed as day surgery case and 99.0% of cases could be discharged on the same day. 96 patients (87.3%) were able to void in 2 weeks time after stent insertion (91 patients could immediately self void and 5 patients who failed to void at first eventually able to urinate after 2 weeks time). Mean residual urine volume and flow rate after stent insertion was 67.0ml and 7.9ml/s respectively. 88.8% and 72.8% of patients remained catheter free after 6 months and 12 months of stent insertion respectively. Our center demonstrates that prostatic stent was a good treatment option for frail elderlies with urinary retention. Memokath insertion requires less operative time, fewer procedures related complications and shorter period of hospitalization.
Hesitancy Symptom (HS): The Forgotten Symptom in International Prostate Symptom Score (IPSS) Questionnaire

Introduction
IPSS questionnaire is an assessment tool to evaluate the effectiveness of different treatment options for BPH. Hesitancy symptom (HS) was omitted in the original AUASSI as it added little clinical value. Current uroflowmetry could not measure HS objectively. Our aim was to measure HS during voiding using TOTO Flowsky®.

Methods
238 LUTS patients were recruited into a randomised controlled trial for the validation study of TOTO Flowsky®. They completed IPSS Questionnaire and indicated whether they experienced HS. Analysis was done using Mann-Whitney test and spearman’s correlation.

Results
102 patients had hesitancy and 136 with no hesitancy symptom (Mean age 66 years). Mean IPSS 13.65 ± 7.08 vs 10.48 ± 6.93, p<0.0004; mean maximum flow rate 10.89 ± 4.60 vs 14.35 ± 6.31, p<0.0001; mean average flow rate 6.22 ± 2.55 vs 7.99 ± 3.52, p=0.0001; mean Hesitancy Time 36.14 ± 28.48 vs 26.02 ± 16.66, p=0.0022; mean voiding time 53.17 ± 31.33 vs 46.28 ± 35.46, p=0.0139, mean flow time 41.08 ± 19.38 vs 37.49 ± 19.99, p=0.0489; mean bladder voiding efficiency(%) 79.33 ± 17.58 vs 84.14 ± 14.51; p=0.0168. Significant factors affecting hesitancy symptoms were Qmax (r=-0.2312, p=0.0194), Qave (r=-0.2594, p=0.0085) and VT(r=0.2130, p=0.0316).

Conclusion
HS affected uroflow parameters. This was a novel method to measure HS objectively. It was a major technological advance as TOTO Flowsky® was the first uroflowmetry device to measure this objectively. Thus, HS should not be ignored and be incorporated in IPSS questionnaire as it had major impact on LUTS.

Obstructive Sleep Apnea Syndrome (OSAS) Can Be a Cause of Nocturia in Younger Patients

Objectives: To assess the association between night time urination frequency and parameters in conjunction with OSAS and LUTS-related QOLs according to age in patients with OSAS. Methods: Prior to polysomnography, LUTS was evaluated using by measurement of IPSS-QOL, OABSS, ICIQ-Nqol. At the time of polysomnography, nocturnal frequency, urine volume and electrolytes were recorded. Participants were divided into two groups according to age (below the age of 60 versus over the age of 60). Results: 98 participants suspected of having OSAS were prospectively enrolled. Complete baseline information was obtained in 67 participants. In the younger subjects, the night time frequency was associated with nocturnal urine volume and apnea hypopnea index (AHI) (p=0.012 and 0.002). Furthermore, it was associated with LUTS-related QOLs (p=0.000, 0.007, 0.001, and 0.044). On the other hand, the night time frequency in the elderly subjects was associated only with nocturnal urine volume and age. There was no relation with LUTS-related QOLs except for ICIQ-Nqol. When participants were divided by severity of the OSAS, there was a significant correlation between association of night time urine frequency, night time urine volume and AHI especially in the younger participants (p=0.037, 0.017). Conclusion: OSAS was a major cause of nocturia in younger patients. In contrast, OSAS was very weakly associated with nocturnal urine frequency/volume and LUTS-related QOL in the elderly patients, which could ascribe to the multifactorial causes for nocturnal urination disturbance in the elderly population.
Introduction: Nocturia is defined by the ICS as the complaint that the individual has to get up 1 or more times to void at night and the void has to be preceded and followed by sleep. It is prevalent and the degree of bother increased with night time frequency. Bothersome nocturia was > 2 episodes. Our aim was to determine the significance of nocturnal hesitancy in LUTS patients.

Methods: TOTO Flowsky® is a ‘new generation’ of uroflowmetry machine. When a patient was ready to void, he would press a button to activate the ‘smart toilet’. Thus, capturing the delay in the initiation of voiding onto a uroflow tracing (hesitancy time). 236 LUTS patients were recruited into a randomised controlled trial for the validation study of TOTO Flowsky®. They completed IPSS Questionnaire and indicated whether they experienced hesitancy symptom. Analysis was done using Mann-Whitney U test and one-way ANOVA.

Results: Nocturnal hesitancy affected IPSS score (p<0.0001) and QOL (p=0.0012). Maximum (p<0.0001) and average (p<0.0001) flow rates were affected together with voided volume (p=0.0003) and ‘Hesitancy time’ (p=0.0045).

Conclusions: Nocturnal hesitancy had a great impact on uroflow parameters. TOTO Flowsky® provided a novel method of measuring hesitancy symptom in terms of ‘Hesitancy time’ and represented a major technological advance. Patient with bothersome nocturnal hesitancy would more likely to seek medical advice and this should not be underestimated and ignored. Additional research for measuring nocturnal hesitancy objectively using this novel method would be warranted.
Moderated Poster 6
Male LUTS & gerontology 2
Wed., April 18, 2018 10:45-11:45
Poster Room 2 | Annex Hall, Kyoto International Conference Center 1F

Chairperson: Hiroshi Kiuchi (Osaka University Graduate School of Medicine, Japan)
Chairperson: Neville Perera (The National Teaching Hospital of Sri Lanka, Sri Lanka)

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**MP-050**
Low Intensity Extracorporeal Shockwave Therapy for Patient with Chronic Pelvic Pain Syndrome: A preliminary report

Speaker: Yin-Ting Liu 1, Speaker: Wen-Ling Wu 1, Speaker: Chen-Hsun Ho 1,2, Speaker: Kuan-Chou Chen 1,2, Speaker: Yuan-Hong Wang 3,4, Speaker: Chia-Chang Wu 1,2

1: Shuang-Ho Hospital, Taipei Medical University, New Taipei City, Taiwan. 2: Taipei Medical University, Taipei, Taiwan. 3: Graduate Institute of Clinical Medicine, Taipei Medical University, Taipei, Taiwan. 4: Department of Medical Research, Shuang Ho Hospital, Taipei Medical University, New Taipei City, Taiwan

**Objective:**
To evaluate the effect of low intensity extracorporeal shockwave therapy (LI-ESWT) for patients with chronic pelvic pain syndrome (CPPS) who are refractory to medical treatments.

**Materials and methods:**
A total of 31 patients with CPPS were enrolled. They were treated by ESWT once a week for a course of 6 weeks with a protocol of 3000 pulses at energy of 0.25mj/mm² and frequency of 4 Hz. Efficacy evaluations were performed at pre-treatment, mid-treatment, end-point, and 1, 2, 6 months after whole course of ESWT by the total scores and sub-domain scores of National Institutes of Health - Chronic Prostatitis Symptom Index (NIH-CPSI), the International Prostate Symptom Score (IPSS), American Urological Association Quality of Life Due to Urinary Symptoms (AUA QOL_US), International Index of Erectile Function (IIEF) and the Erection Hardness Score (EHS). The study was designed as an open-label uncontrolled therapeutic clinical trial which was conducted in Shuang-Ho Hospital since September 2016. Data were analyzed using paired samples t-test.

**Results:**
Of our total 31 patients, the patient’s age group ranged between 26 and 78 years with a mean age of 47.5. The mean total NIH-CPSI score was significantly decreased from baseline at all post-treatment time points (P <0.05). Decreases in pain domain, urination domain, and quality of life domain scores were also significant. The improvements of IPSS, AUA QOL_US, IIEF, EHS scores were not statistically significant.

**Conclusions:** In this study, ESWT is in effective in patients with CPPS who are refractory to medical treatments.
**MP-051**

Superiority of Dutasteride 0.5 mg and Tamsulosin 0.2 mg for the Treatment of Benign Prostatic Hyperplasia (BPH) in Asian Subjects

Speaker: Juan Manuel Palacios 11, Speaker: Naoyuki Mase 12, Speaker: Naoyuki Matsumoto 13, Speaker: Nazneen Mahfoz Haque 14, Speaker: Sadaaki Sakamoto 15, Speaker: Zhangjun Ye 16, Speaker: Sang-Jin Yoon 17, Speaker: Hann-Chorng Kuo 18, Speaker: Betsy Brotherton 19, Speaker: Timothy Wilson 20, Speaker: Chandra Munganurmath 21, Speaker: Megan Mclaughlin 22, Speaker: Michael Manyak 23

1:GlaxoSmithKline Research and Development, Brentford, London, UK 2:Sapporo Medical University, Sapporo, Japan 3:Okayama Hospital, Beppu, Japan 4:Tohoku University Hospital, Sendai, Japan 5:GlaxoSmithKline Pharmaceuticals, Research Triangle Park, North Carolina 6:GlaxoSmithKline Pharmaceuticals, Uppre Merion, PA 7:GlaxoSmithKline Pharmaceuticals, Chery Chase, MD 8:GlaxoSmithKline Pharmaceuticals, Spain

**Objective:** To investigate whether tamsulosin 0.2 mg and dutasteride 0.5 mg combination therapy is more effective than tamsulosin 0.2 mg monotherapy in reducing symptoms and health outcomes in Asian men with BPH.

**Study Design:** 2-year double-blind study in men aged ≥50 years with symptomatic BPH, International Prostate Symptom Score (IPSS) ≥12 points, prostate volume ≥30 cc, prostate specific antigen ≥1.5ng/mL and < 10 ng/mL, peak urinary flow (Qmax) >5mL/sec and ≤15mL/sec and voided volume of ≥125mL. The primary efficacy endpoint was change in IPSS at Year 2. Symptoms were assessed every 3 months, Qmax every 6 months and prostate volume every 12 months.

**Results:** The ITT population was 607 subjects. In the combination group significant reduction in IPSS (p<0.05) at month 24, greater improvements (p≤ 0.006) in Qmax at every assessment, significant prostate volume reduction at months 12 and 24 (p<0.001) and significant reduction in risk of acute urinary retention (AUR) or BPH related surgery (p=0.012), primarily due to significant reduction in risk of AUR ((p=0.005), were observed. Safety and tolerability profile of combination therapy was consistent with the known profiles for the individual monotherapies.

**Conclusion:** This is the first randomized double blind controlled trial to demonstrate the superiority of the combination of dutasteride 0.5 mg with tamsulosin 0.2 mg compared to tamsulosin monotherapy 0.2 mg in Asian men with moderate to severe BPH.

**MP-052**

What are the predicting factors for the therapeutic effects of tadalafil in male patients with lower urinary tract symptoms?

Speaker: Yoshihisa Matsukawa 24, Speaker: Shun Takai 25, Speaker: Tsuyoshi Majima 26, Speaker: Yasuhiro Furahashi 27, Speaker: Kazuna Matsuo 28, Speaker: Shohei Ishida 29, Speaker: Tokunori Yamamoto 30, Speaker: Momokazu Gotoh 31

1:Nagoya University Graduate School of Medicine, Nagoya, Japan

**Objectives:** To investigate factors related to therapeutic failure in the treatment of lower urinary tract symptoms suggestive of benign prostatic hyperplasia (LUTS/BPH) with tadalafil.

**Methods:** This was a prospective study involving 100 outpatients with LUTS. They received 5 mg of tadalafil for 12 weeks. IPSS, OABSS, and UDS were used to assess subjective and objective symptoms. Patient age, body weight, prostate-specific antigen (PSA) level, prostate volume, IPSS, OABSS, maximum flow rate (Qmax) and post-void residual urine volume, intravesical prostatic protrusion and serum total testosterone level (TT) were used as pre-administration parameters to predict the therapeutic effects. Baseline parameters that influenced the improvement of IPSS and bladder outlet obstruction (BOO) were statistically analyzed.

**Results:** A total of 92 patients were included in the analysis. Thirty-eight patients (41.3%) showed insignificant improvement in IPSS (less than 25%), whereas 41 patients (44.6%) showed insufficient improvement in BOO index (less than 25%). Age, IPSS and TT were independent predictors related to the improvement in IPSS. Meanwhile, prostate volume, IPP, and TT were independent factors related to the improvement in BOO. During multivariate logistic regression analysis, lower TT was found to be the significant factor related to therapeutic failure in the improvement of both IPSS and BOO.

**Conclusion:** Pre-treatment TT is considered to be a useful predictor of therapeutic effects of tadalafil for subjective symptoms and BOO.
MP-053
The influence of night time driving to male lower urinary tract symptom on occupational taxi driver

Speaker: Jin Bong Choi 1, Speaker : Sang Rak Bae 1, Speaker: Ji Woon Park 1, Speaker: Joon Se Jung 1, Speaker: Bong Hee Park 2, Speaker: Hong Chung 2, Speaker: Yong Seok Lee 1, Speaker: Sung Hak Kang 1, Speaker: Chang Hee Han 1

1: The Catholic University of Korea, Uijeongbu St. Mary’s Hospital, 2: Konkuk University Chungju Hospital, 3: Bucheon St. Mary’s Hospital, The Catholic University of Korea, Korea

Objectives: We investigate the effect of night time driving and continuous driving without rest on lower urinary tract symptom on taxi driver.

Materials: The lower urinary tract health examination was done in 107 occupational taxi drivers. All drivers were underwent IPSS, OABSS questionnaire and PSA and urinalysis was done and post-voiding residual urine volume was checked and all performed the TRUS. Medical interview and physical examination was done. All drivers was done a health-related questionnaire. Working years, night-time driving, the number of duty-on and duty-off time, average driving time during a day/week and average duration of night time driving was identified.

Results: Drivers mean age was 62.9 years old. Mean BMI was 25.39 and mean PSA was 1.40. Mean residual volume was 55.71cc and mean prostate volume was 71.50cc. Averaged age career of taxi driving was 20 years. Mean 48.2 hours per work was performed. In night-time driving, the number of duty-on and duty-off time, average driving time during a day/week and average duration of night time driving was identified.

Conclusions: Night-time driving was adverse effect to storage symptom. Duration of driving career had adverse effect on LUTS especially on storage symptom.

MP-055
Analysis of bladder clock genes in lower urinary tract dysfunction of spontaneously hypertensive rat

Speaker: Yusuke Kimura 1, Speaker: Masashi Honda 1, Speaker: Shyogo Teraoka 1, Speaker: Ryoma Nishikawa 1, Speaker: Tetsuya Yumioka 1, Speaker: Noriya Yamaguchi 1, Speaker: Hideto Iwamoto 1, Speaker: Panagiota Tsounapi 1, Speaker: Shyuichi Morizane 1, Speaker: Katsuya Hikita 1, Speaker: Atsushi Takenaka 1

1: Department of Surgery, Tottori University

Purpose: It is known that bladder clock genes control daily fluctuation of bladder capacity. In particular, Connexin43 (Cx43) is said to be a gene regulating bladder capacity. However, the effect of bladder clock genes in bladder dysfunction is not clear. In this study, we investigated the clock genes expression and their diurnal variation in the bladder of spontaneously hypertensive rats (SHR).

Method: Male Wistar rats (Control group) and male SHR (SHR group) were used. We divided the day into six, every 4 hours (n = 6 / group).

Upon reaching 18 weeks of age, urination was measured using a metabolism gauge. The total urination volume and urination frequency were compared between the two groups. Bladders were collected at each time and gene expression of Cx43, Rev-erb α, Per2, Cry2, Bmal1, Clock was examined by RT-PCR.

Result: In the SHR group, the urination frequency significantly increased, while the total urination volume and the one-time micturition volume were significantly decreased compared to the control group. The SHR bladders demonstrated significantly increased gene expression in Cx43, Rev-erb α, Per2 in all time points and for Cry2, Bmal1, Clock was examined in some points, compared to the Control group.

Conclusion: In SHR rats, the expression of each clock gene was elevated and the circadian rhythms of Cx43 were altered. This resulted in decreased bladder capacity, which was thought to be indicative of lower urinary tract dysfunction in hypertension.
**MP-056**

The Clinical usefulness of MRI findings in Patients With Symptomatic Benign Prostatic Enlargement Treated With Dutasteride


1: Toho University Sakura Medical Center

**INTRODUCTION and OBJECTIVE:** We retrospectively reviewed 69 patients treated with dutasteride for symptomatic Benign Prostatic Enlargement (BPE) (≥30mL) for ≥12 months from August 2011 to April 2016 at our center and considered the clinical usefulness of MRI findings in those patients. **METHODS:** The patients who developed acute urinary retention (AUR) or required surgical intervention were classified into group A and other patients were classified into group B. Further, the patients were divided into two groups based on PSA decrease rate (<50% or ≥50%). We compared the characteristics and MRI findings between each group. **RESULTS:** The mean duration of treatment with dutasteride was 35.1 months. After treatment, Qmax increased and postvoid residual urine volume (PVR) and PSA decreased respectively. 6 (9%) patients classified into group A. In comparison with the group B, the group A had higher Transitional Zone Index (TZI). Apparent Diffusion Coefficient (ADC) ratio had no significant difference between two groups. The group of PSA decrease rate <50% had longer treatment duration and lower ADC ratio than the group of PSA decrease rate ≥50%. **CONCLUSIONS:** The present study showed TZI was useful to predicting for adverse clinical outcomes in patients treated with dutasteride for symptomatic BPE. On the other hand, ADC ratio was related with PSA decrease rate and had a possibility to indicate difference of the proportion of the glandular epithelial cells and the stromal cells between transitional zone and peripheral zone.

**MP-057**

Association of Advanced Glycation End-product Accumulation with Overactive Bladder Syndrome in Japanese Community-dwelling Elderly: A Sukagawa Study

Speaker: Kenji Omae, Speaker: Noriaki Kurita, Speaker: Sei Takahashi, Speaker: Shingo Fukuma, Speaker: Yosuke Yamamoto, Speaker: Shinichi Fukuhara

1: Department of Innovative Research & Education for Clinicians & Trainees, Fukushima Medical University, Fukushima, Japan, 2: Center for Innovative Research for Communities and Clinical Excellence, Fukushima Medical University, Fukushima, Japan, 3: Department of Healthcare Epidemiology, Kyoto University Graduate School of Medicine/School of Public Health, Kyoto, Japan, 4: Tokyo Women’s Medical University, Tokyo, Japan

**Purpose:** To evaluate the influence of advanced glycation end-product (AGE) accumulation on the development and severity of overactive bladder (OAB) syndrome in the community-dwelling elderly.

**Methods:** A cross-sectional study involving 269 Japanese community dwellers aged ≥75 years was conducted in 2015. AGE accumulation was non-invasively measured as skin autofluorescence (SAF) values using the AGE Reader. The primary and secondary outcomes were the presence and severity of OAB syndrome, respectively, which were evaluated using the OAB Symptom Score (OABSS). Individuals with an urgency score of ≥2 and sum score of ≥3 were considered to have OAB syndrome. The associations of SAF with the prevalence and severity of OAB syndrome were examined using logistic and linear regression models, respectively.

**Results:** The median age of the participants was 78 years. Of the 269 participants, 110 (40.9%) were male and 75 (27.9%) had OAB syndrome. The median SAF was 2.2 arbitrary units (AU). Increasing median SAF values were observed as age categories increased. Multivariable analysis revealed that SAF was not associated with either the likelihood of having OAB syndrome (OR per 1 AU = 0.77, 95% confidence interval [CI]: 0.37-1.62) or the natural log-transformed total OABSS (β per 1 AU = -0.07, 95% CI: -0.26-0.12).

**Conclusions:** In the community-dwelling elderly aged ≥75, we found no evidence that AGE accumulation, measured as SAF using an AGE Reader, was associated with the prevalence and severity of OAB syndrome defined using the OABSS.
Change of Residual Urine Volume due to aging in Down Syndrome

Introduction: The chance of lower urinary tract disorder (LUTD) in people with Down syndrome (DS) increases with age. This study’s aim was to examine change of residual urine volume (RUV) over time due to aging in DS patients.

Materials and Methods: In the past 14 years from 2003 to 2017, RUV was measured in 29 DS patients using ultrasonography. At the time of joining this study, patients’ age ranged from 2 to 54 years old (26 males and 3 females). RUV was measured using the formula 0.52 × length × width × height.

Results: 22 of 29 patients were more than 7 years old when joining the study, 10 of which had RU. RU began to appear at around 7 years old, starting at about 4ml and then gradually increasing over time. When RUV reached over 50ml, α-blocker treatment was started. If α-blocker was not effective, a cholinergic agent (CA) was administered. RUV reached over 50ml in 5 cases. In 4 of them, RUV was reduced by α-blocker and CA. In one case, urinary retention and post-renal failure appeared.

Conclusions: Lower Choline Acetyltransferase activity in neurons is the probable cause of LUTD with DS. DS increases the risk of developing juvenile type Alzheimer disease, suggesting a loss of cholinergic neurons with age. We suppose LUTD with DS may be associated with the central rather than peripheral nervous system. Though there is high possibility that α-blocker and CA treatment will improve early LUTD, care must be taken to avoid post-renal failure due to the attenuation of these treatment effect in DS over time.
Moderated Poster 7
Female LUTS, IC, neuro-urology and incontinence
Wed., April 18, 2018 10:45-11:45
Poster Room 2 | Annex Hall, Kyoto International Conference Center 1F
Chairperson: Atsuko Fujihara (Kyoto Prefectural University of Medicine, Japan)
Chairperson: Kyu Sung Lee (Samsung Medical Center, Sung Kyunkwan University, Korea)

MP-059
Comparative persistence and predictors for discontinuation of antimuscarinics for overactive bladder: A 10-year nationwide population-based study

Speaker: Hao-Wei Chen ¹, Speaker: Yu-Chen Chen ¹, Speaker: Yung-Shun Juan ²
¹ Kaohsiung Medical University Hospital, Kaohsiung, Taiwan
² Kaohsiung Municipal Ta-Tung Hospital, Kaohsiung, Taiwan

Objectives:
To investigate the persistence among different antimuscarinics for overactive bladder (OAB) and to evaluate chronic comorbidities associated with persistence.

Materials and Methods:
We obtained retrospective claims from a Taiwanese health insurance database for patients 18 years old and over, with a diagnosis of OAB and a first claim for antimuscarinics during January 2004 to December 2013. Prescription for a target drug (tolterodine ER, tolterodine IR, oxybutynin ER, oxybutynin IR, solifenacin, propiverine, flavoxate) at least 3 months were included and were tracked for 1 year to calculate time of persistence. The comorbidities, including hypertension, diabetes mellitus and hyperlipidemia were recorded. Significant factors on discontinuation were investigated by using a Cox proportional hazards model.

Results:
Of 3280 eligible patients, the longest mean persistence was solifenacin (124 days versus 99-109 days for other antimuscarinics). At 12 months, the proportions of patients still on their original treatment varied from 2.29% for solifenacin to 0.99% for flavoxate. In Cox proportional hazard model, hyperlipidemia was the only comorbidity significantly associated with discontinuation of antimuscarinics (HR=1.12, 95% CI:1.03-1.21, P=0.006).

Conclusions:
12-month persistence was generally low for all antimuscarinics. The persistence of solifenacin was higher compared with the other drugs. Hyperlipidemia was significantly associated with lower persistence of antimuscarinics.
**MP-060**

**Investigation of the mechanism of urinary continence recovery after radical prostatectomy**

Speaker: Yoshifumi Kadono 1, Speaker: Yuki Kato 1, Speaker: Tomomi Nakagawa 1, Speaker: Tomoyuki Makino 1, Speaker: Renato Naito 1, Speaker: Satoko Urata 1, Speaker: Kazufumi Nakashima 1, Speaker: Masashi Iijima 1, Speaker: Shohei Kawaguchi 1, Speaker: Kiyoshi Shigehara 1, Speaker: Tomomi Nakagawa 1, Speaker: Yuko Kato 1, Speaker: Tomoyuki Makino 1, Speaker: Renato Naito 1, Speaker: Kazufumi Nakashima 1, Speaker: Masashi Iijima 1, Speaker: Shohei Kawaguchi 1, Speaker: Atsushi Mizokami 1

1: Kanazawa University Graduate School of Medical Science, Kanazawa, Japan

**Purpose:** Urinary incontinence is the maximum immediately after radical prostatectomy (RP), although it decreases chronologically. However, the associated mechanisms remain unclear. This study assessed the chronological changes in urinary incontinence and urethral function before and after RP and compared the findings of pelvic magnetic resonance imaging (MRI) before and after RP to evaluate the anatomic changes.

**Materials and Methods:** We evaluated the position of the distal end of the membranous urethra (DMU) on a mid-sagittal MRI slice and urethral sphincter function using the urethral pressure profilometry and abdominal leak point pressure test before RP and 10 days and 12 months after RP. The results were then compared with the chronological changes in urinary incontinence.

**Results:** MRI revealed that DMU shifted proximally to an average distance of 4 mm at 10 days after RP and returned to the preoperative position at 12 months after RP. The results were then compared with the chronological changes in urinary incontinence.

**Conclusions:** This is the first study to elucidate that the slight vertical repositioning of the membranous urethra after RP causes chronological changes in urinary incontinence. A long urethral residual stump reduces urinary incontinence after RP.

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**MP-061**

**Predictors for persistence stress urinary incontinence following transvaginal mesh procedure. What kind of patients need concomitant mid-urethral sling?**

Speaker: Shohei Kawaguchi 1, Speaker: Kazutaka Narimoto 2, Speaker: Satoko Urata 1, Speaker: Kazufumi Nakashima 1, Speaker: Masashi Iijima 1, Speaker: Takahiro Nohara 1, Speaker: Kiyoshi Shigehara 1, Speaker: Shinji Izumi 1, Speaker: Yoshifumi Kadono 1, Speaker: Atsushi Mizokami 1

1: Kanazawa University Graduate School of Medical Science, 2: St. Luke’s International Hospital

**Introduction**

We evaluated the effect of transvaginal mesh (TVM) surgery for voiding function and continence using noninvasive examination and questionnaire. The present study aimed to ascertain which categories of patients need concomitant mid-urethral sling (MUS) after TVM surgery.

**Methods**

We included women who underwent TVM procedure between November 2009 and October 2013. Data from noninstrumented uroflowmetry and questionnaires about urinary symptoms were analyzed.

**Results**

The present study investigated the cases of 961 women who underwent TVM surgery. The persistence of stress urinary incontinence (SUI) was 57.6%. Almost all the parameters measured using uroflowmetry and questionnaires significantly improved in all types of urinary incontinence 12 months after surgery. A history of hysterectomy, preoperative high flow, and preoperative urge urinary incontinence were independent risk factors for the persistence of SUI.

**Conclusions**

TVM for pelvic organ prolapse improved subjective and objective voiding function. Mixed urinary incontinence (MUI) patients with high urinary flow may be suitable for concomitant MUS with TVM because of the high level of SUI persistence.
MP-063

Women Urinate in Standing Position While Taking Shower: An Interesting Finding and Its Possible Applications

Speaker: Wei-Juan Li, Speaker: Chieh-Lung Chou, Speaker: Chao-Hsiang Chang, Speaker: His-Chin Wu

1: China Medical University Hospital, Taiwan

Purpose: “Women were born not to be able urinating while standing” has been a popularized custom or even stereotype in reality. However, urinating in standing position had been reported to have the same efficient as in seated position. Moreover, standing urination was done by women unintentionally during shower. The aim of this study is to investigate women’s consensus of the ability to urinate in standing position especially while showering.

Materials and Methods: We conducted a self-assessment questionnaire from March 1 to April 28, 2017. A total of 281 respondents completed this questionnaire. We collected basic demographics and their opinion on the questions, including 1. the usual voiding condition; 2. the awareness/experience of urinating in standing position and during taking a shower; 3. the willingness of urinating erectly under useful tools and adequate explication.

Results: Our respondents’ age ranged from 20 to 91 years old. 182 women (65%) claimed that they had no experience in standing urination while 160 women (57%) never heard that women were able to urinate erectly. However, 215 (77%) stated that they ever micturate during taking showers. Furthermore, up to 70% of the 182 women without experience of standing urinating admitted that they had ever urinated during shower.

Conclusion: Most women have the experience to urinate in standing position especially during shower. Much women denied standing urination despite of urinate during shower showing a misunderstanding and cognitive error. We hop that by the mean of public advocacy, we could eliminate the bias in near future.

MP-064

Preoperative intrinsic factor affecting voiding recovery after radical hysterectomy of cervical cancer

Speaker: Jongwon Kim, Speaker: Taehun Kim

1: Korea Cancer Center Hospital, Seoul, Republic of Korea, 2: Department of Obstetrics and Gynecology, Korea Cancer Center Hospital, Seoul, Republic of Korea

Objective: The aim of this study is to confirm whether preoperative bladder pressure parameter can predict post-RH voiding difficulty in women with no urologic symptom.

Materials and methods: All women (n=45) who between May 2014 and June 2016 underwent radical hysterectomy (RH) for cervical cancer with a stage of 1A to 2B were enrolled in this study. Urodynamic studies (UDS) were conducted before 10 days, and 6 months after RH. All patients were encouraged to void after removal of the urethral catheter on postoperative 8 days, and post-void residual (PVR) urine volume was checked. If the PVR did not decrease to less than 100 mL until postoperative 10 days, the patients were instructed to perform clean intermittent self-catheterization. The urodynamic findings were compared between good voiding group and poor voiding group.

Results: On postoperative 10th day, 15 patients failed to void. 30 patients who had spontaneous voiding, 15 patients needed clean intermittent catheterization due to high PVR (>100ml). Clinicopathologic and urodynamic profiles were compared according to spontaneous voiding ability on post-operative 10th day. Only opening detrusor pressure was different between two groups.

Conclusion: Our result suggest that prolonged postoperative voiding dysfunction may result from inherent bladder outflow obstruction. Preoperative patient’s intrinsic factors suggesting bladder outlet obstruction are significantly associated with voiding difficulty after RH.
Impact of preservation of neurovascular bundles on incontinence after RALP evaluated by patient reported validated questionnaire and the number of pads used

Speaker: Hitoshi Masuda 1,2, Speaker: Shinya Yamamoto 2, Speaker: Noboru Numao 2, Speaker: Masahiro Ogawa 2, Speaker: Toru Inoue 2, Speaker: Hayato Takeda 2, Speaker: Hikaru Mikami 2, Speaker: Yudai Ishikawa 2, Speaker: Ryo Fujihara 2, Speaker: Shunsuke Ikuma 2, Speaker: Takeshi Yuasa 2, Speaker: Iwao Fukui 2, Speaker: Junji Yonese 2

1: National Cancer Center Hospital East, Chiba, Japan, 2: Cancer Institute Hospital

Purpose: We investigated the impact of any nerve sparing on incontinence after robot-assisted laparoscopic radical prostatectomy (RALP) using the International Consultation on Incontinence on Incontinence Questionnaire Short Form (ICIQ-SF) as patient-reported questionnaires and the number of pads usage interviewed by doctors.

Materials and Methods: A total of 264 consecutive men who underwent RALP were evaluated by ICIQ-SF and the number of pads used before and 1, 3, 6, and 12 month after surgery. Incontinence status was compared among patients with non-nerve sparing (NNS), unilateral nerve sparing (UNS), and bilateral nerve sparing (BNS). A p value < 0.05 was considered significant.

Results: Patients who had any NS surgery (ie, UNS or BNS) had significantly lower ICIQ-SF compared with those who had NNS surgery up to 3 mo. No significant difference was seen at 6 or 12 mo. Comparing BNS with UNS, a statistically significantly difference was only at 1 mo. Multivariate analysis indicated that any NS surgery was significant predictor of lower ICIQ-SF up to 3 mo. Above findings were also shown in patients ≥ 65 years. In contrast, patients with BNS had fewer pad usage compared with those with UNS or NNS up to 3 mo. Comparing UNS with NNS, a statistically significant was not shown at any point.

Conclusion: We found that any NS surgery improves urinary continence status in the first 3 mo after surgery irrespective of age. ICIQ-SF seems to be more sensitive tool to evaluate incontinence status after RALP than pad usage.

Quality of life in Japanese patients with urostomy

Speaker: Tomoki Yamamoto 1, Speaker: Sadanori Kamikawa 1, Speaker: Katsuhiro Shindo 2, Speaker: Hisao Tanaka 1, Speaker: Koichiro Kitamoto 1, Speaker: Tomohiro Hasaka 1, Speaker: Toshihiro Asai 1, Speaker: Keiichi Ishii 3, Speaker: Taka Kim 1, Speaker: Toshikado Sugimoto 1

1: Osaka City General Hospital, Osaka, Japan, 2: Kindai university

Objective: It is expected that the quality of life (QOL) of patients with stoma (ostomates) varies depending on the type of the stoma, but details are not clear. We compared the QOL of patients with urinary tract stoma (urostomates) with the national standard value and those with gastrointestinal stoma.

Patients and method: From May to July 2015, we conducted health related QOL survey (SF-8) by mailing to ostomates belonging to the Japan Ostomy Association, and received responses from 2061 people. The diversion types of urostomates were 411 ileal conduits, 72 ureterocutaneostomies (one side) and 14 ureterocutaneostomies (both sides).

Result and Conclusion: The QOL of urostomates was both physically and mentally lower than that of the national standard value, and that of the ureterocutaneostomies on both sides was remarkably low. On the subscale, the body function, the social life function, and the daily role function of urostomates are lower than those of national standard value. The more time after the operation went by, the more the QOL of the urostomates became higher. In comparison with types of stomas, the QOL of urostomates with ileal conduit is the higher than that of ostomates with gastrointestinal stoma and ureterocutaneostomy.

The QOL of urostomates was lower than that of the national standard value, because of the restrictions on physical activity. These restrictions are cause of the indwelling catheter and the difficulty of the ostomy appliances fixation. We need intensive stoma care, particularly in the preoperative and early postoperative period.
MP-067

Newly development of automatic compact cell culture and drug delivery system-Consideration of application to urological setting-

Speaker: Yamamoto Tokunori 1, Speaker: Yoshiki Yagi 2, Speaker: Yasuhito Funahashi 1, Speaker: Yoshihisa Matsukawa 1, Speaker: Momokazu Gotoh 1

1:University of Nagoya, 2:Micronics corp.

We secure an intellect fortune to stress urinary incontinence of culture fat stem cell PCT/JP2007/065431 and perform ADRESU examination (UMINCTR (UMIN000017901), ClinicalTrials.gov (NCT02529865) for the (PCT/JP2010/65271) stress urinary incontinence case (SUI)) using a non-culture fat stem cell.

It is available after extraction from adipose tissue for the advantage of the non-culture fat stem cell immediately and it is the cell group which, on the other hand, is of safe material, but is that standardization is difficult to collect it. The compact automatic culture device which incorporated 6 axis robot arms which generated a culture fat stem cell as the next step now performing a non-cultural clinical study perform the development (patent application) of the innovative drug development system. The system constitution equips the isolator part with 6 axis robots, centrifuge, share note unit, microscope, 4 degrees Celsius air conditioner for safekeeping, disposal box and equips both sides of the main body with a pass box stocking a reagent and a cell and expendable supplies and comprises a CO2 incubator for cell cultures in the back aspect. As for the culture container, as for the recovery, the result of 107 cells/mL/3 days was provided by a hyper flask in three days during the culture period of the fat stem cell. I compared the cell marker sperm activity, but it was different, and the fat stem cell which cultured a culture fat stem cell and manual operation using this system was not recognized (JP2013-222,630, JP2014-1,209,027).
MP-069
A Stab in the dark: a proposed diagnosis and management algorithm for prostatic abscess

Speaker: Angus Chin On Luk 1, Speaker: Alex Ridgeway 1, Speaker: Ian Pearce 1

1: Royal Manchester Infirmary, Manchester, United Kingdom

Prostatic abscess (PA) is a rare but potentially fatal disease. To date there are no international consensus/guidelines on the diagnosis and management of PA. We reviewed the current evidence on PA, with particular focus on its presentation, workup & surgical management. On the basis of our results, we propose a new treatment algorithm on diagnosis and management of PA.

PA are often thought to be the sequelae of un/under-treated acute prostatitis, there should be a high index of suspicion for PA in patients that fails to respond to medical therapy for acute prostatitis, particular in patients with risk factors such as diabetes and immunosuppression.

Imaging is essential in diagnosing PA, as clinical presentation is mostly non-specific. Trans-rectal ultrasound (TRUS) is a quick & cheap method with high sensitivity to PA; it also allows simultaneous intervention. Other imaging such as CT and MRI may have a role in more complex abscesses.

Antibiotics forms the basis of medical therapy, and this may be enough in small abscess (<2cm). Multiple surgical modalities have been advocated in the management of PA, including trans-rectal/perineal/urethral drainage. From our analysis, we found that factors such as morphology, size of the abscess, patient’s pre-morbid status, and clinical stability are important in formulating the most suitable modality, as current evidence does not suggest overwhelming advantage of any one approach.

It is our hope that this new algorithm will be widely adopted to guide clinicians in the management of PA, where evidence in the area is currently limited.
Do targeted prophylactic antibiotics reduce the risk of bacteremia after transrectal ultrasound guided prostate biopsies?: A single-institutional review

Speaker: Daanesh Huned Hassanbhai, Charles Silvederio, Lohana Devanand, Wai Looon Yam, Sey Kiat Lim, Foo Cheong Ng

1: Changi General Hospital, Singapore

Introduction
Despite recent advances, transrectal ultrasound-guided biopsy (TRUS-Bx) of prostate is the gold standard for up-front prostate biopsy. We aim to assess the efficacy of targeted prophylactic antibiotics (TPA), with the use of pre-procedural rectal swabs (RS), at reducing infective complications. We also determined the incidence of ciprofloxacin-resistant (CR) organisms in our cohort.

Methods
From April 2015 through October 2017, RS was used to screen for CR-organisms. In ciprofloxacin-sensitive (CS) cases, single dose ciprofloxacin would be given 1 hour before while CR cases received single dose of appropriate antibiotics. The control group received empirical prophylactic antibiotics (EPA) cover i.e. single dose gentamicin from January 2012 to March 2015. All cases had sterile urine cultures before. Post-antibiotics were given at surgeons’ discretion.

Results
Race, age, diabetes, hypertension and number of cores, were comparable between TPA (n= 836) and EPA (n=978) groups. 32.5% of the TPA cohort with CS-organisms received other antibiotics in addition to ciprofloxacin. 99.6% and 74.3% received post-antibiotics in the EPA and TPA groups respectively (p = 0.000). Bacteremia rates were significantly lower in TPA group (0.6%, 5 of 836) than EPA group (1.9%, 19 of 978). The CR rate was 45.8%.

Conclusion
RS-guided use of TPA significantly reduces bacteremia, which translates to reduced healthcare costs especially in populations with a high CR rate. We propose using RS in addition to screening for bacteriuria, as an affordable method of improving the safety of TRUS-Bx.

The Use of Fosfomycin as Preoperative Antibiotic for Prostate Needle Biopsy: A Randomized and Controlled Clinical Study in Veterans Memorial Medical Center

Speaker: Sid Callanta Sergio, Sherwin Norito Reyes, Karl Marvin Tan

1: Veterans Memorial Medical Center, Philippines, 2: Far Eastern University - Nicanor Reyes Medical Foundation, Philippines

Objectives: To determine the efficacy and safety of single dose Fosfomycin 3gm as a preoperative antibiotic prophylaxis for prostate needle biopsy as compared to Ciprofloxacin 500mg tablet.

Materials and Methods: The study was conducted at Veterans Memorial Medical Center, Section of Urology from May 2016 to September 2017. Simple trial randomization by single blinding was done. Group 1 consisted of the Ciprofloxacin group whom given 500 mg twice daily capsules administered for five days starting one day before the biopsy. Group 2 consisted of the Fosfomycin group whom given 3 gram sachet dissolved in 1/2 glass water 60 mins prior to biopsy. Post-procedural febrile and febrile infectious complications were then compared prospectively.

Results: A sample size of 268 for 2 groups was used. The incidence of afebrile UTI is higher with Group 1, 13/134 at 9.7% compared to Group 2, 3/134 at 2.2%. The same is true with Febrile UTI with Group 1 having 3/134 at 2.2% and Group 2, 1/134 at 0.7%. Using the Pearson Chi Square test, the results for both comparison were noted to be statistically significant, with a p value of 0.010 and 0.006 for afebrile and febrile UTI respectively in between groups, thus making Fosfomycin having a much lower rate in terms of infectious complications.

Conclusion: The study showed that with its single dose and low rates of infectious complications, make Fosfomycin a good antibiotic alternative for trans rectal ultrasound guided prostate needle biopsy.
MP-073
Preventing infectious complications after prostate biopsies - Is MRI Fusion more susceptible compared to transrectal or transperineal systematic biopsies?

Speaker: Jia-Lun Kwok 1, Speaker: Aaron Goh 2, Speaker: Soon-Hock Koh 1, Speaker: Yuyi Yeow 1, Speaker: David Lye 3, Speaker: Yew-Lam Chong 1

1: Tan Tock Seng Hospital, Singapore, 2: Lee Kong Chian, Nanyang Technological University, Singapore, 3: Department of Infectious Disease, Tan Tock Seng Hospital Singapore

Introduction: Infectious complications after prostate biopsies can be potentially life threatening. In our institution with gentamicin and ciprofloxacin prophylaxis, we evaluate the incidence of infectious complications in MRI Fusion transrectal biopsies (MRI-F) compared to transrectal ultrasound guided bi-sextant (TR) or transperineal (TP) systematic biopsies.

Methods: This is a retrospective review of 992 patients from 5 January 2016 - 22 June 2017. Outcomes included positive urine or blood cultures and inpatient admission for infectious complications including sepsis, fever or UTI symptoms within 30 days of biopsy.

Results: Comparing MRI-F with TR biopsies, there is a significant higher positive blood culture rate (5.30% vs. 0.55% p=0.0003), higher infectious complications admission rate (7.58% vs. 1.64% p=0.001), and appears to be a higher positive urine culture rate (3.03% vs 1.23% p=0.1210) in the MRI-F group. Across all patients, all positive urine cultures grew E.coli, with 18% sensitive to ciprofloxacin and 36% sensitive to gentamicin. For positive blood cultures, the majority grew E.coli with 18% sensitive to ciprofloxacin and 75% sensitive to gentamicin.

Conclusions: MRI Fusion Transrectal prostate biopsies lead to more accurate detection of clinically significant prostate cancers. However, in our institution there is a higher rate of infectious complications and positive blood cultures. Clinicians will need to have a higher vigilance for post biopsy infection, and possibly institute a change of augmented antibiotic regime in this group.

MP-074
Simultaneous supine percutaneous nephrolithotomy and ureterolithotripsy for the treatment of large ureteral stones with severe tortuosity

Speaker: Hao-Wei Chen 1, Speaker: Yu-Chen Chen 1, Speaker: Tsung-Yi Huang 1

1: Kaohsiung Medical University Hospital, Kaohsiung, Taiwan

Introduction & objectives
The large ureteral stones with severe ureteral tortuosity is challenging and always refractory to conventionally endourological methods. Therefore, our study is to share our experience of a modified procedure.

Materials & methods
This study retrospectively reported patients with large impacted ureter stone (>15mm) with severe ureteral tortuosity who failed with ureteroscopic lithotripsy (URSL) and underwent this modified procedure at Kaohsiung Medical University Hospital between January 2017 to September 2017. A hydrophilic guidewire from PCN was inserted antegrade along the ureter under fluoroscopically guided to the bladder. The distal end of the guidewire was pulled out of the urethra by the cystoscopy. We straightened the guidewire from both ends with tension to against the tortuous ureter. Ureteroscopy was then available to approach the ureter stones, which was disintegrated by laser. We pushed the fragments back retrogradely and removed antegrade under renoscopy.

Results:
A total of 8 patients underwent this modified procedure. The average of patients’ age, stone size, operation time, postoperative hospital stay were 60.1 years, 21.1 mm, 85 minutes and 3.25 days respectively. All patients achieved stone-free status. 4 patients with grade 1 (hematuria) and 1 patient with grade 2 complications (fever with antibiotic treatment) were observed. No blood transfusions or urine leakage was observed.

Conclusions:
Our modified procedure is safety and validity for ureteral stones with severe ureteral tortuosity, which cannot be treated with URSL.
MP-075
Effect of adequate rectal preparation on reducing hospital admission for urosepsis after transrectal ultrasound-guided prostate biopsy

Speaker: Hao-Wei Chen 1, Speaker: Yu-Chen Chen 1, Speaker: Ching-Chia Li 1, Speaker: Yung-Shun Juan 1
1: Kaohsiung Medical University Hospital, Kaohsiung, Taiwan

Objectives
To evaluate whether adequate rectal preparation could lead to reduced hospitalizations for urosepsis within 1 month after transrectal ultrasound-guided prostate biopsy (TRUS-Bx).

Materials & methods
Patients underwent TRUS-Bx at two medical centers in Kaohsiung, Taiwan during 2011 to 2016 were reviewed. All patients received rectal preparation. Adequate rectal preparation, defined as an empty rectal vault, was confirmed by digital rectal examination (DRE) and TRUS performed immediately prior to TRUS-Bx in group A; while DRE and TRUS weren’t performed in group B. All patients were pair-matched by clinical characteristics. Relationships with outcome was analyzed using logistic regression.

Results
After propensity score matching (2:1 ratio), 550 patients of Group B and 275 patients of Group A were selected. Adequate rectal preparation prior to TRUS-Bx resulted in significantly decreased the risk for the development of urosepsis after TRUS-Bx (adjusted OR: 0.08, 95% CI: 0.01-0.4, P = 0.002) in logistic regression. Fewer risk for urosepsis was found in intramuscular injection Gentamycin sulfate 80mg plus oral Ceftibuten 200mg than oral Levofloxacin 500mg prophylaxis (adjusted OR: 0.26, 95% CI: 0.1-0.7, P = 0.008).

Conclusion
Adequate rectal preparation could lead to reduced hospitalizations for urosepsis after TRUS-Bx. Our findings suggest that DRE and TRUS should be performed prior to TRUS-Bx to confirm adequate rectal preparation quality.
Moderated Poster 9
Infection and stone 2

Wed., April 18, 2018 10:45-11:45
Poster Room 2 | Annex Hall, Kyoto International Conference Center 1F

Chairperson: Toyohiko Watanabe (Graduate School of Medicine, Dentistry and Pharmaceutical Sciences, Okayama University, Japan)
Chairperson: Stephen Shei Dei Yang (Medical School of Buddhist Tzu Chi University, Taiwan)

MP-076
A novel Chatbot system to diagnosis sexually transmitted infections

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Introduction
An outbreak of syphilis is a serious problem in the past several years in Japan, although overall patients of sexual transmitted infection (STI) are decreasing. An AI chatbot is a computer program which conducts a conversation via auditory or textual methods. Here we report on a novel chatbot system to diagnose STI on the internet with a smartphone.

Materials and Methods
We built the database which contained information, pictures and questions to diagnosis STI. This chatbot system was composed with autoanswer systems comprising constant algorithm on a server. If patients answered a couple of questions and/or chose a picture, this chatbot could diagnose STI such as gonorrheal urethritis, chlamydial urethritis, syphilis, condyloma acuminatum, AIDS and others. We investigated efficacy and usability of this chatbot. And we analyzed its accuracy of STI results of a total of 70 male patients who visited a clinic to treat STI.

Results
The total accuracy rate of a diagnosis of STI with this chatbot was 77.7%. The accuracy rates of gonorrheal urethritis, chlamydial urethritis, syphilis and condyloma acuminatum were 65%, 70%, 85% and 95%, respectively.

Conclusion
A chatbot have great potential to screen STI because we can use it anytime and anywhere on smartphone. Given its usability and accessibility, the application can support examining and learning STI at home, making it much more convenient and economical than current practice. This chatbot system to diagnosis STI provides an easy solution for global users to rapidly screen STI by themselves.
MP-078
The value of excretory phase CT in patients with acute obstructive pyelonephritis as a result of urolithiasis. The degree of obstruction can predict bacteremia

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Purpose: Bacteremia has been used as a marker of severe disease in some studies that investigated urinary tract infections. We aimed to evaluate the performance of excretory phase CT in predicting bacteremia among acute pyelonephritis patients with upper urinary tract calculi in Emergency department.

Methods: We reviewed medical records from 211 patients diagnosed with acute pyelonephritis with upper urinary tract calculi admitted to our hospital between 2005 and 2015. Of these patients, a total of 124 patients who underwent excretory phase CT were analyzed. We assigned a degree of ureteral obstruction, which was determined on the basis of the time needed at excretory phase CT to opacify the collecting system.

Results: Their age ranged from 23 to 101 years. Of the patients 46.7% underwent surgical decompression. Of 124 evaluable patients, 67 (54%) had bacteremia. The bacteremic group had a longer hospital stays (p<0.001). Escherichia coli was the most frequently identified pathogen in the urine as well as in blood cultures. There was a significant difference in the degree of obstruction on excretory phase CT between the bacteremic and non-bacteremic group (p<0.001).

Conclusions: The excretory phase CT images can be used to predict the bacteremia by evaluating the degree of ureteral obstruction in patients with acute pyelonephritis, and it can be used to determine the appropriate indication and timing for drainage. We think that it is critical to evaluate first the passage of urine shown by excretory phase CT.

MP-079
Clinical Factors Associated with Empirical Antibiotics Resistance in Febrile Patient with Urinary Tract Calculus

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Purpose: To investigate the clinical and microbiological features in the febrile patients with urinary tract calculus, as well as factors that affect empirical antibiotics resistance. Materials and Methods: A retrospective analysis was performed of 203 patients hospitalized between January 2011 and December 2016 for antibiotic treatment of febrile urinary tract infection with urinary calculus at 3 institutions. We investigated patient age, sex, body mass index, underlying diseases, stone-related factors and results of urine and blood culture examination and antibiotic sensitivity test. Results: Bacteria were identified in 152 of 203 patients (74.9%), and the most commonly cultured included Escherichia coli (44.1%), followed by Enterococci spp. (11.8%), Proteus (8.6%), S. agalactiae (6.6%), Klebsiella spp. (5.3%), Pseudomonas spp. (4.6%), coagulase-negative Staphylococci (4.0%), Staphylococcus epidermidis (4.0%), Serratia (2.6%), Enterobacter (0.7%), Acinebacter (0.7%), mixed infection (7.2%) and other spp. (5.4%). The multivariate analysis revealed that multiplicity of calculus was independent predictive factor for fluoroquinolone resistance (p=0.008). Recurrent infection was determined to be significant predictor of cefotaxime resistance on multivariable analysis (p=0.041).

Conclusions: Based on the results from the present study, fluoroquinolone should not be considered as the empirical treatment in febrile patients with urinary tract calculus. Also, combination antibiotic therapy is recommended in case with recurrent infection, because cefotaxime resistance can occur.
MP-080
Analysis of bacterial community using pyrosequencing in semen from the patient with chronic pelvic pain syndrome: A pilot study

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Background
Although antibiotics represent the first line of treatment for chronic prostatitis/chronic pelvic pain syndrome (CP/CPPS), physicians cannot verify infection in almost cases. For collection of infectious evidence, the microbiota of semen was investigated with pyrosequencing.

Materials and Methods
17 CP/CPPS patients and 4 healthy volunteers were enrolled with informed consent. Whole DNA purification from their semen was done and the DNA was amplified with PCR using universal primer for bacterium. All semen samples were cultured in conventional method as well. Pyrosequencing analysis of PCR-amplified DNA was performed.

Results
All of the semen samples showed no colony in conventional culture. However, using pyrosequencing, all samples were identified to contain multiple bacterial genera. Especially, fastidious bacteria were abundant. Corynebacterium, Rhodobacter, Anoxybacillus, Streptococcus, Sphingomonas, Ralstonia, Pseudomonas, Staphylococcus and Bradyrhizobium were frequently detected non-specifically between patients and control group. However, Achromobacter, Sediminibacterium, Pseudogluconobacter, Stenotrophomonas, Herbaspirillum and Brevibacillus have some trend that were found more frequently in CP/CPPS patients.

Conclusion
Bacterial colonization or invasion of the prostate may be associated with CP/CPPS in some cases. Improvement of microbiological assays can convey important diagnostic and therapeutic implications. It is necessary to setup delicate-designed study with many cases enough to confirm clinical significance.

MP-081
The merits and demerits of the antibiotic prophylaxis in patients with long-term indwelling ureteral stent

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Background: The prophylactic antibiotics for ureteral stent exchange have merits and demerits; that is, prevention of febrile urinary tract infection (fUTI) and development of resistant bacteria. These merits and demerits become clinically evident in patients with long-term indwelling ureteral stent, because of their higher incidence of bacteriuria.

Aim: To clarify the risk of resistant bacteria development and stent exchange-related fUTI, and to evaluate the effect of prophylactic antibiotics for ureteral stent exchange in patients with long-term indwelling ureteral stent.

Materials and methods: Sixty-six patients with indwelling ureteral stent for more than 6 months were evaluated retrospectively. Thirty-nine patients had ureteral stone, and 31 had ureteral stenosis. The patients received single-dose prophylactic antibiotic immediately before stent exchange. The risks of resistant bacteriuria and stent exchange-related fUTI were analyzed.

Results: The median duration of stent placement was 24.5 months. Among the 66 patients, 45(68%) developed bacteriuria and 34(52%) developed resistant bacteriuria. Resistant bacteria development rate was 90% in stone(+) group and 50% in stone(-) group (P=0.009). Stent exchange-related fUTI occurred in 19(15%) patients. It was noteworthy that both bacteriuria and resistant bacteriuria did not associate with stent exchange-related fUTI.

Conclusions: The prophylactic antibiotics for ureteral stent exchange in patients with long-term indwelling ureteral stent have high risk of resistant bacteria development and limited effect of fUTI prevention.
MP-082
Clinical Efficacy of a Fully Automated Urine Particle Analyzer UF-5000 for the Detection of Fastidious Bacteria in Urine

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Introduction
It has been reported that several kinds of fastidious bacteria can cause urinary tract infections (UTIs). But these bacteria are overlooked as causative agents due to a limitation of conventional urine culture method. Urinary flow cytometers counting bacteria without cultivation have been used. We aimed to evaluate clinical efficacy of the UF-5000 (Sysmex) compared with a urine culture method for the detection of fastidious bacteria.

Material and methods
From Feb. to Sept. 2017, urine samples (n=40) were obtained from the patients of the urology department. White blood cells (WBCs) and bacteria were counted by the UF-5000. Each sample was inoculated using a 10 μL inoculation ring and cultured in both aerobic (Trypscase soy agar 5% sheep blood, 37°C for 18h) and anaerobic (ABIK blood plate, 37°C for 48h) conditions. Identification of the isolates was performed mainly using MALDI-TOF MS or 16S rRNA gene sequencing.

Result
Of the 40 urine samples, 15 samples with bacteria counts of > 10^5 / mL and WBC counts of > 10 / μL were detected by the UF-5000. Among the 15 samples, 2 samples were culture-negative in both of aerobic and anaerobic culture. Of the 13 culture-positive samples, 8 samples consisted only of facultative anaerobic bacteria. Both facultative anaerobic and fastidious bacteria (obligate anaerobic and/or slow-growing facultative anaerobic bacteria) were found from the other 5 samples.

Conclusion
This study suggested that the UF-5000 is useful for a rapid screening of UTIs. Correlation analysis between the study results and patient information is ongoing.

MP-083
Institutional experience reduces mortality from septic shock due to obstructive pyelonephritis with urolithiasis

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Introduction
We evaluated differences among institutions in mortality of severe obstructive pyelonephritis with urolithiasis receiving ureteral drainage focusing on hospital volume of this disease in Japan.

Methods
Among 21,881 obstructive pyelonephritis with urolithiasis cases registered in Japanese Diagnosis Procedure Combination (DPC) database 2007-2013, we extracted severe shock cases defined as those i) received ureteral drainage (placement of ureteral stent or percutaneous nephrostomy), and ii) necessitating vasopressor administration (dopamine, dobutamine, or noradrenaline) for longer than a day within two hospital day. Annual hospital volume of obstructive pyelonephritis with urolithiasis was calculated and classified into high (10 or more cases per year), middle (5 to 10) and low (less than 5) volume groups.

Multivariate logistic regression analysis was performed to examine hospital volume impact on mortality with other variables.

Results
In total, 719 patients were identified as severe shock cases. The mortality (3.9%, n=28) was widely varied according to hospital volume. (8.1%, 4.6%, and 2.0% in low, middle, and high hospital volume group, respectively. \( p=0.012 \)). Multivariate analysis showed significantly lower mortality in high volume group compared to that in low volume group. (OR 0.24, \( p = 0.007 \)). Disorientation at admission was also significantly associated with higher mortality. (OR 2.55, \( p = 0.027 \))

Conclusions
Hospital volume showed strongly impacts on survival rate of severe septic shock patients with obstructive pyelonephritis with urolithiasis.
The effect of alendronate on the urinary stone risk of astronauts flown on expeditions aboard the International Space Station for a long time

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Background: In space environment, hypercalciuria involved with bone resorption leads to the risk of urinary stone formation. As a collaborative research with NASA and JAXA, we evaluated the risk of stone formation and amelioration of the risk by alendronate by analyzing urinary biochemistry of astronauts staying at the International Space Station (ISS) for 6 months.

Method: 17 astronauts staying at ISS for 6 months were divided into 2 groups (medication (MED) group; N = 7, 70 mg / week oral alendronate, control (CON) group (N = 10) without medication). Both groups exercised under a protocol using Advanced Resistance Exercise Equipment to counter bone mineral loss.

Results: The urine volume showed a rapid decrease after the start of the space flight in both groups. Urinary Ca significantly increased after the start of the space flight in CON group, but significantly decreased in MED. Urinary NTX, DPD, PYD, which are bone resorption markers, increased significantly in CON group during the space flight, but did not increase in MED. Urinary oxalate and uric acid of the CON group tended to be higher than in MED group during the space flight. Urinary supersaturation showed increased risk of calcium oxalate, calcium phosphate and uric acid stone during the flight in CON group but did not increase in MED group.

Conclusion: Astronauts staying at ISS for a long time are exposed to the high risk of stone formation, especially calcium oxalate stones. It was suggested that alendronate is effective in preventing bone mineral loss and kidney stone formation induced by microgravity.
Moderated Poster 10
Stone surgeries

Wed., April 18, 2018 10:45-11:45
Poster Room 2 | Annex Hall, Kyoto International Conference Center 1F

Chairperson: Taro Iguchi (Osaka City University Graduate School of Medicine, Japan)
Chairperson: Md. Shahidul Alam Khan (Popular Medical College, Dhaka University, Bangladesh)

MP-086
Efficacy of modified nephrostomy tract dilation technique for percutaneous nephrolithotomy in modified supine position

Speaker: Jae Wook Chung 1, Speaker: Bum Soo Kim 1, Speaker: Heon Ha 1, Speaker: Yon Jin Lee 1, Speaker: Yun-Sok Ha 1, Speaker: Jun Nyung Lee 1, Speaker: Seock Hwan Choi 1, Speaker: Hyun Tae Kim 1, Speaker: Eun Sang Yoo 1, Speaker: Taegyun Kwon 1, Speaker: Sung Kwang Chung 1

1 Kyungpook National University

Purpose: Recently, percutaneous nephrolithotomy (PNL) in supine position is widely performed. However, it is more difficult to make nephrostomy tract in supine position due to more movable kidney. To overcome this limitation, we used modified nephrostomy dilation technique using guide wire traction and analyzed the efficacy of this technique comparing with conventional method. Methods: From January 2011 to April 2017, a total of 144 patients underwent PNL in modified supine position. Of these patients, modified nephrostomy tract dilation technique was performed in 73 patients. Patients’ characteristics, success rate, operation time, radiation exposure time, and complications were compared between the two groups. Results: There were no significant differences in patients’ gender, age, stone size and number between the two groups. The number and site of renal puncture was also not statistically different. Overall operation time (89.5 vs 89.2 min), mean Hb drop (2.18 vs 2.35 mg/dl), hospital stay (6.7 vs 6.9 days), success rate (73.1 vs 64.5%), and complication rates (7.8 vs 17.0%) were not significantly different between both groups. However, intraoperative radiation exposure time was significantly shorter in modified dilation technique group (93.4 vs 233.2 sec, p<0.001). Conclusion: This study demonstrated that modified nephrostomy tract dilation technique can be effectively and safely performed for PNL in modified supine position, and it can be more helpful to reduce intraoperative radiation exposure time.
MP-087
The clinical efficacy of dual lumen catheter technique in retrograde intrarenal surgery for nephrolithiasis: a propensity score analysis

Speaker: Sung Yong Cho¹, Speaker: Sangjun Yoo¹, Speaker: Hyung Suk Kim²
¹:Seoul National University Boramae Medical Center, ²:Dongguk University Ilsan Medical Center

Objective: To assess the clinical efficacy of dual-lumen catheter technique in retrograde intrarenal surgery (RIRS) in terms of stone-free rate

Methods: The data of 172 patients who underwent RIRS for renal stones between 2010 and 2017 retrospectively reviewed. Patients were classified into two groups depending on whether dual-lumen catheter technique was used (group 1, n=25) or not (group 2, n=147) during RIRS. In turn, all patients of group 1 were compared to group 2 using propensity score analytic methods. Logistic regression analyses were conducted to identify the predictors of postoperative RFs and dusts.

Results: According to propensity score analysis, no other clinical variables were significantly different between two groups, except that dusts-free rate was significantly much higher in group 1 than group 2 (92% vs. 40%, p<0.001). In multivariable analysis, the performance of dual-lumen catheter technique was the independent predictor of the absence of dusts after RIRS (OR, 0.040; 95% CI, 0.070-0.220). Additionally, when performing multivariable analyses in other matched population, it was revealed that while the technique adversely affected the removal of RFs (OR, 4.711; 95% CI, 1.203-18.447), it showed an excellent effect in the evacuation of dusts (OR, 0.049; 95% CI, 0.007-0.347)

Conclusion: Our analyses suggest that although the use of dual-lumen catheter during RIRS can facilitate the evacuation of sandy stones. Further prospective randomized trials will be required to verify the usefulness of this technique in real clinical practice.

MP-089
The effect of ureteroscope size in the treatment of ureteral stone

Speaker: Soodong Kim¹, Speaker: Gyung Tak Sung¹
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INTRODUCTION:
We aimed to investigate the ureter stone treatment results performed by using different-caliber semi-rigid ureteroscopes (URS).

MATERIAL AND METHODS:
Adult patients who were treated for ureteral stones by a single endoscopist between January 2013 and March 2015 were analyzed. The patients were divided into 2 groups in accordance with the caliber of the ureteroscope used: 8.9/9.8 F Storz (Karl Storz, Germany) URS was used in group 1, and 6/7.5 F Wolf (Richard Wolf, Germany) URS was used in group 2. Patients’ age and gender, size and site of stones, stone-free rates (SFR), intra- and perioperative complication rates, and durations of surgery were compared among the groups. Intraoperative complications were classified according to modified Satava, and perioperative complications were classified according to modified Clavien classification systems.

RESULTS:
A total of 58 patients treated for ureteral stones were analyzed. There were 30 patients in group 1 (8.9/9.8 F Storz), and 28 patients in group 2 (6/7.5 F Wolf). SFR were 87.4%, and 92.2% in groups 1, 2, respectively (p=0.01). Duration of surgery was 33.5±10.10 min in group 1, and 46.4±7.35 min in group 2 (p=0.01). The overall complication rates classified according to modified Satava classification were 7.6%, and 5.9% (p=0.01).

CONCLUSION:
In this study, we found that more frequent use of a small-caliber URS resulted in a longer duration of surgery however it facilitated a safer and more successful ureteroscopy procedure.
**MP-090**

How to perform the dusting technique for calcium oxalate stones during Ho:YAG lithotripsy

Speaker: Jeong Woo Lee ¹, Speaker: Hae Won Lee ¹, Speaker: Min Gu Park ², Speaker: Sung Yong Cho ³

1: Dongguk University Ilsan Hospital, Dongguk University, Goyang, Korea, 2: Seoul Paik Hospital, Inje University, Seoul, Korea, 3: Seoul Metropolitan Government-Seoul National University Boramae Medical Center, Seoul National University, Seoul, Korea

**PURPOSE:** To determine the most efficacious setting of Ho:YAG laser with a maximum power output of 120 W with in vitro phantom-stone dusting technique.

**MATERIALS and METHODS:** A laser was used to treat two 4 x 3 x 3 mm³ sized phantom stones in 5 mL syringes with 1 mm-sized holes at the bottom. According to the pulse width (short 500, middle 750, long pulse 1,000 μ sec), maximal pulse repetition rates from 50 to 80 Hz were tested with pulse energy of 0.2, 0.4, 0.5, and 0.8 J. Six times of the mean dusting times were measured at each setting. Dusting was performed at continuous firing of the laser until the stones become dusts < 1 mm.

**RESULTS:** The mean Hounsfield unit of phantom stones was 1,309.0 ± 60.8. The laser with long pulse generally showed shorter dusting times than short or middle pulse width. With increasing the pulse energy to 0.5 J, the dusting time decreased. However, the pulse energy of 0.8 J showed longer dusting times than those of 0.5 J. On the post-hoc analysis, the pulse energy of 0.5 J, long pulse width, and the repetition rates of 70 Hz demonstrated significantly shorter dusting times than other settings.

**CONCLUSIONS:** The results suggest that the pulse energy of 0.5 J, long pulse width, and the repetition rates of 70 Hz provided the most efficacious dusting with the high-power output 120 W Ho:YAG laser among all settings by in vitro reproducible experiments with phantom stones which mimicked calcium oxalate monohydrate calculi.

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**MP-091**

Is 2 days of preoperative intravenous antibiotic adequate to avert percutaneous nephrolithotomy sepsis in patient with asymptomatic positive urinary findings?

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**Objective**

To retrospectively examine septic outcome in 425 patients who had percutaneous nephrolithotomy (PCNL) done between 1/7/2012 and 30/6/2017. All patients had 2 days of preoperative intravenous (IV) antibiotic, and asymptomatic of infection and had clear urine on puncture. Urine culture results were not known preoperatively.

**Results**

The incidence of diabetes mellitus (DM), staghorn stone and preoperative stent were 142 (33%), 195 (45%) and 151 (36%) cases respectively.

346 (81%) cases had positive urine leucocyte (Group A) and 7 (18%) had positive urine nitrate (Group B). Both group had no increased septic risk, p=0.298 and p=0.745.

In subgroup A analysis, staghorn stone (p=0.009) and multiple punctures (p=0.002) had significant risk of sepsis. While risk for DM (p=0.578) and preoperative stent (p=0.286) were not significant.

In subgroup B, septic risk for DM (p=0.683), staghorn stone (p=0.281), preoperative stent (p=0.846) and multiple punctures (p=0.286) were not significant.

107 (25%) patients had positive urine culture. 19 (18%) of them had sepsis, p=0.001. This was statistically significant. Both staghorn stone (p=0.012) and multiple punctures (p<0.005) had significantly higher septic risk. While risk for DM (p=0.148) and preoperative stent (p=0.835) were not significant.

**Conclusions**

Our centre has a high incidence of patients with diabetes, staghorn stone and preoperative stent undergoing PCNL. Staghorn stone and multiple punctures predict septic risk for those with asymptomatic positive urine leucocyte and culture. 2 days of IV antibiotics is inadequate for this subgroup.
MP-092
Supra 11th rib, supra 12th rib and infra 12th ribs percutaneous nephrolithotomy (PCNL) punctures: What is the risk for pleural injury and outcomes?

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¹: Department of Surgery, Sultanah Bahiyah Hospital, Alor Setar, Malaysia

Objective
To establish the risk for pleural injury in relationship to rib level in PCNL puncture.

Results
288 PCNL punctures done between 1/7/2012 and 30/6/2017 were retrospectively examined.

The overall risk was 2.08% (6 out of 288 punctures). All the 156 infra 12th rib cases (Group 1) were uneventful. For supra 12th rib puncture (Group 2), 4 out of 127 cases had pleural injuries (3.15%). While, 2 out of 5 supra 11th rib punctures (Group 3) were complicated (40%). Comparing Group 2 with Group 3, supra 11th rib punctures significantly cause more pleural injuries, p=0.0001.

The differences in laterality were not significant. For group 2, 73 had right sided puncture, 3 were complicated. While, only 1 out of 54 cases for left sided puncture developed pleural injury (p=0.4714). In Group 3, 2 out of 4 right sided punctures had pleural injury and the only case for left sided puncture was uncomplicated (p=0.3613).

Not all pleural injury needed thoracostomy. For supra 12th rib puncture, 2 out of the 3 right sided pleural injuries had chest tube. Whereas, the only complicated left sided puncture was treated conservatively. Both the right sided supra 11th rib punctures needed chest tubes. The mean time of drainage was 4.25 days (range 3-6 days).

Conclusion
The overall risk for pleural injury in PCNL is low. The risk is significantly higher with supra 11th rib puncture comparing with supra 12th rib puncture. Although pleural injury is more frequent with right sided puncture for both supra 11th rib and supra 12th rib puncture, its significance is yet to be determined.

MP-093
Innovative telescoping metal dilators for Nephrostomy Tract for all types of PCNL

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Optimum Nephrostomy tract dilatation is an integral part of the procedure of percutaneous renal access in many complex procedures mainly for percutaneous nephrolithotomy. This is also necessary step for antegrade endopyelotomy and resection of transitional cell carcinoma of upper tract. The choice of Nephrostomy tract dilatation is significant in minimizing the risk of complications such as blood loss and perforation of collecting system. Ideal dilators should be easy to use, reusable, durable, cost-effective, fast in dilatation, cause minimum bleeding, effective in almost all clinical conditions including redo cases. Baloon dilators are safe, fast with minimal bleeding but has the disadvantage of cost and not effective in redo cases. Standard Alken are very popular but are large in number, cumbersome to use and takes time in dilatation. In comparison to Alken, fascial, Scrue and Baloon dilators, newly devised ‘Sanwal dilators’ are very fast for the procedure of dilatation, telescopic, thus cause less bleeding, applicable in all types of PCNL, standard PCNL, miniPCNL, ultra mini PCNL, effective in redo cases, long lasting, can be used for years, low cost, stand very useful in developing nations where cost affordability remains primary issue. Authors has used these dilator for consecutive 250 patients.
MP-094
Surgical results of cystine urolithiasis: a single center experience

Speaker: Masato Watanabe, Speaker: Takaaki Inoue, Speaker: Seiji Shimada, Speaker: Yoshihiro Komai, Speaker: Masaaki Yanishi, Speaker: Kenji Yoshida, Speaker: Hisanori Taniguchi, Speaker: Yuuya Koito, Speaker: Motohiko Sugi, Speaker: Kouei Muguruma, Speaker: Takashi Murota, Speaker: Hidefumi Kinoshita, Speaker: Tadashi Matsuda

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Purpose:
To document a single institution’s experience with treatment outcomes of patients with cystine stones.

Material and Methods:
The clinical characteristics of 7 patients with cystine stones treated at our hospital between 2004 and August 2017 were reviewed. Data collected included age at first operation at our institution, sex, family history, and stone locations. We also analyzed data regarding surgery, medical treatment, stone recurrence and overall treatment success rates.

Results:
The age at diagnosis ranged from 9 months to 60 years, and 6 patients were men. Four patients had a history of bilateral stones. One patient had a family history of urolithiasis. All patients had undergone surgical treatments before surgery at our hospital. The mean age of our patients at the time of surgery was 41 years (2-70 years). Patients underwent surgery an average of 1.7 times (range 1-3) during follow-up and 10 ureterorenoscopy (URS), 1 percutaneous nephrolithotomy (PNL), and 1 endoscopic combined intrarenal surgery (ECIRS) were performed. The operative time ranged from 40 to 175 minutes (average 90 min). No perioperative complications occurred in any of the procedures. Three patients had episodes of recurrence. Although the stone-free rate was 75% (9/12 sessions), the overall treatment success rate was 100%. Tiopronin was used continuously in 3 patients.

Conclusions:
Patients with cystine stones had episodes of recurrence and will likely undergo several PNL and/or URS procedures in their lifetime. We should treat urinary tract stones promptly and carefully during surgery.
MP-096

A prospective randomized study to investigate the effect of power ramping on treatment outcome in SWL of renal calculi

Speaker: Chi-Fai Ng 1, Speaker: Chi Hang Yee 1, Speaker: Jeremy Yc Teoh 1, Speaker: Crystal Li 1, Speaker: Steven Ch Leung 1, Speaker: Becky Lau 1, Speaker: Ka-Tak Wong 1, Speaker: Winnie Cw Chu 1

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Purpose
To assess the effects of voltage escalation in patients receiving SWL for renal stones.

Methodology
During Feb 2016 and July 2017, patients with renal stones were prospectively randomised to receive shockwave delivered at either power ramping (Group-1) or constant voltage (Group-2) in a single institute using Modulith SLX-F2 for maximum 3000 shocks. Primary outcome was successful treatment at 12-weeks after one session of lithotripsy, as defined as stone free or stone fragment <4mm on CT scan. Secondary outcome measures included stone free rate, incidence of perinephric haematoma, and also urinary acute renal injury marker level.

Results
There were 208 patients, 104 patients in each arm, recruited. There was no difference between the baseline parameters of the 2 groups. Group-1 has received lower energy shockwaves (p<0.05) than Group-2. The overall treatment success rate was 74%, and Group 2 has significantly higher treatment successful rate (p=0.027). Nevertheless, the stone free rate for Group-1 and -2 were 36.5% and 45.2% respectively (p=0.204), and was similar. The number of patients develop perinephric hematoma, as detected by cross-sectional imaging on Day-2 after SWL, for Group-1 & Group-2 were 25.0% and 38.0% respectively (p=0.048). There was no between-group difference in the acute renal injury markers level.

Conclusions:
Power ramping could provide similar stone free rate, but with significant lower overall treatment successful rate for renal stone less than 15mm. However, it could significantly decrease the incidence of post-SWL perinephric hematoma.
MP-097
Optimal frequency of shock wave lithotripsy in urolithiasis treatment; prospective and randomized study

Speaker: Suk Hun Chang
1:Bundang Jesaeng General Hospital, Sungnam, Korea

Introduction and Objective: We aimed to compare the effect of fast shock wave rate (120 shocks per minute) and slow shock wave rate (60 shocks per minute) on shock wave lithotripsy (SWL) success rate, patient’s pain tolerance and complications.

Materials and Methods: A total of 165 patients with radiopaque renal pelvis or upper ureter stones were included in the study. Patients were classified via a random numbers table. Group I (81 patients) received 60 shock waves per minute and Group II (84 patients) received 120 shock waves per minute. For each session, the success rate, pain measurement and complication rate were recorded.

Results: No statistically significant difference was observed in patients according to age, sex, body mass index, stone size, side, location, total energy level or number of shocks. The 1st session success rate in Group I was greater as compared with that in Group II (p=0.002). The visual analog pain scale in Group I was lower than that in Group II (p=0.001). The total number of sessions to success and complication rate in Group I were significant lower than Group II (p=0.001).

Conclusion: The success rate of SWL is dependent on the interval between the shock waves. If the time between the shock waves is short, the rate of lithotripsy success decreased, but pain measurement score and complications increased. We conclude slow shock wave lithotripsy is the optimal shock wave rate.

MP-098
What is the ideal ureteric stent length for Asians?

Speaker: Yue Keng Goh
1: Sarawak General Hospital, Malaysia, 2: Department of Radiology, Sarawak General Hospital, Malaysia

INTRODUCTION AND AIM: Choice of stent length during cystoscopy placement remains subjective and incorrect length adversely affects quality of life. Direct ureteral measurement is inaccurate as dilated ureters are capable of significant shortening. We aim to determine the ureter length of the Asian population using CT measurement and recommend ideal stent length based on patients’ height.

METHODS: 118 patients undergoing CT scans are enrolled. Images were reviewed by a single radiologist and ureter length is measured from the level of the renal vein to the vesico-ureteric junction. The correlation between hydrourter to the ureteric length is analysed with one-way AVONA.

RESULTS: The mean right and left ureteral length for male patients were 21.3cm (SD: 2.1) and 21.4 (SD: 1.9) respectively. Among the female subjects they were 20.6 (SD: 2.0) and 21.5 (SD: 1.8) respectively. When grouped by height, the mean ureteral length of male patients measuring ≤ 160, 161-169 and ≥ 170cm in height were 21.2, 22.1 and 21.3cm on the right and 19.8, 21.3 and 23.2cm on the left respectively. Female patients were grouped into heights of ≤ 150, 151-159 and ≥ 160cm and mean ureteral length were 19.7, 20.7 and 21.5cm on the right and 20.5, 21.7 and 22.6cm on the left respectively. There was no significant difference in ureteral length between patients with and without hydrourter (N 18; p=0.238).

CONCLUSIONS: Based on our measurements, a 22-cm stent length is suitable for all but the left ureter in men ≥ 170cm and women ≥160cm and is not significantly altered by the presence of hydrourter.
MP-099
The implication of hydronephrosis on blood transfusion rate in percutaneous nephrolithotomy

Speaker: Hee Youn Kim, Speaker: Hyun-Sop Choe, Speaker: Dong Sup Lee, Speaker: Je Mo Yoo, Speaker: Seung-Ju Lee
1: St. Vincent’s Hospital, Catholic University of Korea, Suwon, Korea

INTRODUCTION AND OBJECTIVES: The implication of hydronephrosis on surgical outcomes in percutaneous nephrolithotomy (PCNL) is not well established. There is conflicting evidence in the literature whether the presence or absence of hydronephrosis influences perioperative outcomes, especially bleeding complication. The aim of this study was to compare perioperative outcomes according to the presence or absence of hydronephrosis in PCNL patients and to investigate whether hydronephrosis is a risk factor for blood transfusion rate.

METHODS: 281 patients who had undergone PCNL were divided according to the absence or presence of hydronephrosis (group I and group II, respectively). Perioperative outcomes were compared between the two groups. A multivariable regression analysis was performed to investigate whether hydronephrosis was a risk factor for blood transfusion rate.

RESULTS: Patients without hydronephrosis showed significantly longer operation time and admission period, lower stone-free rate and higher blood transfusion rate compared to patients with hydronephrosis (p < 0.05, p = 0.002, p = 0.011, and p < 0.05, respectively). Multivariable regression analysis showed that hydronephrosis was a significant risk factor for blood transfusion (p = 0.008).

CONCLUSIONS: The current study showed that absence of hydronephrosis was a significant risk factor for blood transfusion in PCNL.

MP-100
Renal Outcomes after Percutaneous Nephrolithotomy, Retrograde Intrarenal Surgery, and Extracorporeal Shock Wave Lithotripsy for Kidney Stones

Speaker: Chun Feng Chang, Speaker: Shun Neng Hsu, Speaker: Chi Hsiang Chung, Speaker: Ying Jui Ni, Speaker: Chien Chang Kao, Speaker: Seung Tang Wu, Speaker: Dah Shyong Yu, Speaker: Wu Chien Chien
1: Department of Surgery, Kaohsiung Armed Forces General Hospital, Kaohsiung, Taiwan. 2: Department of Surgery, Tri-Service General Hospital, National Defense Medical Center, Taipei, Taiwan. 3: Division of Nephrology, Department of Medicine, Tri-Service General Hospital, National Defense Medical Center, Taipei, Taiwan. 4: School of Public Health, National Defense Medical Center, Taipei, Taiwan

OBJECTIVE: Every invasive technique for the treatment of kidney stones has its potential risk. This study was aimed to investigate the renal outcomes in patients after receiving percutaneous nephrolithotomy (PCNL), retrograde intrarenal surgery (RIRS) and extracorporeal shock wave lithotripsy (ESWL).

METHODS: In this retrospective cohort study, we assembled 3,370 patients who received PCNL and randomly selected 13,480 patients who underwent RIRS and ESWL in the year of 2000 to 2015 from the Taiwan’ s National Health Insurance Research Database (NHIRD). Each sampled subject was followed at least one year to evaluate the subsequent risks of acute kidney injury (AKI), chronic kidney disease (CKD), and end-stage renal disease (ESRD) on maintenance hemodialysis (HD).

RESULTS: The PCNL group had the higher risk of AKI (with the sequence of PCNL vs. RIRS vs. ESWL: 0.50 % vs. 0.22 % vs. 0.18 %), CKD (1.99 % vs. 1.32 % vs. 0.82 %) and ESRD on maintenance HD (0.95 % vs. 0.51 % vs. 0.38 %) than the RIRS and ESWL group. The PCNL, RIRS and ESWL group had the higher risks of AKI and CKD than the control group. Using the Cox proportional hazard model, PCNL, along with age, diabetes, gout and cystic kidney disease were independent risk factors of the subsequent ESRD on HD.

CONCLUSIONS: The study provided epidemiological evidence that PCNL, RIRS, and ESWL would increase the subsequent risks of AKI and CKD. Moreover, the procedure, PCNL, along with age, diabetes, gout, cystic kidney disease were independent risk factors of the subsequent ESRD on maintenance HD.
MP-101
Effect of tadalafil in reliving stent related symptoms: prospective, randomized, double blind, placebo controlled study

Speaker: Mohankumar Vijayakumar 1, Speaker: Sudarshan Balaji 1, Speaker: Abhishek Singh 1, Speaker: Arvind Ganpule 1, Speaker: Ravindra Sabnis 1, Speaker: Mahesh Desai 1

Aim: To demonstrate effect of tadalafil in reliving stent related symptoms in comparison with placebo.

Methods: Prospective, randomized, double blind, placebo controlled study conducted from January 2013 to March 2015. All patients with double J (DJ) stent inserted post URS/RIRS/PCNL were included. After informed consent patients were randomized to two groups using computer generated block randomization. Patients in group I served as control and received placebo. Patients in group II received tadalafil 10 mg OD; All patients were given tramadol 50 mg tablet on demand for pain. All patients were followed up at four weeks by history, IPSS score, VAS score and total analgesic requirement.

Results 103 patients were randomized into two groups. Group I and II had 50 and 53 patients respectively. At the end of 4 weeks 47 and 48 patients were available for final analysis in each group. All demographic criteria were comparable in all three groups. Mean IPSS score at 4 weeks in group I, and II was 17.64 ± 6.24 and 11.60 ± 5.51 (p < 0.001). Mean VAS score was 2.72 ± 1.12 and 1.78 ± 0.88 (p < 0.001). Mean requirement of tramadol was 259 and 102 mgs respectively (p < 0.001). Side effects like headache, dizziness were significantly less in tadalafil group

Conclusions: Tadalafil was more effective in reliving stent related symptoms compared to placebo.

MP-102
Post Ureteral stent placement Hyaluronic Acid (Cystistat) instillation improve ureteral stent related symptom

Speaker: Tao-An Chang 1, Speaker: Vincent M.d. Cho 2

1:Department of Surgery, Kaohshiung Veterans General Hospital, Taiwan, 2: Linyuan Hospital, Taiwan

Ureteral stent (Double J stent) placement was a big issue among daily ureteroscopic treatment. Placement of ureteral stent just like a double-edge sword, it can help patient relief hydronephrosis, help injured ureter healing, help dilated ureter stricture not to constrict again. But it can also brings lot of discomfort to patient, such as hematuria, flank soreness, incomplete emptying bladder sensation. We prospective collect patient received endo-ureteroscopic study, who need a temporary ureteral stent due to clinical condition since 2017/ May, post ureteral stent placement Hyaluronic acid (Cystistat) instillation was according to patient’s will and sign for self-paid inform consent form. Ureteral stent symptom questionnaire (USSQ) was applied on first day after operation, and the day for removing ureteral stent. Currently 24 cases was collected, and temporary result compared to non Hyaluronic acid instillation group revealed decrease in presentation of gross hematuria, and flank soreness, endoscopic study revealed less bladder inflammatory change.
**MP-103**

**Pre-and Postoperative predictors of infection-related complications following mini-endoscopic combined intrarenal surgery**

Speaker: Yutaro Tanaka, Speaker: Shuzo Hamamoto, Speaker: Teruaki Sugino, Speaker: Rei Unno, Speaker: Ryosuke Ando, Speaker: Atsushi Okada, Speaker: Kekiichi Tozawa, Speaker: Takahiro Yasui

1: Nagoya City University, Graduate School of Medical Sciences

Object: To evaluate postoperative predictors of infection-related complications undergoing mini-endoscopic combined intrarenal surgery (mini-ECIRS).

Methods: A total of 88 patients with renal or upper ureteric calculi who underwent mini-ECIRS from 2015 to 2017 were reviewed. All patients received antimicrobial treatment for 3 days postoperatively. Postoperative infection-related complications included febrile urinary tract infection (UTI) and sepsis. Pre- and postoperative predictors of infection were identified.

Results: We identified 88 patients who underwent mini-ECIRS with infection-related complications occurring in 19 (21%): 16 (18%) patients with UTI and systemic inflammatory response syndrome (SIRS) and 3 (3%) patients with sepsis. There were no significant differences between those with and without infection with regard to age, gender, body mass index (BMI), presence of diabetes and preoperative hydronephrosis, stone size including multiple and staghorn stone, preoperative procedures and complications of urinary tract extra perforation and residual stone. Those with infection were more likely to have a history of UTI (p=0.016), a positive preoperative urinary culture (p<0.001). On multivariable analysis, presence history of UTI and a positive preoperative urinary culture remained independently associated with increased risks of fever, SIRS or sepsis (OR 9.33; p=0.011, OR 21.10; p=0.001 respectively).

Conclusions: Post-mini-ECIRS infection-related complications were found to be more common in patients with a history of UTI and positive preoperative urinary culture.

**MP-104**

**Clearance rate comparison in second look nephroscopy vs PCNL alone for stones less than 800 hounsfield units: A randomised control trial in Hospital Tengku Ampuan Afzan, Kuantan, Malaysia**

Speaker: Syafiq Husni Mohd Murad, Speaker: Hamid Ghazali, Speaker: Islah Munjih Ab Rashid

1: Department of Surgery, International Islamic University, 2: Hospital Tengku Ampuan Afzan

**BACKGROUND:** Residual stones post percutaneous nephrolithotomy (PCNL) accounts up to 17%. Plain radiograph may not detect residual for radiolucent stones. Our objectives was to determine the incidence of significant residual stones of less than 800 Hounsfield Unit (HU) and whether routine second look nephroscopy improves PCNL clearance rate.

**STUDY DESIGN:** We conducted a prospective single center randomized control trial from June 2015 to December 2018 in Kuantan, Malaysia, comparing PCNL only with PCNL with second look nephroscopy for stones less than 800 HU. Patients were randomized to PCNL only or PCNL with second look nephroscopy. Both arms are followed up at 3 months with ultrasound to detect residual. The primary end point was clearance rate of PCNL with second look compared to PCNL only.

**RESULTS:** Current results are still preliminary. All enrolled patients, 52 were comparable for age (p=0.275), gender (p=0.578), BMI (p=0.032) and ASA (p=0.456). Between two groups, mean HU were 479.5 (p=0.83), duration of op (p=0.83), and stone size (p=0.69). Clearance rate of PCNL alone is 80% vs 67% for second look group. Second look nephroscopy was able to detect 32% more residual stones, of which 66% were cleared. Post-operative ultrasound showed residuals in 3 patients who received second look compared with 10 residuals detected on PCNL alone, clearance rate 89% vs 58% which is statistically significant (p=0.006; <0.01).

**CONCLUSIONS:** Second look nephroscopy is able to detect missed radiolucent stones post PCNL up to 32% and improve clearance rate compared to PCNL alone.
MP-105
New advanced bench model for flexible ureteroscopic training; face and content validation study

Speaker: Takaaki Inoue ¹, Speaker: Shinsuke Okada ², Speaker: Shozou Hamamoto ³, Speaker: Tadashi Matsuda ¹

¹: Kansai Medical University, ²: Gyouzou General Hospital, ³: Nephron-urology, Nagoya City University Graduate School of Medical Sciences, Nagoya, Japan

Objective) To evaluate the face and content validity of new advanced bench model for flexible ureteroscopic (fURS) as introduction of this model. (Material and methods) 5 questions including anatomical resemblance, ureteral visualization, pyelocaliceal visualization, instrument handling, and breathing-induced kidney movement and 4 questions including availability for training, interest for bench simulator, improvement of fURS technique, and availability of kidney movement for training were evaluated by 16 urological physicians with experienced hand of fURS (> 30 procedures). Measurement was used with Likert scale which was defined 1 = “poor” to 7 = “excellent”. Additionally, over than 4 in Likert scale was defined as “acceptable”. Furthermore, Likert scale in these questions was compared with high fidelity bench model (Scope trainer, Medskills). (Results) All questions in face validity and content validity of new advanced bench model were acceptable, especially the value of face validity and content validity in the kidney movement were 6.31 ± 0.79, 6.75 ± 0.44, respectively. New advanced bench model was superior to the scope trainer in all questions of validation. (Conclusion) New advanced bench mode was higher resemblance to clinical situation of fURS and more available for fURS training model. Constructive validity is required in next study.
Moderated Poster 12
Stone surgeries 3

Wed., April 18, 2018 10:45-11:45
Poster Room 2 | Annex Hall, Kyoto International Conference Center 1F

Chairperson: Yukio Naya (Teikyo Chiba Medical Center, Japan)
Chairperson: Nur Rasyid (Universitas Indonesia, Indonesia)

MP-106
Asymptomatic single versus multi-organism preoperative urine culture in percutaneous nephrolithotomy (PCNL): What are the differences in outcome?

Speaker: Teck Meng Tham 1, Speaker: Khai Yeong Teh 1, Speaker: Joo Qing Cheng 1
1: Department of Surgery, Sultanah Bahiyah Hospital, Alor Setar, Malaysia

Objective
To retrospectively examine 107 PCNLs with positive preoperative urine culture done between 1/7/2012 and 30/6/2017. All patients were asymptomatic of infection, had clear urine on puncture and had 2 days of preoperative intravenous antibiotics. Urine culture results were not known preoperatively.

Results
67(63%) cases had single organism culture (Group A). While, 40(37%) cases had multi-organism culture (Group B).

54 out of 107 (50%) PCNLs had preoperative stent (Group 1). While 46(43%) patients had diabetes (Group 2). 51(48%) cases had staghorn calculi (Group 3).

Types of culture was not influence by preoperative stent placement (p=0.635), types of stones (staghorn versus non-staghorn) (p=0.409) and diabetic status (p=0.375).

19 out 107 (17.76%) PCNLs had sepsis. 13(19%) in Group A and 6(15%) in Group B. There was no statistical difference between both group, p=0.564. 5 cases needed intensive care, with 3 needing inotropic support. There was no sepsis related mortality.

In Group 1, 10(19.52%) cases had sepsis. 9 were from Group A, while 1 from Group B. There was no statistical difference (p=0.065).

11(23.91%) in Group 2 had sepsis. 7 were from Group A and 4 from Group B. Statistically there was no difference (p=0.761).

In Group 3, 14(27.45%) PCNLs had sepsis. 9 were from Group A and 5 from Group B). There was no statistical difference (p=0.824).

Conclusions

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There is no difference in post PCNL septic outcome between single and multi-organism preoperative urine culture results. Preoperative stent, diabetes and staghorn stone do not increase septic risk in either group.

**MP-109**

**Gender as a predictor of uric acid stones**

Speaker: Yu-Chen Chen¹, Speaker: Hao-Wei Chen¹, Speaker: Yii-Her Chou¹

1: Kaohsiung Medical University Hospital, Kaohsiung, Taiwan

**Objectives:**
To investigate the gender difference in the occurrence of upper urinary tract uric acid (UA) stones.

**Materials and Methods:**
Three thousand two hundred patients with upper urinary tract calculi in Kaohsiung Medical University Hospital between January 2004 and November 2016 were analyzed. Propensity score matching was used to match the patients with UA stone and non UA stone by age. Logistic regression was arranged to compare the gender, diabetes mellitus, body mass index (BMI), estimated glomerular filtration rate (eGFR), hypertension, stone symptoms, gout, occupation, diet, 24 hours urine pH, urine specific gravity, and bacteriuria between UA stone and non UA stone patients.

**Results:**
After propensity score matching (4:1 ratio), the 532 non UA stone patients and 133 UA stone patients were selected. In logistic regression, gender (male-to-female OR: 2.18, 95% CI: 1.3-3.64, P =0.003), BMI (OR: 1.11, 95% CI: 1.04-1.18, P =0.003), eGFR (OR: 0.98, 95% CI: 0.97-0.99, P <0.001), and urine PH (OR: 0.3, 95% CI: 0.2-0.43, P <0.001) were statistically significant predictors of UA stone.

**Conclusion:**
Gender is one of the predictors of uric acid stone, even adjusted for underlying comorbidities, occupation, and diet. In the future, elucidating differences according to gender for uric acid stone diseases by molecular biology could be useful in determining their patho-etioloogy, treatment, and prevention.
MP-110
Kidney stone disease and risk of diabetes in multi-ethnic Asians

Speaker: Jasmine Lim 1, Speaker: Selvalingam Sothilingam 1, Speaker: Rohan Malek 2, Speaker: Murali Sundram 3, Speaker: Shakirin Kamaruzaman 1, Speaker: Seow Huey Choy 1, Speaker: Selina Ann Nyanatay 1, Speaker: Teng Aik Ong 1, Speaker: Azad Razack 1

1: Department of Surgery, University of Malaya, Kuala Lumpur, Malaysia, 2: Selayang Hospital, Selangor, Malaysia, 3: Kuala Lumpur Hospital, Kuala Lumpur, Malaysia.

Objectives To determine the diabetes profile and its associated risk factors in Asian kidney stone formers.

Materials and Methods We conducted a cross-sectional study in kidney stone formers undergoing PCNL in HKL, Selayang Hospital and UMMC. Stone samples were collected and analysed semi-quantitatively with infrared spectroscopy. Diabetes is defined as having a fasting blood glucose (FBG) ≥7 mmol/L or a self-reported diabetic on treatment. Potential factors associated with diabetes were evaluated using univariable and multivariable analysis.

Results There were 602 subjects from a multi-ethnic background (Malay 66.4%, Chinese 17.3%, Indian 12.8%) with mean age of 55 ± 12.2 years participated in the study. Three most common stone types were calcium oxalate (43.0%), infection (19.9%) and uric acid (9.5%). A high prevalence of diabetes mellitus (282; 46.8%) was found in stone formers, of which 88.7% (250/282) were aware and only 47.6% (119/250) had their FBG under control (FBG <5.6 mmol/L) or a self-reported diabetic on treatment. Potential factors associated with diabetes were evaluated using univariable and multivariable analysis.

Conclusion Age, gender, history of hypertension and obesity are associated with a heightened risk of diabetes in kidney stone formers.

MP-111
The role of body mass index predicting outcome of percutaneous nephrolithotripsy

Speaker: Tsai-Feng Chen 1, Speaker: Yuan-Ju Lee 2, Speaker: Chung-Hsin Chen 2

1: Department of Surgery, Cardinal Tien Hospital, New Taipei City, Taiwan, 2: National Taiwan University Hospital, Taipei, Taiwan

Purpose: To evaluate the impact of body mass index (BMI) on clinical outcomes and safety profiles of percutaneous nephrolithotripsy (PCNL).

Materials and Methods We retrospectively reviewed the patients who received PCNL between Jan. 2015 and Dec. 2016. A total of 184 consecutive patients were enrolled. The patients were categorized into 3 groups according to BMI (normal: BMI ≤ 24, overweight: 24 < BMI ≤ 27, obesity: BMI > 27). The stone clearance rate, operation time, duration of hospital stay, post-operative analgesic use and post-operation complications were compared among groups. The categorical variable was analyzed by Chi square test, and the continuous variable was analyzed by Kruskal-Wallis test. The possible prognosticators for stone clearance were also analyzed using logistic regression method.

Results: There were no significant differences among groups in terms of age, gender, stone character, stone size, and laterality. A higher proportion of hypertension were observed in the larger BMI groups, and lower hemoglobin level in the smaller BMI group. No significant differences of stone clearance rate, duration of hospital stay, post-operative analgesic use, and complication rate were identified among groups. The most common complication was post-operative fever in all groups. Multivariable analysis showed the stone character was a significant prognosticator for stone clearance.

Conclusion: BMI didn’t reveal impact on the stone clearance, operative time, duration of hospital stay, postoperative analgesic requirement, and postoperative complication in patients undergoing PCNL.
MP-112
The role of body mass index predicting outcome of percutaneous nephrolithotripsy

Speaker: Tsai-Feng Chen, Speaker: Yuan-Ju Lee, Speaker: Chung-Hsin Chen
1: Department of Surgery, Cardinal Tien Hospital, New Taipei City, Taiwan, 2: National Taiwan University Hospital, Taipei, Taiwan

Purpose: To evaluate the impact of body mass index (BMI) on clinical outcomes and safety profiles of percutaneous nephrolithotripsy (PCNL).

Materials and Methods: We retrospectively reviewed the patients who received PCNL between Jan. 2015 and Dec. 2016. A total of 184 consecutive patients were enrolled. The patients were categorized into 3 groups according to BMI (normal: BMI \( \leq 24 \), overweight: \( 24 < \text{BMI} \leq 27 \), obesity: \( \text{BMI} > 27 \)). The stone clearance rate, operation time, duration of hospital stay, post-operative analgesic use and post operation complications were compared among groups. The categorical variable was analyzed by Chi square test, and the continuous variable was analyzed by Kruskal-wallis test. The possible prognosticators for stone clearance were also analyzed using logistic regression method.

Results: There were no significant differences among groups in terms of age, gender, stone character, stone size, and laterality. A higher proportion of hypertension were observed in the larger BMI groups, and lower hemoglobin level in the smaller BMI group. No significant differences of stone clearance rate, operation time, duration of hospital stay, post-operative analgesic use, and complication rate were identified among groups. The most common complication was post-operative fever in all groups. Multivariable analysis showed the stone character was a significant prognosticator for stone clearance.

Conclusion: BMI didn’t reveal impact on the stone clearance, operative time, duration of hospital stay, postoperative analgesic requirement, and postoperative complication in patients undergoing PCNL.

MP-113
Predicting percutaneous nephrolithotomy outcomes and complications in elderly patients using Guy’s scoring system and Charlson comorbidity index

1: Mackay Memorial Hospital, Taipei, Taiwan, 2: Department of Cosmetic Applications and Management, MacKay Junior College of Medicine, Nursing and Management, Taipei, Taiwan

Background: This study compared the operative outcomes of percutaneous nephrolithotomy in elderly patients with different comorbidity status and different stone complexity.

Methods: A retrospective review of medical records was performed of 113 patients aged 65 years or older with large renal stones who underwent percutaneous nephrolithotomy between 2007 and 2016. Patients were stratified by comorbidity status using the Charlson comorbidity index and by stone complexity using the Guy’s score. The demographic data, stone parameters, stone-free rates, and complication rates were compared. Factors associated with complications and stone free rate were analyzed using logistic regression.

Results: Patients with higher Charlson comorbidity index were older, used more anticoagulant medications, had higher ASA score, had longer operative times, and had longer hospital stay. Patients with higher Guy’s score had higher stone burden, longer operative times, and a more significant decrease in GFR postoperatively. Logistic regression found that pre-operative pyuria and higher Charlson comorbidity index increased the risk of overall complications, and higher stone burden and higher Guy’s score were associated with decreased stone free rates.

Conclusion: This study supported the use of the Charlson comorbidity index in predicting post-operative complications and the Guy’s score in predicting stone-free status in elderly patients with large renal stones undergoing percutaneous nephrolithotomy.
MP-115
Risk factor of febrile urinary tract infection after PNL and effect of preoperative antimicrobial therapy

Speaker: Masahiro Matsumoto 1, Speaker: Keiko Iwakuma 1, Speaker: Ryosuke Moriya 1, Speaker: Hirofumi Ikuta 1, Speaker: Yuiji Nagata 1, Speaker: Atsushi Fukuda 1, Speaker: Rei Onishi 1, Speaker: Ikko Tomisaki 1, Speaker: Ryoichi Hamasuna 1, Speaker: Naohiro Fujimoto 1

1: University of Occupational and Environmental Health Japan, Kitakyushu, Japan

Objective] To know the risk factor of febrile urinary tract infection (f-UTI) after percutaneous nephrolithotripsy (PNL), and the effect of preoperative (pre-) antimicrobial therapy.

Materials and Methods] The subjects were patients who underwent PNL from April 2005 to March 2017 in our university hospital. Postoperative (post) f-UTI was set at 38.0 degrees C or higher. The patient characteristics, such as previous pyelonephritis, pre-UTI, pre-antimicrobial treatment, operation time, infected stone, were investigated retrospectively. First or second generation cephalosporin antibiotics were used as perioperative antibiotics in cases without pre-UTI. While, in case with pre-UTI, susceptible antibiotics were used according to urine culture results as preoperative and perioperative antibiotics.

Results] During the period, 54 cases, 91 PNL were performed. Male were 66, female were 25, the mean age was 58.8 years old (21-92). Post f-UTI occurred in 19% (17/91). Pre-UTI occurred in 47% (43/91), among them, 74% (32/43) cases were received pre-antimicrobial treatment. The incidence rate of post f-UTI was 6% (3/48) in cases without pre-UTI, while 33% (14/43) with pre-UTI. Multivariate analysis showed that pre-UTI (OR 11.40, 95% CI 1.69-76.90, p=0.012) and operation time 150 minutes or more (OR 4.08, 95% CI 1.05-15.90, p=0.042) were risk factors of post f-UTI.

Conclusions] When PNL will be performed in the case with pre-UTI, it is considered important to treat pre-UTI with susceptible antibiotics to suppress post f-UTI.
MP-116
Off tumor targets compromise antiangiogenic drug sensitivity by inducing kidney erythropoietin production

Speaker: Masaki Nakamura ¹, Speaker: Cao Yihai ², Speaker: Yukio Homma ¹
¹: The University of Tokyo, ²: Karolinska Institutet

Anti-VEGF drugs are commonly used for treatment of a variety of cancers in human patients, and they often develop resistance. The mechanisms underlying anti-VEGF resistance in human cancer patients are largely unknown. Here, we show that in mouse tumor models and in human cancer patients, the anti-VEGF drug induced kidney hypoxia augments circulating levels of erythropoietin (EPO). Gain-of-function studies show that EPO protects tumor vessels from anti-VEGF treatment and compromises its antitumor effects. Loss of function by blocking EPO function using a pharmacological approach markedly increases antitumor activity of anti-VEGF drugs through inhibition of tumor angiogenesis. Similarly, genetic loss-of-function data shows that deletion of Epo Receptor in nonerythroid cells significantly increases antiangiogenic and antitumor effects of anti-VEGF therapy. Finally, in a relatively large cohort study, we show that treatment of human colorectal cancer patients with bevacizumab augments circulating EPO levels. These findings uncover a mechanism of desensitizing antiangiogenic and anticancer effects by kidney-produced EPO. Our work presents conceptual advances of our understanding of mechanisms underlying antiangiogenic drug resistance.
MP-117
Long-term outcomes of ABO-incompatible kidney transplantation: a single center experience

Speaker: Akihiro Kosoku, Speaker: Junji Uchida, Speaker: Hisao Shimada, Speaker: Kazuya Kabei, Speaker: Shunji Nishide, Speaker: Nobuyuki Kuwabara, Speaker: Tatsuya Nakatani

1: Osaka City University Graduate School of Medicine, Osaka, Japan

(Introduction)
ABO-incompatible kidney transplantation (ABO-IKT) has been performed due to the severe shortage of deceased donors since the late 1980’s in Japan, but is globally still uncommon. In this study, we compared the clinical outcome of ABO-IKT to that of ABO-compatible living kidney transplantation (ABO-CKT) at our institution.

(Patients and Methods)
A total of 240 patients who underwent living donor kidney transplantation at Osaka City University Hospital from January 1999 to December 2016 were enrolled in this study, of which 66 cases were ABO-IKT and 174 cases were ABO-CKT. Propensity score matching generated a matched cohort composed of 132 patients, 66 in each group. The cohort was evaluated for patient survival, graft survival (death censored), graft renal function and frequency of rejection and infection.

(Results)
Patient and graft survival rates 10 years of 66 ABO-IKT patients were 97.1% and 94.2%, respectively. Corresponding patient and graft survival rates of 174 ABO-CKT patients were 96.1% and 94.0%, respectively. No difference was observed for long-term clinical outcomes between matched ABO-IKT and ABO-CKT.

(Conclusion)
Currently kidney paired donation is prohibited because of ethical principles and ABO-IKT is an acceptable treatment for kidney transplant candidates with an incompatible live donor in Japan. This study showed that increased utilization of ABO-IKT can be expected to alleviate the shortage of donors and decrease waitlist times and associated morbidity.

MP-118
Effect of Hypertonic Saline 5% on Early Graft Function and Urinary IL 18 and Neutrophil Gelatinase-Associated Lipocalin in Deceased-Donor Kidney Transplantation

Speaker: Gholamreza Gh Pourmand, Speaker: Mojtaba M. Mojtahedzadeh, Speaker: Farhad F. Etezadi, Speaker: Amir Hossein A.H. Najafi Abrandabadi, Speaker: Javad J. Motaharinia

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Ischemia reperfusion injury (IRI) is one of the main causes of delay graft function (DGF) in deceased-donor kidney transplantation (DDKT). Evidences suggest that hypertonic saline (HS) has beneficial effects on IRI. The objective of the present study is to determine the effect of intraoperative HS on graft function and urinary biomarkers of interleukin 18 (IL-18) and neutrophil gelatinase-associated lipocalin (NGAL), in patients with DDKT. The design of the study is a randomized, open-label, pilot trial in patients with DDKT. The intervention of the study is administration of 4 mL/kg HS, 5% before graft reperfusion. The primary endpoint was DGF. Fifty-eight (58) adult patients were randomized (HS, n=32; control, n=26). There were no significant differences between the two groups in terms of recipient, donor, and transplant characteristics. The rate of DGF was 20% in the HS group compared with 31.8% in the control group (Relative risk 0.63; 95% CI 0.23-1.67; P = 0.36). Serial serum creatinine in the first two days after surgery in addition to urine volumes during the first day after transplantation was significantly different in the HS group (P ≤ 0.05). The urinary NGAL and IL-18 were significantly lower in HS vs. control, at 48 h after transplantation (P ≤ 0.05). The frequency of adverse reactions was similar between groups. This study did not show any significant benefits from HS administration immediately before allograft reperfusion in terms of reducing DGF, serum creatinine at hospital discharge or length of hospital stay in deceased-donor kidney transplant patients.
Impact of donor age on outcome of kidney transplantation

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1: Kagawa University, Kagawa, Japan

Objective: The aim of this study was to investigate the impact of donor age on the outcome of living donor kidney transplantation.

Patients and Methods: A total of 90 living donor kidney transplantations was performed by hand-assisted laparoscopic nephrectomy in our institution between 2005 and 2016. The subjects were divided into 3 groups according to donor age at the time of transplantation: ≤49 (n= 18), 50-69 (n= 63), and ≥70 (n= 9). The kidney function of the donors and the graft outcomes were retrospectively compared among the 3 groups.

Results: Donors aged over 70 years had a lower estimated glomerular filtration rate (eGFR) level than younger donors at baseline and at 6 months after kidney donation (p<0.05). The adaptive glomerular hyperfiltration of donors aged over 70 years at 6 months after kidney donation was lowest among the 3 groups (p<0.05). As one of these causes, we revealed that the prevalence of glomerulosclerosis increased with donor age (p<0.05). On the other hand, the eGFR of recipients who received a graft from donors aged over 70 years was lowest among the 3 groups (p<0.05). In addition, the cumulative probability of graft survival of elder-donor grafts was lower than that of younger-donor grafts (p<0.05).

Conclusion: This study showed that elderly living donors had a higher prevalence of glomerulosclerosis and a lower kidney function as compared with younger donors. There is the possibility that the lower graft function of elderly donors may affect the subsequent graft function and survival.


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Post-transplant anemia (PTA) is one of common complication after kidney transplantation (KT). Nevertheless, PTA has been under-recognized, and not been studied extensively in Japan. Objectives of this study were 1) to clarify the change of Hb levels and the prevalence within 6 months (m) after KT; 2) to determine the magnitude on graft loss; and 3) to explore which Hb levels at 6m has most sensitivity to predict the subsequent graft loss. We investigated PTA in 1077 KT recipients at 5 institutions between 1995 and 2010 with a median follow-up of 10 years. The prevalence of PTA was 63% in men and 66% in women at 6m after KT according to the WHO criteria. According the WHO criteria, the 10-year graft loss rates were 17.9% in PTA group and 11.7% in non-PTA group (HR=1.69, 95%CI: 1.15 to 2.47, P=0.007). We performed sensitivity analysis using ROC curve to clarify optimal cut point of Hb level at 6m, and found the threshold of <12g/dl was more sensitive regardless of gender. According the ROC criteria, the 10-year rates were 19.7% in PTA group and 12.3% in non-PTA group (HR=1.78, 95%CI: 1.26 to 2.50, P<0.001). We next analyzed the 10-year adjusted rates with Cox model after consideration for imbalanced co-variates. HRs were 1.50 (95%CI: 1.01 to 2.22, P=0.043) and 2.04 (95%CI: 1.42 to 2.92, P<0.01) using the WHO and ROC criteria, respectively. High PTA occurred at 6m, and PTA was associated with an increased risk of graft loss. However, our results suggest the WHO criteria potential to have less sensitivity for predicting subsequent graft failure in Japanese KT recipients.
MP-122
The Utility of Hyperbaric Oxygen Therapy In Managing Haemorrhagic Radiation-Induced Cystitis

Speaker: Kay-Seong Ngoo ¹, Speaker: Divya Panicker ²
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Introduction: External beam radiotherapy used in uro-gynaecological cancers portends a risk of haemorrhagic radiation-induced cystitis (HRC). Hyperbaric oxygen therapy (HBOT) is a recognised adjunctive therapy for HRC. We highlight the utility of HBOT in managing HRC in Malaysia.

Method: A retrospective review of all referrals from 2008 until 2017 for HRC was performed. We analyse the referral patterns, and evaluate the safety as well as the efficacy of HBOT.

Results: We received 18 patients with equal numbers of underlying urological and gynaecological malignancies, and equal gender distribution. Their median age was 59.5 (range: 42-82) years. The median pelvic radiation dose received was 45 (30-85) Grays. The patients presented with HRC at 16.5 (2-106) months after commencing radiotherapy. Before HBOT, they received about 2 (0-24) pints of blood transfusion whilst the median interval between the first HRC episode and HBOT was 5 (1-10) months. Those patients underwent a median of 27 (5-60) HBOT sessions at a pressure of 2.4 ATA, lasting 90 minutes per session. With a median follow up of 5.1 (0.5-48.5) months, resolution of bleeding was achieved in 77.8% of the patients. This was significantly associated with shorter interval between radiotherapy and first HRC episode (p=0.018) and lower pre-treatment transfusion requirements (p=0.012). Two barotrauma complications were successfully managed.

Conclusion: HBOT is a safe, non-invasive and efficacious technology and it should be part of the urological armamentarium in managing HRC associated with pelvic malignancies.

MP-124
Long-term functional outcome followed by (Effective Renal Plasma Flow) ERPF after blunt renal trauma (BRT) with or without transarterial embolization (TAE)

Speaker: Sheng-Feng Chou ³, Speaker: Chieh-Lung Chou ⁴, Speaker: Wei-Ching Lin ⁵, Speaker: Yusuke Yagihashi ⁶
¹: China Medical University Hospital, Taichung, Taiwan, ²: Department of Radiology, China Medical University Hospital, Taichung, Taiwan, ³: Okinawa Chubu Hospital, Okinawa, Japan

OBJECTIVE: TAE has been known as a method for hemostasis in blunt renal trauma. Main concern of embolization is devascularization of a portion of the renal parenchyma which may lead to decreased renal function. The main purpose of this study is to compare the deterioration of renal function after BRT between patients with and without TAE in recent decade from 2005 to 2015.

PATIENTS AND METHODS: We retrospectively reviewed the patients after BRT from January 2005 to December 2015, and follow up at least one year after trauma with serum creatinine, ultrasonography, and ERPF as 99mTc-MAG3. Inclusion criteria are patient after BRT with contrast CT within 48hrs after trauma. Exclusion criteria are confounding factors that cause decreased renal function, and patient accepted exploratory surgery.

RESULTS: A total case number is 21. According to JAST classification, in TAE and non-TAE group, grade I are registered as 0 and 1 case, grade II as 1 and 1 case, grade IIIa as 4 and 4 cases, grade IIIb as 5 and 5 cases separately. 8 patients were treated in a single interventional session and 2 needed secondary TAE. ERPF in trauma side showed mean decreased uptake of MAG3 compared to non-affected side about 61.65 and 27.66% in TAE and non-TAE group with significant difference (p=0.505).

CONCLUSIONS: TAE is a minimally invasive treatment for BRT that stops bleeding and minimalizes hemodynamic instability. However, potential damage causes by TAE compared to non-TAE group in same grading of JAST is significant. Adequate timing for TAE should be evaluated carefully for saving renal function.
MP-125
Comparison of Surgical Outcomes of Laparoscopic Versus Robotic Assisted Repair of Vesicovaginal Fistula: Initial Experience From Northwest China

Speaker: Dapeng Wu 1, Speaker: Guodong Zhu 1, Speaker: Wenbin Song 1, Speaker: Zhishang Yang 1, Speaker: Dalin He 1

1: The First Affiliated Hospital of Xi’an Jiaotong University

Objectives: To compare the perioperative outcomes of patients with single vesicovaginal fistula (VVF) underwent laparoscopic repair (LR) or robotic assisted repair (RAR) via transabdominal extravesical approach.

Methods: A retrospective analysis was performed for 56 consecutive patients with VVF who underwent either LR (n=30) or RAR (n=26) between May 2014 and April 2017. All the patients were diagnosed as post-hysterectomy (n=48) or post-myomectomy (n=8) VVF, which was located as a single fistula between the posterior wall of the bladder and the anterior wall of the vagina. The demographic parameters and surgical outcomes were compared between the two groups, respectively.

Results: The mean operation time of RAR group was less than LR group (100.5 v.s. 156.2 min, p<0.001). The mean drainage time of RAR group was less than LR group (4.5 v.s. 6.2 days, p=0.002). There were no significant differences with respect to the estimated blood loss, transfusion rate, length of hospital stay, postoperative complications and recurrence rate between the two groups. With the mean follow-up time of 3.5 months, these patients continued to void normally with no recurrence of VVF.

Conclusions: These results may indicate that RAR provides surgical outcomes comparable to those of LR for the treatment of patients with single VVF, and the robotic assisted VVF repair is feasible with shorter operation and drainage time than the laparoscopic approach. The minimally invasive robotic assisted VVF repair via transabdominal extravesical approach may be a more attractive option for some patients with VVF.
Moderated Poster 14
Urothelial tumors, bladder 1

Wed., April 18, 2018 15:00-16:00
Poster Room 2 │ Annex Hall, Kyoto International Conference Center 1F

Chairperson : Isao Hara (Wakayama Medical University, Japan)
Chairperson : Ferry Safriadi (AMC Hasan Sadikin Hospital, Padjadjaran University, Indonesia)

MP-126
Practice pattern of non-muscle invasive bladder cancer in Japan, Taiwan and Korea: a web-based survey

Speaker : Seol Ho Choo 1, Speaker : Jong Bo Choi 1, Speaker : Ji Young Kim 1, Speaker : Sun Il Kim 1

1:Ajou University, Suwon, Korea, 2:Gwangmyeong Sungae Hospital, 36 Digital-Road, Kwangmyung-city, Kyunggi-do, Korea

Objective: A web-based questionnaire was conceived to investigate the treatment pattern of non-muscle invasive bladder cancer (NMIBC) patients among urologists in Japan, Taiwan and Korea.

Methods: The questionnaire was conceived by the East Asian Urological Oncology Group. An invitational e-mail containing a link to the survey was sent to each country’s urological oncology society members from June 2016 to February 2017.

Results: A total of 2,334 urologists were invited with a response rate of 30.0% (701) and a completion rate of 25.9% (605). During TURB, narrow band imaging was more widely used in Japan than in two other countries. Stage pT1 was the best indication for re-TURB in Japan, while absence of proper muscle in the 1st TURB specimen was in Korea and Taiwan. There was a significant difference between countries in the frequency of intravesical therapy (IVT) in ≥90% of intermediate to high risk NMIBC patients (23.4%, 39.6% and 66.3%, in Japan, Korea and Taiwan, respectively). The recent shortage of BCG supply resulted in a higher use of intravesical chemotherapy in Taiwan compared with Japan and Korea. Maintenance BCG use for high risk NMIBC was relatively infrequent in the 3 countries (<50% use in 70.5% respondents), the main reason for which was the fear of side effects. At recurrence after induction BCG, almost 80% chose TURB followed by IVT as the usual treatment.

Conclusion: There were discrepancies between the practice pattern for NMIBC in East Asia countries and important guidelines, the impact of which should be further investigated.
**Comparison of long-term outcome of patients regarding the efficacy of second-look TURBT for T1 bladder cancer: A five-year experience in a single center**

Speaker: Wen-Hsin Tseng 1, Speaker: Alex Chien-Hwa Liao 1, Speaker: Chien-Liang Liu 1,2, Speaker: Kun-Hung Shen 1, Speaker: Chun-Hao Chen 1, Speaker: Shun-Hsing Hun 3, Speaker: Chia-Cheng Su 1, Speaker: Jhih-Cheng Wang 1, Speaker: Kau-Han Lee 1, Speaker: Chien-Feng Li 4, Speaker: Steven K. Huang 1

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**Purpose**

Transurethral resection of bladder tumor (TURBT) is not only a treatment tool, but it also has a very important role in determining cancer staging. In recent years, second-look TURBT has been recommended to be performed in patients with a high recurrence risk and diagnosed with T1 bladder cancer after initial TURBT. Therefore, the aim of this study is to compare the differences in the long-term outcome between patients who accepted and those who did not accept second-look TURBT for T1 bladder cancer.

**Methods**

This study enrolled 504 patients who were diagnosed with urothelial carcinoma (UC) and underwent initial TURBT between Jan. 2012 and Dec. 2016, and a total of 185 patients were diagnosed with T1 UC in the bladder and enrolled this analysis. Second-look TURBT was performed within 4-14 weeks after the initial TURBT for the patients in group 1, but not for those in group 2. We followed up the recurrence-free survival and progression-free survival between the two groups and analyzed their risk factors for recurrence and progression.

**Results**

In this study, a total of 101 (55%) patients underwent second-look TURBT in groups 1, and 84 (45%) patients did not undergo second-look TURBT in group 2. The 5-year recurrence-free survival rates were 63.7% and 46.3%, and the progression-free survival rates were 85.3% and 78% in groups 1 and 2, respectively.

**Conclusion**

This study demonstrated relatively higher recurrence-free and progression-free survival rates in patients who underwent second-look TURBT. This result emphasizes the important role of second-look TURBT in T1 bladder cancer.

**Preoperative diagnostic TURBT reduces the progression-free survival in patients with urothelial carcinoma of the bladder (high-grade, T3/T4)**

Speaker: Haichao Huang 1, Speaker: Zhenhua Liu 2, Speaker: Wei Yu 2, Speaker: Jinchun Xing 1

1: The First Affiliated Hospital of Xiamen University, Xiamen, Fujian, China
2: Peking University First Hospital, Beijing, China

**Backgrounds:** Transurethral bladder tumor resection (TURBT) reportedly increases the circulating tumor cell count in patients with urothelial carcinoma of the bladder (UCB).

**Objectives:** To determine whether diagnostic TURBT leads to poorer progression-free survival (PFS) than diagnostic cystoscopic biopsy.

**Methods:** We retrospectively reviewed the records of 96 consecutive primary pathological high-grade, stage T3/T4 UCB patients treated with radical cystectomy (RC) between January 2009 to December 2013. Clinicopathological features were collected from the medical records. PFS was determined from Kaplan-Meier curves, and potential independent prognostic factors for PFS were identified based on multivariable Cox analysis.

**Results:** During the follow-up period (median, 29 months), 43 patients experienced tumor progression (40 received diagnostic TURBT, 56 received cystoscopic biopsy). Patients who received cystoscopic biopsy had better PFS than those who received diagnostic TURBT (p = 0.008). Additionally, diagnostic TURBT was a significant risk factor for tumor metastasis in both univariable (HR: 2.219; 95% CI: 1.207 - 4.079; p = 0.010) and multivariable (HR: 2.455; 95% CI: 1.278 - 4.714; p = 0.007) Cox analyses.

**Conclusions:** The present study provides the first evidence that diagnostic TURBT before RC negatively affects PFS in patients with pathological high-grade, stage T3/T4 UCB.
MP-129
The Oncologic Benefit of Maximal Transurethral Resection of Bladder Cancer in Muscle Invasive Bladder Tumor
Speaker: Chih-Yu Shen 1, Speaker: Yuh-Shyan Tsai 1, Speaker: Chien-Hui Ou 1, Speaker: Wen-Hrong Yang 1
1: National Cheng Kung University Hospital, Tainan, Taiwan

PURPOSE: To evaluate the efficacy and oncologic benefit of maximal transurethral resection of bladder tumor (TURBT) followed by radical and partial cystectomy in patients with muscle invasive urothelial carcinoma of the bladder.

PATIENTS AND METHODS: From 2008 to 2017, a total of 30 patients underwent partial cystectomy with curative intent while 59 patients underwent radical cystectomy in our institution. 12 of which had had no residual tumor in the specimen after maximal TURBT. We retrospectively reviewed the oncologic outcomes of these patients compared with those with residual invasive disease.

RESULTS: The 5 year advance recurrence free survival, overall survival (OS), disease specific survival (DSS) and recurrence free survival (RFS) for maximal resection group vs. residual tumor group was 100% vs. 62.6% (p=0.02), 88.9% vs 70.6% (p=0.15), 85.7% vs 81.0 (p=0.37) and 69.2% vs 62.9% (p=0.76), respectively. On univariate analysis nodal status, histology type and pathological stage was related to recurrence rate and the status of residual tumor after TURBT was related to advance recurrence. On multivariate analysis, only adjuvant chemotherapy was predictor of advance recurrence. P=0.003(OR:5.01, 95% CI:1.74-14.38)

CONCLUSION: The status of residual tumor after TURBT is associated with advance recurrence. There is a trend toward better OS, DSS and RFS in the maximal resection group compared to residual tumor group. Longer follow-up with a larger number of patients is necessary to assess its impact on the oncologic outcomes of muscle invasive bladder cancer.

MP-130
Oncologic Outcomes of Partial Cystectomy Compared to Radical Cystectomy for Muscle Invasive Urothelial Carcinoma of the Bladder: A Contemporary Review
Speaker: Chih-Yu Shen 1, Speaker: Yuh-Shyan Tsai 1, Speaker: Chien-Hui Ou 1, Speaker: Wen-Hrong Yang 1
1: National Cheng Kung University Hospital, Tainan, Taiwan

PURPOSE: We evaluated patterns of recurrence and survival in a contemporary cohort of patients treated with partial vs radical cystectomy for bladder cancer.

MATERIALS AND METHODS: From 2008 to 2017, we identified 30 patients who underwent PC for pT1-4 N0-1 Mx urothelial carcinoma at our institution. During the same period, 59 patients with muscle invasive bladder cancer underwent RC. Overall survival, disease specific survival and progression free survival was estimated using Kaplan-Meier analysis and compared with the log rank test.

RESULTS: Median postoperative followup was 36.6 months in PC group (range 1 - 153) and 42.2 months (range 1 - 76 ) in RC group. No significant difference was noted for 5-year PFS (64.9 % vs 65.5%, p = 0.56), OS(69.9% vs 75.2%, p = 0.17), and DSS (82.5 % vs 81.7%, p=0.73) between patients treated with partial and radical cystectomy, respectively. Interestingly, 4 of 30 patients (13.3%) who underwent PC developed extravesical tumor recurrence postoperatively versus 20 of 59 (33.8%) who underwent RC(p = 0.04). In addition, 8 of 30 patients (26%) were diagnosed with intravesical recurrence of tumor after PC and 20 of 30 (70%) are currently disease-free with an intact bladder.

CONCLUSIONS: Our analysis demonstrated no difference in recurrence-free, disease specific or overall survival between selected patients receiving partial cystectomy and those receiving radical cystectomy. However, late extravesical tumor recurrence is not uncommon and they remain at risk for intravesical recurrence. Thus, they should be counseled and surveilled accordingly.
MP-131
Advantages of Enhanced Recovery Protocol in Radical Cystectomy

Speaker: Ikhlas Arief Bramono ¹, Speaker: Chaidir Arif Mochtar ¹, Speaker: Rainy Umbas ¹, Speaker: Arry Rodjani ¹, Speaker: Irfan Wahyudi ¹, Speaker: Agus Riza A. Hamid ¹

1: Cipto Mangunkusumo Hospital, Universitas Indonesia, Jakarta

Introduction: ERAS protocol is a perioperative management based on several evidence. We implemented this protocol to shorten the length of stay & to introduce early commencement of daily activities after radical cystectomy. Materials: Between July 2016 to August 2017, a total of eleven consecutive patients underwent ERAS protocol prior to radical cystectomy. A curtailed & fast pre-operative carbohydrate loading together with mechanical bowel preparation solution were given to the patients before surgery. Post-operative patterns & patient’s length of stay (LOS) were recorded & analyzed. Results: Urothelial carcinoma of the bladder was found in 90.91% of patients. Mean age of patients & mean body-mass-index (BMI) were 54 (30-75) years old & 22.77 (17.85-27.70) kg/m², respectively. LOS at the intensive care unit (ICU) was 1 (1-6) day. Patients were started on liquid diet & regular diet on post operative day (POD) 2 (1-2) & POD 7 (3-9), respectively. First flatulence & defecation was experienced on POD 3 (2-4) & on POD 5 (4-6), respectively. Patients started sitting on POD 2 (1-4), standing-up on POD 4 (3-8), walking on POD 5 (4-10), & being discharged from hospital on POD 9 (6-11). Less than half of the patients had experienced paralytic ileus. There was no bowel anastomotic leakage. Patients undergoing ERAS protocol had a statistically significant shorter LOS compared to non-ERAS protocol patients (p < 0.05). Conclusion: Patients undergoing ERAS protocol had a shorter length of stay & a faster mobilization progress compared to those who did not undergo ERAS protocol.

MP-132
Reduction in the Skeletal Muscle Index predicts worse prognosis in patients with bladder cancer who have undergone laparoscopic radical cystectomy

Speaker: Takashi Nagai ¹, ², Speaker: Taku Naiki ², Speaker: Keitaro Iida ², Speaker: Ryosuke Ando ², Speaker: Daichi Kobayashi ¹, Speaker: Noiyasu Kawai ², Speaker: Takahiro Yasui ²

1: Anjo Kosei Hospital, 2: Nagoya City University, Graduate School of Medical Sciences

Objective
In some cases, there is rapid progression to sarcopenia after laparoscopic radical cystectomy (LRC). However, no quantitative indexes reflect the rate of progression of sarcopenia. Herein, we analyzed the changes in the skeletal muscle mass before and after LRC using CT images and verified whether sarcopenia is a predictor of OS or RFS.

Methods
We retrospectively reviewed patients with bladder cancer who had undergone LRC between 2013 and 2016 in our hospital. The skeletal muscle area (SMA) at the third lumbar vertebrae was measured using CT images. Based on these data, we calculated the skeletal muscle index (SMI = SMA/height²) and defined the changes in the SMI for months between two points as ∆ SMI (∆ SMI = SMI/duration). We verified the relationships among ∆ SMI, OS, and RFS using the Kaplan-Meier method and Log-rank test to analyze the data.

Results
This study included data from 29 patients. Median ∆ SMI before and after LRC was -0.088. At a cut-off value of ∆ SMI at median value, the Kaplan-Meier log rank analysis showed that patients in the low ∆ SMI group had poorer OS and RFS compared to those in the high ∆ SMI group. (p< 0.01)

A multivariate analysis identified ∆ SMI as a significant predictor of OS (HR 22.28, p=0.0078) along with pathological T stage (HR 3.85, p=0.090).

Conclusions
The ∆ SMI value reflects the reduction in the skeletal muscle mass. Thus, it may be a useful predictor of prognosis in these patients.
MP-133
A usefulness of GNRI as an evaluation in the pre-operation of the bladder cancer patient in a radical cystectomy

Speaker: Yoshiko Maeda 1, Speaker: Yuki Matsui 1, Speaker: Hideaki Shimoyama 1, Speaker: Tsutomu Unoki 1, Speaker: Takehiko Nakasato 1, Speaker: Kazuhiko Oshinomi 1, Speaker: Jun Morita 1, Speaker: Michio Naoe 1, Speaker: Kozo Fuji 1, Speaker: Yoshio Ogawa 1

1: School of Medicine, Showa University, Tokyo, Japan

<Introduction> The ratios of elderly person in the cancer patient increased, and 69% of cancer patients who contracted a disease in 2011 were older than 65 years old. I considered whether a nourishment state influenced convalescence in the preoperation of the patient who underwent radical cystectomy in our facilities using Geriatric nutritional risk index (GNRI).

<Objection and methods> 34 patients who performed radical cystectomy for bladder cancer for from January, 2010 to April, 2016. There were four phases of risk classifications, no risk, slight, moderate and severe using GNRI. A survival rate was calculated in Kaplan Mayer according to a risk classification and compared them.

<Results> It was age median 71.0 years old (52-85), twenty-six male, eight women. The death rate until the second year was high after radical cystectomy so as to be high-risk in GNRI. A survival rate did not have the significant difference with under elderly person and 75 years old 75 years or older.

<Considerations> The high grade bladder cancer is easy to cause progress and progress, and active intervention is one of necessary cancers even if it is an elderly person. Because I can expect the curative effect like a young patient in the elderly people having good state from head to foot, it is said that you should not take it off from a treatment object only for a reason of the advanced age. We used GNRI as an evaluation tool of the nourishment state this time in preoperation, but the early death rate was high, and the influence by the age did not admit after art as a high-risk patient.

MP-134
Reconstruction of the peritoneal cavity in the pelvis reduces the incidence of postoperative ileus after radical cystectomy

Speaker: Yoshitsugu Nasu 1, Speaker: Daisuke Tanaka 1, Speaker: Morito Sugimoto 2, Speaker: Atsushi Takamoto 2, Speaker: Noriaki Onda 3, Speaker: Masahiro Ishizaki 4, Speaker: Naohisa Waki 4

1: Okayama Rosai Hospital, Okayama, Japan, 2: Okayama University Hospital, Okayama, Japan, 3: Kochi Science Center, Kochi, Japan, 4: Department of Surgery, Okayama Rosai Hospital

Objective: Postoperative ileus (POI) is a common complication after radical cystectomy. This study was aimed to evaluate the beneficial effect of extraperitoneal radical cystectomy for the prevention of POI. Methods: We examined 65 patients with invasive bladder cancer who underwent radical cystectomy with ileal conduit from November 2010 to September 2017. POI was identified as the persistent absence of flatus or stool on postoperative day 6. The radical cystectomy was extraperitoneally done. The proximal segment of the conduit which was the part of ureteroileal anastomoses was retroperitonealized. Finally the cut edges of the peritoneum were sewed to restore the parietal peritoneum of the pelvis and reconstruction of the peritoneal cavity. In 44 patients, the parietal peritoneum could be restored (restored group) and in 21 patients peritoneal cavity could not be reconstructed (non-restored group). We compared both groups regarding the occurrence of POI. Results: Out of 65 patients, 15 (23.1%) developed POI. The incidence of POI in the restored group was significantly lower than the non-restored group (6/44, 13.6% vs. 9/21, 42.9%; p=0.013, Fisher’s exact test). Conclusions: Our results showed that the reconstruction of the peritoneal cavity in the pelvis with extraperitoneal approach reduced the incidence of POI after radical cystectomy. The restoration of the parietal peritoneum of the pelvis was though to prevent the adhesion of intestines to the bottom of the pelvis.
MP-135
Erectile function and Long term Oncologic outcomes of Nerve sparing Robot assisted radical cystectomy: Comparison of Open radical cystectomy

Speaker : Young Jin Seo 1, Speaker : Se Yun Kwon 1, Speaker : Kyung Seop Lee 1, Speaker : Tae Gyun Kwon 2

1:Dongguk University, Gyeongju, Korea, 2:Kyungpook National University

Purpose
We performed nerve sparing RARC (NSRARC) to overcome this problem and compared operative outcomes between the non NSRARC and ORC groups.

Material and methods
We retrospectively analyzed the data of 38 patients that underwent 23 ORC or 15 NSRARC for bladder cancer between July 2009 and April 2014. Data were collected on patients’ demographics, pathologic staging, perioperative outcomes and long term oncologic outcomes as well as erectile function. The 5-year overall survival (OS) and the cancer-specific survival (CSS) were analyzed by using the Kaplan-Meier method. Erection function recovery was defined as the ability to achieve penetration ≥50% of the time and to maintain an erection significant enough for penetration ≥50% of the time as per questions 2 and 3 of the IIEF-5 survey at 12 months after surgery.

Results
No significant differences were found between the NSRARC and ORC groups into demographic data. Mean estimated blood loss was significantly lower in the NSRARC group (p=0.011), but mean operative time was significantly longer (p=0.004) in NSRARC group. The 5-year OS and the CSS were 86.7% and 86.7% in NSRARC. The 5-year OS and CSS rates were 77.7% and 86.7% in ORC. With respect to erectile function, the overall postoperative potency rate at 12 months was 40.0% in the RARC group and 9.5% in the ORC group, this difference was significant (p=0.021).

Conclusions
Our clinical experiences indicate that NSRARC in selected patients is a feasible procedure in terms of oncologic outcome and able to preserve erectile function relatively effectively.
Moderated Poster 15
Urothelial tumors, bladder 2
Wed., April 18, 2018 15:00-16:00
Poster Room 2 | Annex Hall, Kyoto International Conference Center 1F

Chairperson: Junichi Inokuchi (Graduate School of Medical Sciences, Kyushu University, Japan)
Chairperson: Chung-Hsin Chen (National Taiwan University Hospital, Taiwan)

Introduction and Objective
Non-muscle invasive bladder cancer (NMIBC) often progress to muscle invasive bladder cancer (MIBC). The risk of progression is considered to be associated with tumor size, the number of tumor, grading, and depth of invasion. However, these factors do not always accurately predict the progression to MIBC. The aim of this study was to obtain a useful predictive tool to assess the progression from NMIBC to MIBC based on the gene expression profiles.

Methods
A total of 50 frozen tissue samples were obtained from 42 patients who underwent transurethral resection of bladder tumor (TURBT) or radical cystectomy. Poly (A)+ RNA was extracted from all samples, and cDNA microarray analysis was carried out. We compared gene expression of NMIBC and MIBC. We subsequently performed hierarchical clustering analysis based on the expression of those genes.

Results
We found 119 genes were significantly correlated with disease progression in patients with NMIBC \((p < 0.0001)\). Patients were divided into two cluster subgroups (Cluster A and B) by using hierarchical clustering analysis based on the expression of 119 genes. Cluster A \((n = 17)\) contained all MIBC \((n = 14)\) and a part of NMIBC \((n = 3)\). Cluster B \((n = 33)\) had only NMIBC \((n = 33)\).

Conclusions
These results suggest that we succeed to establish a predictive tool to assess the progression from NMIBC to MIBC on a unique set of 119 gene expression profiles. Furthermore, there is a possibility that we can establish a new treatment strategy for NMIBC on the basis of genetic characteristics.
MP-139
Generational demographic change in patients underwent radical cystectomy for bladder urothelial carcinoma

Speaker: Kuan-Ting Chen 1, Speaker: Huai-Ching Tai 1, Speaker: Chung-Hsin Chen 1, Speaker: Shuo-Meng Wang 1, Speaker: Kuo-How Huang 1
1: National Taiwan University Hospital, Taipei, Taiwan

Purpose: We present the clinical characteristics and perioperative outcomes of patients with bladder urothelial carcinoma who underwent radical cystectomy at a single tertiary center. A generation-based comparison among demographic characteristics and oncology outcome was conducted.

Materials and Methods: Patients from 1995 through 2015 were retrospectively enrolled. The clinical demographics and oncologic outcomes were collected by reviewing medical records.

Results: A total of 299 patients were analyzed. Comparing ahead-10-year patient group (1995-2005) and later-10-year group (2005-2015), a trend of decreasing in pT2 disease proportion (28% vs 15%, p = 0.08), and increasing of lymph node positive disease proportion (13% vs 23%, p = 0.03) were found. Later-10-year group demonstrated poorer recurrence-free survival rate (RFS) compared to ahead-10-year group (Median RFS: not reached vs. 50.7 months, HR = 1.50(1.03-2.20), p = 0.04), but not in overall survival rate (Median OS: 76.9 vs. 62.8 months, HR = 1.05(0.75-1.46), p = 0.79). A trend of improving post-recurrence survival rate (PRS) was found among the later-10-year group (Median PRS: 14.5 vs. 26 months, HR = 0.67(0.44-1.03), p = 0.06).

Conclusions: In the latest decade, patients underwent radical cystectomy for bladder urothelial carcinoma demonstrated higher disease severity and a subsequent poorer RFS. Despite no significant change in overall survival rate, improving of post-recurrence survival rate in the latest decade may indicate the improving effect of medical treatments after disease recurrence.

MP-140
Prognostic Value of Initial Neutrophil Lymphocyte Ratio (NLR) in Muscle Invasive Bladder Cancer Patients (MIBC): First Multicenter Study in Indonesia

Speaker: Taufiq Nur Budaya 1, Speaker: Lukman Hakim 2, Speaker: Wayan Yudiana 3, Speaker: Kurania Penta Seputra 1
1: Brawijaya University, Malang, Indonesia, 2: Airlangga University, Surabaya, Indonesia, 3: Udayana University, Denpasar, Indonesia

Recent studies suggest that systemic inflammatory response like NLR associated with cancer patient prognosis. This study examine the prognostic value of NLR in MIBC patients. This retrospective multicenter study was conducted in 3 centers in Indonesia. All patients who admitted in 3 center hospital between January 2014 and September 2017. Complete staging of MIBC by pathological staging, clinical staging during TURBT or radical cystectomy and computed tomography or MRI. All of patients get same standard of care for MIBC. The primary end point was overall survival. 824 patients met the selection criteria, with mean age 56.84 ± 11.88 years old. 372 (45.1%) patients came in locally stage, and 140 (17%) patients came in advanced stage. Majority 348 (42.2%) patients received bladder preserving therapy (TURBT-Chemoradiation), 204 (24.8%) patients received radical cystectomy, 100 (12.1%) patients received radical cystectomy and adjuvant chemotherapy, 172 (20.9%) patients received chemotherapy alone. Overall survival for all patients are 25.08(23.8-26.2, CI 95%) months, patients who had NLR less than 3 had better overall survival (32.93 months (31.64-34.22) vs 20.97 months (19.8-22.13), p = 0.000, CI95%). NLR correlate with stage of tumor (p = 0.000, R 0.257) and histological grading (p = 0.002, R 0.211). Multivariate regression analyses revealed that NLR more than 3 associated with bad prognosis (HR 11.607, 95% CI: 7.05-19.09, p = 0.000). We verified the results of previous studies and showed that NLR had prognostic value in a Indonesian MIBC patients.
MP-141
The pathological poor prognostic factors for upper tract urothelial carcinoma after radical nephroureterectomy: A single-center analysis in Asia

Speaker: Dong Hyuk Kang 1, Speaker: Joo Yong Lee Cho 2, Speaker: Kang Su Cho 2, Speaker: Young Deuk Choi 2
1:Inha University Hospital, Inha University, Incheon, Korea, 2:Yonsei University, Urological Science Institute, Seoul, Korea

Introduction & objectives: We evaluated the prognostic impact of pathological factors on survival outcomes in upper urinary tract urothelial carcinoma (UTUC) treated with radical nephroureterectomy (RNU).

Materials & methods: A retrospective analysis was conducted for the patients who underwent RNU for UTUC during the time period of January 2000 to June 2010. A total of 348 patients enrolled the study. The clinicopathological variables for analyses included age, tumor location, stage, grade, size, presence of lymphovascular invasion (LVI), histologic variants, and positive surgical margin (PSM).

Results: The mean age was 63.7 ± 10.7 years old and the mean length of follow-up time was 81.6 ± 47.4 months. 150 patients (43.1%) showed T3 or above, the mean tumor size was 3.7 ± 4.4 cm. Tumor location was ureter in 166 patients (47.7%), renal pelvis or calyx in 155 patients (44.5%), and both (ureter and renal pelvis or calyx) in 27 patients (7.8%). In univariate Cox regression analyses, all clinicopathological variables were significant predictors of both disease specific survival (CSS) and overall survival (OS) after RNU for UTUC. In multivariate analyses, old age, high T stage (≥T3), high grade, positive LVI, positive histologic variants, and PSM were independent predictors of both CSS and OS after RNU for UTUC.

Conclusions: The most factors from pathologic findings after RNU had significant prognostic value concerning survival. Especially, old age, high T stage (≥T3), high grade, LVI, histologic variants, and PSM were independent predictors of DSS and OS after RNU for UTUC.

MP-142
Long-term Outcomes of Tri-modality Therapy using a real-time tumor-tracking radiotherapy system for Patients with Muscle-invasive Bladder Cancer

Speaker: Haruka Miyata 1, Speaker: Takahiro Osawa 1, Speaker: Ryouji Matsumoto 1, Speaker: Takashi Abe 1, Speaker: Satoru Maruyama 1, Speaker: Kentaro Hashimoto 2, Speaker: Shinichi Shinizu 2, Speaker: Takayuki Hashimoto 3, Speaker: Hiroki Shirato 3, Speaker: Nobuo Shinohara 1
1:Department of Renal and Genitourinary Surgery, Hokkaido University, 2:Department of Radiation Oncology, Hokkaido University, 3:Department of Radiation Medicine, Hokkaido University

Objective
Tri-modality therapy using radiotherapy with a real-time tumor-tracking radiotherapy system (RTRT system) is a recognized treatment of muscle-invasive bladder cancer (MIBC). We report long term outcomes of patients with MIBC treated by this therapy.

Methods
From 1998 to 2016, 38 patients with a T2-T4N0M0 bladder cancer who were clinically inoperable or refused surgery were enrolled. Transurethral tumor resection (TUR) and 40 Gy irradiation to the whole bladder was followed by TUR of the tumor bed (1st Evaluation) and endoscopic implantation of fiducial markers in the bladder wall around the primary tumor. A boost of 25 Gy was made to the primary tumor using RTRT system. Protocol TUR of the tumor bed was performed 6 months later (2nd Evaluation). Patients with adequate renal function received concurrent chemoradiotherapy with nedaplatin.

Results
Median follow-up for surviving patients was 6 yr. 5- and 10-yr OS rates were 55% and 37%. CR rate at 1st evaluation was 66%, in those patients 5- and 10-yr OS rates were 70% and 61%. Among the patients with non-CR at 1st evaluation, CR rate at 2nd evaluation was 30%. In multivariate analysis, male (OS hazard ratio [HR]: 0.30, 95% confidence interval [CI]: 0.11-0.85), and PS 0-1 (OS HR: 0.23, 95% CI: 0.07-0.72) were significant predictors for OS.

Conclusions:
Bladder-preserving Tri-modality therapy may be considered as a reasonable alternative in patients medically unfit for or not desiring cystectomy.
MP-144

The significance as a prognostic predictor of immunological phenotype in urothelial carcinoma varies depending on the tumor sites

Speaker: Atsunari Kawashima 1, Speaker: Yoshiyuki Yamamoto 1, Speaker: Toshiro Kinouchi 1, Speaker: Takuji Hayashi 1, Speaker: Kyosuke Matsuzaki 1, Speaker: Taigo Kato 1, Speaker: Takeshi Ujike 1, Speaker: Akira Nagahara 1, Speaker: Kazutoshi Fujita 1, Speaker: Motohide Uemura 1, Speaker: Ryochi Imamura 1, Speaker: Hisashi Wada 2, Speaker: Norio Nonomura 1

1: Graduate School of Medicine, Osaka University, 2: Department of Clinical Research in Tumour Immunology, Graduate School of Medicine, Osaka University

Objective: There are no previous reports directly comparing immunological conditions between bladder cancer (BCa) and upper urinary tract carcinoma (UTUC). In this study, we aimed to clarify the difference of immunity status and its clinical significance depending on the tumor site in urothelial carcinoma.

Material and Methods: Tumor tissue infiltrating lymphocytes were extracted from 70 urothelial cancer patients who underwent surgical resection (52 cases of BCa and 18 cases of UTUC). The immunological classification was established by unsupervised clustering analysis according to the expression ratio of 9 extracellular surface markers measured by flow cytometry and examined the relationship between immunological classification and clinical importance.

Results: The immunological condition was classified into two groups, (Group I (n = 41): CD4 T cells dominant group, Group II (n = 29): immunologically activated group). This immunological classification was significantly correlated with tumor grade (p = 0.020) not tumor location in multivariate analysis. In invasive BCa patients (n = 33), progression free survival (PFS) and cancer specific survival of Group II were significantly poorer than those of Group I (p=0.005 and p=0.020, respectively), while PFS of Group II tended to be better than that of Group I in invasive UTUC patients (n = 17) (p=0.002).

Conclusions: Although there was no difference in the local immunological condition of urothelial carcinoma between BCa and UTUC, it was shown that its significance as a prognostic predictor varies depending on the tumor site.
MP-145  
Novel panel of urinary biomarkers for urothelial cancer

Speaker: Jay Lim ¹, Speaker: Tsung Wen Chong ¹, Speaker: Kian Chung Lee ², Speaker: Jean Paul Thiery ²

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Background and Objectives
Asymptomatic microscopic hematuria is a common clinical manifestation of urothelial cancer. Many urinary biomarkers are currently under evaluation. The ideal test would have high sensitivity/negative predictive values, be a low cost point of care device with quick turn-around time to facilitate triage. We had previously published on a novel multiplex urine based biomarker panel with high sensitivity and specificity. We now present our validation data on a cohort of bladder cancer patients from three multinational institutions.

Materials and Methods
158 samples from 3 hospitals in Singapore, South Korea and France were collected from patients scheduled for elective transurethral resection of bladder tumor (TURBT). Controls were patients presenting with microscopic hematuria and negative findings on cystoscopy. Sandwich ELISA assays were performed in duplicate on five proteins APOA4, CORO1A, PARK7 SEMG2 and SNCG. Regression analyses was used to determine the optimal cut-off values.

Results
Overall sensitivity and specificity was 91.7% and 92.2% respectively, with AUC 0.967. Negative predictive value was 78.6%. There was some correlation of tumor stage with biomarker levels, suggesting prognostic potential of the test to identify high risk muscle-invasive disease.

Conclusion
We have demonstrated the clinical potential of our urine-based biomarker panel in diagnosing urothelial cancer. We are developing a novel in vitro diagnostic based on lateral flow technology for further validation in microscopic hematuria patients presenting to the clinic.
**MP-146**

**Significant association of enhancer of zeste 2 (EZH2) genotypes with bladder cancer risk in Taiwan**

Speaker: Cheng-Hsi Liao $^{1,2,3,4}$, Speaker: Wen-Shin Chang $^{2,4}$, Speaker: Hsi-Chin Wu $^5$, Speaker: Chia-Wen Tsai $^{2,4}$, Speaker: Da-Tian Bau $^{2,3,4}$

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**Purpose:** Bladder cancer is the sixth most common cancer worldwide and its incidence is particularly high in many developed regions including southwestern Taiwan. However, the genetic contribution to the etiology of bladder cancer is not well-understood. The aim of this study was to evaluate the association of the enhancer of zeste homolog 2 (EZH2) genotypes with Taiwan bladder cancer risk.

**Materials and Methods:** Three polymorphic variants of EZH2 were analyzed regarding their association with bladder cancer risk, and three hundred and seventy-five patients with bladder cancer and same number of age- and gender-matched healthy controls recruited were genotyped by the PCR-RFLP method.

**Results:** Among the three polymorphic sites examined, the genotypes of EZH2 rs887569 (C to T), but not rs41277434 (A to C) or rs3757441 (T to C), were positively associated with bladder cancer risk ($p$ for trend $=0.0146$). Individuals with the EZH2 rs887569 TT genotypes were associated with decreased cancer risk than those with wild-type CC genotype. The stratified analyses showed that EZH2 rs887569 TT genotypes had protective effects on non-smokers but obviously not on smokers.

**Conclusions:** Our findings provide evidence that the T allele of EZH2 rs887569 may be associated with the lower risk of bladder cancer development, especially among non-smokers.

**Key Words:** genotype, Zeste 5(EZH2), polymorphism, renal cell carcinoma, Taiwan.

**MP-147**

**A Comprehensive Comparison of FISH for the Detection of Upper Urinary Tract Urothelial Carcinoma: An Systematic Review and Meta-Analysis**

Speaker: Tianhai Lin $^{1,3}$, Speaker: Hongyu Jin $^2$, Speaker: Jianqi Hao $^2$, Speaker: Liangren Liu $^{1,3}$, Speaker: Qiang Wei $^{1,3}$

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**Introduction:** Upper urinary tract urothelial carcinoma (UUTUC) is characterized by its occult and progressiveness. Cytology is non-invasive and convenient for detecting urothelial carcinoma (UC) in urine. However, it becomes much less efficient when applied to UUTUC. Fluorescence in situ hybridization (FISH) exhibited considerably higher sensitivity for diagnosing UC than cytology with comparable specificity. Despite abundant trials concerning the comparison between FISH and cytology have been launched, many were deficient in sample size of UUTUC. Therefore, a comprehensive and integrated study is required to provide more trustworthy evidence on the clinical practice of FISH for diagnosing UUTUC.

**Methods:** Databases including PubMed/Medline, EMBASE, Web of Science, Ovid and Cochrane Library have been searched for papers published from January 1990 to November 2017, in accordance with PRISMA guidelines. We extracted 29 parameters and summarized test performance using bivariate random effects meta-analysis.

**Results:** We included 14 studies with 2,711 participants for analysis. FISH test exceeds cytology in pooled sensitivities (83% vs. 39%) and diagnostic odds ratios (43 vs. 13). FISH and cytology nearly equals to each other in pooled specificities, which were 89% and 95% respectively. The overall quality of evidence included was graded high.

**Conclusion:** As the search for the most accurate diagnostic technology of UUTUC continues, FISH proves to be extremely sensitive compared with commonly applied cytology while still remaining very reliable with a low error rate.
MP-148
Prothymosin-alpha Enhances PTEN Expression Transcriptionally and Orchestrates With TRIM21 to Regulate Keap1/Nrf2 Signaling in Human Bladder Cancer

Speaker: Yeong-Chin Jou 1, Speaker: Cheng-Huang Shen 1, Speaker: Yuh-Shyan Tsai 2
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Introduction: To evaluate the association and underlying molecular mechanisms of prothymosin-alpha (PTMA) on urothelial cancer.

Materials and Methods: Ectopic nuclear or cytoplasmic expression of PTMA expression was created in bladder cancer cells carrying wild-type (WT), deleted nuclear localization signal (ΔNLS) PTMA cDNA for in vitro cellular, in vivo tumorigenesis assays and cDNA differential arrays. PTMA immunoblot from BFTC905 bladder cancer cells was investigated with proteomics. Tripartite motif-containing protein 21 (TRIM21) was bound to PTMA, and their interaction was explored. Tumors from 151 bladder cancer patients were investigated for prognostic value of PTMA immunostaining. Two tissue microarrays of 60 bladder tumors were immunostained for co-expression of PTMA and TRIM21 protein.

Results: ΔNLSPTMA protein expression promotes tumor growth and shortens survival. WTPTMA protein enhances both PTEN mRNA and protein expression. PTMA could bind to TRIM21 directly, and ΔNLSPTMA protein can be downregulated by TRIM21 then by WTPTMA, in which PTMA orchestrates with TRIM21 to regulate Nrf2 expression through p62/Keap1 signaling. The absence of nuclear PTMA expression was significantly associated with lower tumor grade (p = 0.01) and tumor stage (p = 0.01), and was an unfavorable prognostic indicator for shorter disease-free survival (p = 0.009). Increased TRIM21 expression is associated with PTMA expression in human bladder cancer.

Conclusions: Wild-type PTMA enhances PTEN expression. TRIM21 down-regulates both WTPTMA and ΔNLSPTMA protein expression.

MP-149
Association between bladder cancer and metabolic health status: analysis of a nationwide database

Speaker: Jong Wook Kim 1, Speaker: Jun Cheon 1, Speaker: Hong Soo Park 1
1:Korea University, Seoul, Korea

Introduction: We assessed the association between metabolic health status and incidence of bladder cancer using the National Health Check-ups (NHC) database of South Korea.

Materials and Methods: A total of 11,781,768 men who participated in NHC between 2009 and 2012 and 17,777 men who were newly diagnosed with prostate cancer were analyzed. Normal-weight and obesity were defined as BMI <25 kg/m² and ≥25 kg/m², respectively. Metabolic obesity was defined as the presence ≥3 components of the metabolic syndrome. Participants were stratified into 4 groups: metabolically healthy, normal-weight (MHNW), metabolically obese, normal-weight (MONW), metabolically healthy, overweight (MHO), metabolically obese, overweight (MOO). Multivariate regression analysis was conducted.

Results: Of the study participants, 6,169,451, 1,228,925, 2,313,991, and 2,069,401 subjects were classified into MHNW, MONW, MHO, and MOO group. The mean body mass index (BMI) was 22.2 kg/m² in the MHNW group and 27.8 kg/m² in MOO group. When analyzed according to metabolic health status classification, age-adjusted HR was 1.187 at MONW group, 1.024 at MHO group, and 1.271 at MOO group, showing the HR for the MONW group was higher than that for the MHO group. As the number of metabolic syndrome components increased, HR increased significantly.

Conclusions: This population-based nationwide study revealed an association between metabolic health status and the incidence of bladder cancer, and the risk increased according to the number of components of the metabolic syndrome.
MP-151
Preoperative renal insufficiency as prognosticator for upper urinary tract urothelial carcinoma patients undergoing radical nephroureterectomy

Speaker: Kenji Kuroda 1, Speaker: Junichi Asakuma 1, Speaker: Akio Horiguchi 1, Speaker: Makoto Kawaguchi 1, Speaker: Masayuki Shinchi 1, Speaker: Ayako Masunaga 1, Speaker: Shinsuke Tasaki 1, Speaker: Akinori Sato 1, Speaker: Keiichi Itô 1, Speaker: Tomohiko Asano 1

Background: Chronic kidney disease (CKD) is a common condition among elderly patients and has been reported to portend the presence of malignant disease. In the present study, we analyzed clinicopathological data of upper tract urothelial carcinoma (UTUC) patients undergoing radical nephroureterectomy (RNU) to clarify whether preoperative CKD is an independent predictor of the shorter disease-specific and/or recurrence-free survival time in these patients.

Methods: We conducted a retrospective review of 187 patients who underwent RNU at our institution. We evaluated the clinicopathological factors that are thought to have potentially significant roles in the progression and metastasis of malignant tumors and for disease-specific and recurrence-free survival.

Results: Positive surgical margins and an eGFR of <60 were independent factors for the shorter disease-specific survival time in the multivariate analysis with Cox’s proportional hazards model [hazard ratio (HR), 2.401; 95% confidence interval (CI), 1.044-5.255 and HR, 2.371; 95% CI, 1.024-5.898, respectively]. Another multivariate analysis showed that high tumor grade (HR, 2.934; 95% CI, 1.069-9.570), positive surgical margins (HR, 4.477; 95% CI, 2.042-9.469), lymphovascular invasion (HR, 2.615; 95% CI, 1.180-5.909), and preoperative eGFR of <60 (HR, 2.362; 95% CI, 1.067-5.592) were independent factors for the worse recurrence-free survival rate in all patients.

Conclusion: The present study demonstrated that UTUC patients with preoperative CKD undergoing RNU should be carefully followed up postoperatively.

MP-152
Oncologic outcomes of kidney sparing surgery using endoscopic management of upper urinary tract urothelial carcinoma: a single center experience

Speaker: Chih-Yu Shen 1, Speaker: Yuh-Shyan Tsai 1, Speaker: Chien-Hui Ou 1, Speaker: Wen-Hrong Yang 1

1: National Cheng Kung University Hospital, Tainan, Taiwan

Purpose: Nephron-sparing surgery may be preferable in selected patients. We’ve examined the oncologic outcomes of endoscopic management of upper tract urothelial carcinoma.

Materials and methods: A total of 22 patients who received endoscopic management of urothelial carcinoma at a single center in Taiwan were included from April 2004 to February 2017. Endoscopic approaches including semirigid ureteroscopic tumor ablation, percutaneous nephrostomy tumor ablations were applied.

Results: 100% five-year overall survival and five-year progression free survival for low grade tumor was demonstrated with a mean follow up time of 31.0 months. The same figure for high grade UTUC managed endoscopically is 62.50% and 45.14%, respectively with a mean follow up time of 37.3 months. 9 patients had cancer progression, of which, 5 patients had bladder recurrence (22.7%), 1 had distant metastasis (4.7%), and 4 had progression and finally underwent radical nephroureterectomy (18.1%). The 5-year overall survival rate was 72.91% (19/21); the mean 5-year progression-free survival was 50.59%. The mean preoperative creatinine level was 1.91 mg/dL, and at 12 months after operation it was 3.65 mg/dL.

Conclusion: Patients receiving endoscopic management had favorable postoperative outcomes with low rate of progression to nephroureterectomy, low local recurrence rate, and high overall survival. The benefit of renal function preservation should also be considered with this modality.
MP-153

Early experience with robotic-assisted laparoscopic nephroureterectomy in treating upper tract urothelial carcinomas: single-center study in Hong Kong

Speaker: Chloe Hui Tung Yu, Speaker: Henry Chow, Speaker: Chun Ki Chan, Speaker: Fu Keung Cheung

1: Department of Surgery, Princess Margaret Hospital, Hong Kong

Objective:

To compare outcomes of robotic-assisted laparoscopic nephroureterectomy (RNU) and laparoscopic nephroureterectomy (LNU) in treating upper tract urothelial carcinomas.

Methods:

All patients who underwent RNU and LNU in Princess Margaret Hospital, Hong Kong between December 2011 and May 2017 were included. Basic demographic data, operative details and outcomes were retrospectively reviewed.

Results:

31 patients were included in this study; 16 underwent RNU and 15 underwent LNU. Baseline characteristics were similar in both groups. Median follow up were 11.5 (1-31) and 25.0 (6-64) months respectively. There were no significant differences between the two groups in terms of mean operative time (320 vs 349 minutes, p = 0.25), mean blood loss (439 vs 377ml, p = 0.61), mean length of postoperative stay (7.2 vs 5.9 days, p = 0.12), positive surgical margins rate (3 [18.8%] vs 5 [33.3%] patients, p = 0.35). 6-months and 1-year recurrence rates were similar (31.2% vs 28.6% p = 0.87 and 37.5% vs 42.9% p = 0.77 respectively). 6-months and 1-year recurrence-free survival rates were 88% and 81% for RNU group and 93.3% and 80% for LNU group with no significant difference. Pathological T-stage was associated with recurrence and cancer-specific mortality (p = 0.041).

Conclusion:

RNU is comparable with LNU in terms of operative time, length of hospital stay, blood loss, positive margins and post-operative short term recurrence-free survival.
Moderated Poster 17
Urothelial tumors, biology, UTUC 2

Wed., April 18, 2018 15:00-16:00
Poster Room 2 | Annex Hall, Kyoto International Conference Center 1F

Chairperson: Yoshiyuki Matsui (National Cancer Center Hospital, Japan)
Chairperson: Tianxin Lin (The 2nd Affiliated Hospital of Sun Yat-sen University, China)

MP-154
Discovery of novel urinary biomarker of bladder cancer by proteomic analysis of urinary and tissue-exudative exosomes

Speaker: Kyosuke Matsuzaki 1, Speaker: Kazutoshi Fujita 1, Speaker: Takashi Shiromizu 2, Speaker: Ryohei Narumi 2, Speaker: Yujiro Hayashi 1, Speaker: Kentaro Jingushi 1, Speaker: Taigo Kato 1, Speaker: Atsunari Kawashima 1, Speaker: Takeshi Ujike 1, Speaker: Akira Nagahara 1, Speaker: Motohide Uemura 1, Speaker: Takeshi Tomonaga 2, Speaker: Norio Nonomura 1

1. Osaka University Graduate School of Medicine, Osaka, Japan
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Extracellular vesicles (EVs) are lipid bilayer vesicles containing protein, mRNA and miRNA that are secreted from most cell types and tumor cells into various bodily fluids. Cancer cell-derived EVs may be diagnostic and therapeutic targets. We aimed to discover a new biomarker for bladder cancer (BC) in urinary EVs via quantitative proteomics. EVs were isolated from urine from 7 BC patients and 4 healthy controls (HC) by ultracentrifugation. We also extracted EVs directly from surgically resected viable BC tissues (tissue-exudative EV; Te-EV). EV protein were labeled with TMT and analyzed by LC-MS/MS. We identified 1960 proteins in urinary EVs and 1538 proteins in Te-EV, among which BCEP1 (bladder cancer extracellular vesicle protein 1) was detected in urine of only BC patients and was also enriched in Te-EV. BCEP1 in urine samples (BC [superficial: n=20, invasive: n=20], HV [n = 30]) using selected reaction monitoring/multiple reaction monitoring. BCEP1 in urinary EVs was significantly higher in the cancer group than in the HC group (fold-change=9.82, p-value <0.0001) and was significantly associated with pT stage (p-value for trend <0.0001). The area under the receiver-operator characteristics (ROC) curve (AUC) was 0.900 (95% CI 0.807-0.951, p<0.0001), and the sensitivity and specificity of the model at the best cutoff value were 77.5% and 90.0%, respectively. BCEP1 in urinary EVs could be a potential biomarker for BC.
High Resolution Melting analysis for rapid detection of PIK3CA gene mutations in bladder cancer: A Mutated Target for Cancer Therapy

Speaker: Gholamreza Gh.Pourmand 1, Speaker: Zahra Z.Ousati Ashtiani 1, Speaker: Abdol Rasooul A.R. Mehrsaei 3, Speaker: Mohammad Reza M.R. Pourmand 2

1: Urology Research Center, Tehran University of Medical Sciences, Tehran, Iran. 2: Dept. of Pathobiology, School of Public Health, Tehran University of Medical Sciences, Tehran, Iran. 3: Urology Research Center, Sina Hospital, Tehran University of Medical Sciences, Tehran, Iran.

PIK3CA gene mutations have clinical significance and their presence associate with therapy response. It is also considered as a molecule for targeted therapy. Regarding the importance of this molecule and genetic variation within a population and also among different populations, we aim to detect common mutations of exon9 and 20 and other probable mutations in PIK3CA gene and their frequencies in Iranian BC patients. Paired tumor and adjacent normal tissues samples were obtained from 50 bladder cancer subjects. Mutations of PIK3CA gene were detected by High Resolution Melting (HRM) analysis which is a highly sensitive, repeatable, rapid and cost-effective technique. Sanger sequencing analysis was used to determine the precision of the HRM analysis. Mutations were present in 10% (5/50) of the subjects. The majority of these cases (4/5) had the mutation(s) in exon 9, spanning over five different mutations, among which three of them actually were novel mutations. Further analysis revealed that 2 cases had simultaneous mutations for that exon. In addition to novel mutations, we found that the PIK3CA mutation rate in Iranian Bladder patients was not frequent as previous reports, and COSMIC. HRM can be used as a rapid and sensitive method for mutation screening. Dysregulation of PIK3CA gene in BC uncovers its potentials as a mechanistic link regarding cancer development, which in turn suggests its special value in interventional studies for targeted therapy.

RASAL2 inhibits tumor angiogenesis via p-AKT/ETS1 signaling in bladder cancer

Speaker: Kaijie Wu 1, Speaker: Ke Hui 1, Speaker: Shiqi Wu 1, Speaker: Yangyang Yue 1, Speaker: Dalin He 1

1: First Affiliated Hospital of Xi’an Jiaotong University

OBJECTIVES: Previously, we have demonstrated RASAL2, a member of RAS GTPase-activating proteins, could act as a tumor suppressor to modulate epithelial-mesenchymal transition and stemness, which were critical for bladder cancer (BCa) recurrence and metastasis. However, its potential roles in tumor angiogenesis of BCa are largely unknown.

METHODS: Two BCa cell sublines with different RASAL2 expression levels were employed to investigate the recruitment and tube formation of human umbilical vein endothelial cell (HUVEC) by HUVEC migration assay and tube formation assay. The expression of VEGFA and its upstream signaling transduction were explored by ELISA assay and western blot analysis. In vivo, subcutaneous xenografts in nude mice were used to detect tumorigenicity. Moreover, the expression of RASAL2, VEGFA and CD31 in xenografts and human BCa tissues was detected by immunohistochemical staining.

RESULTS: RASAL2 overexpression in 253J-BV cells could inhibit the recruitment and tube formation of HUVECs, meanwhile RASAL2 knockdown (KD) in 5637 cells enhanced the recruitment and tube formation of HUVECs in vitro. Consistently, RASAL2 overexpression in 253J-BV cells could suppress tumorigenicity in vivo. Mechanistically, RASAL2 downregulation could enhance the phosphorylation of AKT and then subsequently upregulate the expression of ETS1 and VEGFA. Furthermore, RASAL2 was inversely correlated with VEGFA and CD31 in tissues from subcutaneous xenografts and human BCa specimens.

CONCLUSIONS: RASAL2 could inhibit tumor angiogenesis via p-AKT/ETS1 signaling in BCa progression.
**MP-157**

IFIT5 promotes EMT via down-regulation of mature miR-99a in bladder cancer

Speaker: Kaijie Wu ¹, Speaker: Jun Huang ¹, Speaker: U-Ging Lo ², Speaker: Jer-Tsong Hsieh ², Speaker: Dalin He ¹

¹: First Affiliated Hospital of Xi’an Jiaotong University, ²: University of Texas Southwestern Medical Center

**BACKGROUND:**

Bladder cancer (BCa) relapse and progression after transurethral resection and BCG instillation remain major problems. It is known that secreted IFN-γ after BCG treatment induces the expression of IFIT5, however, the expression and function of IFIT5 in BCa are still unknown.

**METHODS:**

IFIT5 expression in BCa tissues were investigated by immunohistochemical staining and database retrieving. Stable IFIT5 over-expression or knock-down BCa cell sublines were generated to investigate the role of IFIT5 on epithelial-mesenchymal transition (EMT), cell migration and invasion. MicroRNA PCR array and qRT-PCR were used to verify the specific microRNA regulated by IFIT5. Direct target of the specific microRNA was verified by dual luciferase reporter assay, and their relationship with IFIT5 was analyzed by western blot. Subcutaneous xenograft model was used to investigate the effects of IFIT5 on tumorigenesis and verify the in vitro data.

**RESULTS:**

IFIT5 expression was higher in high-grade, CIS-positive or muscle-invasive BCa tissues, which predicted a poor survival of patients. IFIT5 induced EMT, promoted cell migration and invasion, and decreased the expression of mature miR-99a, but had no effect on the expression of pre-miR-99a and pri-miR-99a. Furthermore, ICAM1 was shown as a direct target of miR-99a, and over-expression of miR-99a in IFIT5 over-expressing BCa cells could reverse EMT. In addition, IFIT5 could enhance BCa tumorigenicity, and the expression of mature miR-99a was negatively regulated.

**CONCLUSIONS:**

IFIT5 may acts as an oncogene in BCa relapse and progression.
MP-159
Anti-oncogenic activities of cyclin D1b siRNA on human bladder cancer cells via induction of apoptosis and suppression of cancer cell stemness

Speaker: Chul Jang Kim 1, Speaker: Yukihiro Tambe 2, Speaker: Hirokazu Inoue 2, Speaker: Akihiko Kawauchi 3
1: Kohka Public Hospital, Kohka, Japan, 2: Division of Microbiology and Infectious Diseases, Shiga University of Medical Science, Otsu, Japan, 3: Shiga University of Medical Science, Otsu, Japan

The human cyclin D1 gene generates two major isoforms, cyclin D1α and cyclin D1b, by alternative splicing. In this study, to assess the therapeutic ability of cyclin D1b siRNA (D1b-siRNA) for human bladder cancer cell lines, SBT31A and T24, which express cyclin D1b mRNA, we investigated the anti-oncogenic effects of D1b-siRNA for human bladder cancer cell lines. Knockdown of cyclin D1b by specific siRNA significantly suppressed cell proliferation, in vitro cell invasiveness and three-dimensional (3D) spheroid formation in these cell lines. Cell cycle analyses showed the inhibition of the G1-S transition in T24 cells by D1b-siRNA. The increase in the sub-G1 fraction, morphological aberrant nuclei with nuclear fragmentation and caspase-3 activity in SBA31A cells treated with D1b-siRNA showed the induction of apoptosis in SBT31A cells by D1b-siRNA. In T24 cells, knockdown of cyclin D1b suppressed the expression of a stem cell marker, CD44. Knockdown of cyclin D1b or CD44 suppressed the invasiveness under 3D-spheroid culture conditions and the N-cadherin expression. Tumor growth of SBT31A cells in nude mice was significantly suppressed by D1b-siRNA. Taken together, these results indicate that knockdown of cyclin D1b suppresses the malignant phenotypes of human bladder cancer cells via induction of apoptosis and suppression of cancer cell stemness and epithelial-mesenchymal transition. Applying D1b-siRNA would be a novel therapy for human cyclin D1b-expressing bladder cancers.

MP-160
Carbonic Anhydrase 2 is a Novel Invasion-associated Factor in Urinary Bladder Cancers

Speaker: Hirokazu Tachibana 1, Speaker: Minoru Katou 1, Speaker: Satoshi Tamada 1, Speaker: Takeshi Yamasaki 1, Speaker: Tarou Iguchi 1, Speaker: Tomoaki Iwai 1, Speaker: Nobuyuki Kuwabara 1, Speaker: Junji Uchida 1, Speaker: Tatsuya Nakatani 1
1: Osaka City University Graduate School of Medicine

Rat bladder cancer is nearly always papillary non-invasive urothelial carcinoma (UC). To establish an animal model mimicking invasive UC that arises from papillary non-invasive UC in the bladder, male human c-Ha-ras proto-oncogene transgenic rats (Hras128) were treated with 0.05% N-butyl-N-(hydroxybutyl)nitrosamine (BBN) in their drinking water and/or 0.1% phenylethyl isothiocyanate (PEITC) in their diet as follows: BBN + PEITC; PEITC + BBN; BBN alone; PEITC alone; no-treatment. At the end of week 16, the highest incidence of invasive UC was observed in the BBN + PEITC group. Therefore, we used Hras128 rats treated with BBN followed by PEITC as a model of invasive bladder cancer to identify invasion-associated proteins. Proteome analysis was performed to compare the protein profiles of invasive and non-invasive UCs in Hras128 rats. We identified 49 proteins that were either overexpressed or underexpressed in invasive UCs but not in non-invasive UCs. Immunohistochemical analysis of carbonic anhydrase 2 (CA2), an overexpressed protein, showed that the relative number of CA2-positive UCs was significantly higher for invasive UCs compared to non-invasive UCs in rats. Moreover, the incidence of CA2-positive cancers was also significantly higher for human muscle-invasive bladder cancer (MIBC) compared to non-MIBC (NMIBC) and was positively associated with the progression of NMIBC. Our findings indicate that CA2 is an invasion-associated factor.
MP-161

The Natural Compound Oblongifolin C Reverses GEM -resistance Via Suppressing Autophagy Flux in Bladder Cancer Cells

Speaker: Shuai Liu, Speaker: Sentai Ding

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Previous studies showed that inhibition of autophagy in urothelial carcinoma increases cytotoxicity of chemotherapeutic agent. However, more evidences of this effect are needed in Gemcitabine (GEM) treated bladder cancer. A GEM resistance cell line was established and was subjected to our test to find out whether autophagy contributes to GEM acquired resistance. Oblongifolin C (OC), a natural compound purified from a traditional Chinese medicine was reported as a novel autophagic flux inhibitor by blocking autophagosome-lysosome fusion and contributes anticancer effect. Thereafter, we further studied whether it could enhance GEM efficiency in GEM resistance bladder cancers via inhibiting autophagic flux. IHC staining of LC3 in bladder cancer tissues showed autophagy plays an important role in cancer development, WB of autophagy marker in bladder cell line and GEM resistant cells indicating GEM induced autophagy level lifting which contribute to GEM resistance. MTT and LDH measurements showed via inhibiting autophagy by 3MA increased GEM efficient. OC increased GEM efficiency, and RFP-GFP-LC3 plasmid transfection showed this effect was carried out via inhibiting autophagic flux. In summary, our results provided evidence that autophagy plays an important role in bladder cancer development and GEM resistance, OC reverses GEM resistance bladders via suppressing autophagic flux providing a potential adjunctive therapy in bladder cancer GEM treatment.

MP-163

The establishment of new therapeutic strategy for metastatic urothelial carcinoma targeting against cancer stem cell

Speaker: Koichiro Ogihara, Speaker: Eiji Kikuchi, Speaker: Kyohei Hakozaki, Speaker: Shogo Okazaki, Speaker: Takeo Kosaka, Speaker: Shuji Mikami, Speaker: Mototsugu Oya

1:Keio University, Tokyo, Japan, 2:Division of Gene Regulation, Institute for Advanced Medical Research, Keio University, Tokyo, Japan, 3:Division of Diagnostic Pathology, Keio University, Tokyo, Japan

Introduction: A variant isoform of CD44 (CD44v) has been reported as a new type of cancer stem cells biomarker. The role of CD44v on clinical outcome and functional analysis in urothelial carcinoma (UC) has not been evaluated. For the functional analysis, sulfasalazine (SSZ) which has been reported as an inhibitor of cystine transporter in UC cells with a positive CD44v was used.

Methods: 1) We identified 182 patients who were treated for invasive UC (≥pT2) and investigated the association between the expression of CD44v and their prognosis. 2) To evaluate the effects of SSZ, the UC cell line, MBT2V with a high lung metastatic potential was used. Protein expressions were evaluated by Western blotting. 3) Lung metastatic animal model were generated by injecting MBT2V cells into the tail vein of C3H/HeN mice on day 0. Intraperitoneal administration of SSZ or saline was started on day 3.

Results: 1) The 5-year cancer-specific survival rate in the CD44v-positive group was significantly lower than that in the CD44v-negative group (p<0.001). CD44v positivity (p=0.002) was an independent risk factor for cancer-specific death. 2) Cytotoxicity with SSZ in MBT2V was observed. Protein expression of CD44v was inhibited after exposure to SSZ. 3) The number of metastatic lung nodules in mice treated with SSZ was significantly lower than that in mice treated with saline (p<0.001). Overall survival rate in mice treated with SSZ was significantly higher than that in mice treated with saline (p=0.011).

Conclusions: SSZ may be a novel therapeutic agent that directly targets UC stem cells.
MP-164
Lateral Bladder Neck dissection and Posterior Bladder Wall Reconstruction Lead to Improved Early Urinary Continence After Robotic-assisted Radical Prostatectomy

Speaker: Yang Gyu Bae 1, Speaker: Gyung Tak Mario Sung 2
1:Jeil Hospital, Ulsan, Korea, 2:Dong-A University Hospital, Busan, Korea

Purpose: To evaluate the influence of lateral bladder neck dissection technique (LBND) and triple-layer posterior bladder wall reconstruction (TPWR) on the early removal of Foley catheter and urinary continence (UC) after robotic-assisted radical prostatectomy (RARP).

Materials and Methods: Total of 485 patients with localized prostate cancer underwent RALP, with 187 men undergoing standard bladder neck dissection with Ven velthoven continuous suturing (group 1) and 298 men undergoing LBND with TPWR and Ven velthoven continuous suturing (group 2). Pre- and postoperative urinary function (UF) and continence recovery were evaluated and compared between the two groups.

Results: The overall positive margin rate was lower in group 2 with 11.2% and 15.6% for group 1 (p=0.045). Early removal of Foley catheter equal or less than at POD 7th was seen in 73.8% in group 2 whereas only 16.2 % was seen in group 1. Postoperative UC was evaluated by EPIC short form questionnaire. At POD 1 and 6 months, the mean UF scores were higher in group 2 compared to group 1 with statistical significance (p <0.05). Group 2 showed significantly higher continence rates at 1 and 6 months post-RARP than group 1.

In group 2, the recovery of UC approached to 87.2% at POD 6 months showing early return of UC.

Conclusions: Early removal of Foley catheter with improved postoperative continence and urinary functions after RALP can be achieved by lateral bladder neck dissection technique and triple-layer posterior bladder wall reconstruction with Ven velthoven continuous suturing.
**MP-165**

Robot-assisted Radical Prostatectomy May Induce Inguinal Hernia Within First Two Years: A 11-year Single-surgeon with More Than 400 Cases Experience

Speaker: Hong-Ray Chen 1, Speaker: Dah-Shyong Yu 1, Speaker: Sheng-Tang Wu 1

1: Departments of Surgery, Tri-Service General Hospital, National Defense Medical Center, Taipei, Taiwan, Republic of China

**Purpose:**
Robot-assisted radical prostatectomy (RARP) is a gold standard in radical prostatectomy now. The aim of this study was to evaluate the incidence, risk factors, and occurred timing of inguinal hernia (IH) after RARP.

**Materials and Methods:**
We included 427 prostatic cancer patient who underwent RARP by a single surgeon from February 2006 to August 2017. The incidence, clinical and pathological factors were investigated to assess relationship with development of IH.

**Results:**
Postoperative IH occurred in 29 cases (6.79% of all RARP patient), while 22 cases (75.9% of all IH patient) happened at first two years. The median follow-ups were 5.2 years and the median age of patients was 65 years. Postoperative IH occurrence was significantly associated with body mass index, history of smoking, and low surgeon experience (P = 0.036, 0.023 and 0.048, respectively). While low surgeon experience didn’t reach statistic significant after multivariate analysis later.

**Conclusion:**
Overall incidence of IH after RARP was significantly associated with body mass index and history of smoking. With obvious incidence of IH within first 2 years after operation which did not observed at open prostatectomy, Robot-assisted radical prostatectomy itself may play a role in induce IH.

**MP-166**

Necessity of indwelling drainage catheter after robot-assisted radical prostatectomy

Speaker: Takahiro Nohara 1, Speaker: Yuki Kato 1, Speaker: Tomomi Nakagawa 1, Speaker: Kazufumi Nakashima 1, Speaker: Masashi Iijima 1, Speaker: Shohei Kawaguchi 1, Speaker: Kazuyoshi Shigehara 1, Speaker: Kouji Izumi 1, Speaker: Yoshifumi Kadono 1, Speaker: Atsushi Mizokami 1

1: Kanazawa University Graduate School of Medicical Science

**[Introduction]** We investigate the necessity of indwelling drainage catheter after RARP. **[method]** We collected consecutive 269 patients who were performed RARP in our institution. Transperitoneal approach were performed in all cases. One case who received surgical repair of bowel injury after RARP was excluded. Postoperative course with or without drainage catheter was retrospectively compared. Computed tomography (CT) or magnetic resonance imaging (MRI) was performed about 2 weeks after RARP to evaluate asymptomatic fluid collection in all cases. **[results]** There were 230 cases with drainage catheter (group A), and 38 cases without (group B). Pelvic lymphnode dissection was significantly more cases in group A (48%) than in Group B (21%). The incidence of asymptomatic fluid collection was 46 (20%) for group A, and 7 (18%) for group B, which was not statistically significant. There was no case of symptomatic lymphocele in both groups. Postoperative bleeding was seen only in 4 cases of group A. In two of the 4 cases, it could not be recognized by bloody discharge from drainage catheter, but by shock vital signs. Invasive procedure was not necessary in the other 2 cases because the bleeding was not severe. **[conclusion]** There was no significant difference in fluid collections. Furthermore, drainage catheter was not effective to recognize massive bleeding after the operation. This study suggests that indwelling drainage catheter after RARP is not necessary.
MP-167
Validation of indications for nerve-sparing in robot-assisted radical prostatectomy

Speaker: Yasuo Kohjimoto 1, Speaker: Yuya Iwashashi 1, Speaker: Yuko Ueda 1, Speaker: Haruka Miyai 1, Speaker: Takahito Wakamiya 1, Speaker: Takashi Iguchi 1, Speaker: Shimpei Yamashita 1, Speaker: Satoshi Nishizawa 1, Speaker: Isao Hara 1

1: Wakayama Medical University, Wakayama, Japan

Introduction: A recent meta-analysis demonstrated that nerve-sparing (NS) radical prostatectomy did not increase the risk of positive surgical margin (PSM), potentially due to appropriate patient selection. The aim of the present study was to assess the oncological safety of our indication for NS in robot-assisted radical prostatectomy (RARP).

Methods: We identified 367 patients who were diagnosed by 10-core prostate biopsy and underwent RARP between Jan 2013 and Aug 2017. NS was performed only on a lobe in which following four criteria were met; (1) nonpalpable on digital rectal examination, (2) negative MRI in peripheral zone, (3) Gleason score ≤ 7 and (4) positive cores ≤ 2. We examined the association between surgical technique (NS vs. non-NS) and PSM at apical and/or posterolateral regions in 734 prostate lobes. Biochemical recurrence (BCR) were also compared between patients with bilateral NS, unilateral NS and non-NS.

Results: The rates of apical/posterolateral PSM were similar between NS lobes and non-NS lobes (7.8% vs. 9.2%, p=0.49). NS was not an independent predictor of PSM after adjustment for pathological factors (OR 0.96, p=0.89). Three-year BCR-free survival in patients with bilateral NS (n=98), unilateral NS (n=201) and non-NS (n=68) were 86%, 83% and 84% (p=0.32). Although PSA, pathological Gleason score and pT stage were independent predictors of BCR (p<0.05), NS was not (bilateral NS, HR 0.91; unilateral NS, HR 1.03, p=0.97).

Conclusions: The results indicate that our indication for NS did not compromise apical/posterolateral margin status and BCR.

MP-168
Comparison of oncological results in high risk group prostate patients between combined radiotherapy with hormone therapy and radical prostatectomy

Speaker: Li Hsien Tsai 1, Speaker: Chi-Ping Huang 1, Speaker: Wen-Chi Chen 1, Speaker: Chi-Rei Yang 1, Speaker: Chao-Hsiang Chang 1, Speaker: Hsi-Chin Wu 1

1: China Medical University Hospital, Taichung, Taiwan

High-risk prostate cancer (PCa) are at significant risk of biochemical failure, distal metastasis, and disease-specific mortality rate. National Comprehensive Cancer Network (NCCN) suggests radiotherapy with hormone therapy (RT/HT) as first option and radical prostatectomy (RP) should perform in particular patients. The optimal treatment for high-risk PCa is still a significant controversy. Such Asia population data is lacking. The study aims to evaluate the oncological outcome and disease course of high-risk PCa patients with RT/HT or RP. All patients presented with high-risk PCa according to NCCN guideline. We compared with patient character, cancer staging, biochemical recurrence (BCR) free survival and disease-specific survival between RT/HT and RP groups. A total 318 high-risk patients were enrolled. 165 patients received RT/HT, and 153 patients received RP. RT/HT group patients are significantly older and present with higher PSA. The 5-year BCR-free survival improved significantly for patients who received RT/HT compared to those who received RP (RT/HT vs RP, 84.8 vs 56.2%, P<0.001). There was no significant difference between 5-year overall survival and disease-specific survival. No different of overall survival and disease-specific survival was found between two groups. However, BCR probabilities and need for secondary treatment were significantly higher in RP group. This may be due to different BCR definition between RT/HT and RP groups. The long-term oncological outcome for high-risk group patients between RT/HT and RP was satisfactory.
MP-169
Clinical outcomes of nerve sparing RARP with neoadjuvant hormonal therapy for High risk prostate cancer

Speaker: Kiyoshi Takahara 1, Speaker: Takahito Jyoudai 1, Speaker: Akihiro Kawai 1, Speaker: Masashi Nishino 1, Speaker: Masahiro Ito 1, Speaker: Masaru Hikichi 1, Speaker: Kosuke Fukaya 1, Speaker: Manabu Ichino 1, Speaker: Naohiko Fukami 1, Speaker: Hitomi Sasaki 1, Speaker: Mamoru Kusaka 1, Speaker: Ryoichi Shiroyuki 1

1: Fujita Health University, Toyoake, Aichi, Japan

OBJECTIVE: Robot-assisted radical prostatectomy (RARP) has been established as one of the widely adopted procedures for localized prostate cancer (PCa). In this study, clinical and oncological outcomes of RARP with bilateral or unilateral nerve sparing (NS) for D'Amico high-risk PCa were assessed.

METHODS: Among 767 RARP cases performed at our hospital from August 2009 to December 2016, 230 cases of high-risk PCa observed more than 6 months comprised the study cohort.

RESULTS: NS was performed with bilateral in 8, unilateral in 125, and none in 97 cases. The mean operation time and console time were 175 minutes and 134 minutes, respectively. The mean estimated intraoperative blood loss was 174 ml. According to the Clavien-Dindo classification, complications more than Grade ≥III a were observed in 10% cases. Surgical margin positivity was observed 22.6% in all and 18%/28.9% in NS/non-NS category representing no differences between them. During a median follow-up of 25 months, the 1- and 3-year biochemical recurrence-free survival rates in NS/non-NS were 84.4%/86% and 72.7%/75%, respectively, and there were no significant differences between two groups of each period. The number of pads used 3 and 6 months after RARP in NS/non-NS were 1.1/1.5 and 0.6/1, respectively, and NS technique resulted in significant superior outcomes with regard to urinary continence.

CONCLUSION: Nerve sparing technique in selected high-risk PCa cases resulted not only equivalent oncological outcomes but superior urinary continence outcomes as compared with non-NS RARP group.

MP-170
Perirectal fat is an indicator for intraoperative difficulty of Robot-assisted Laparoscopic Radical Prostatectomy (RARP)

Speaker: Tomoaki Miyagawa 1, Speaker: Kimitoshi Saito 1, Speaker: Masashi Oshima 1, Speaker: Tsuzumi Konishi 1, Speaker: Yuuki Nakamura 1, Speaker: Yoshiaki Arai 2

1: Jichi Medical University Saitama Medical Center, 2: Nishi-Omiya Hospital

Introduction: Robot-assisted laparoscopic radical prostatectomy (RARP) in patients with increased perirectal fat thickness can be difficult. We investigated perirectal fat thickness as an index of intraoperative difficulty.

Subjects and methods: The body height, body weight, body mass index (BMI), and perirectal fat thickness of 113 patients who had undergone RARP with a transabdominal approach were reviewed. Perirectal fat thickness was measured from the transverse and sagittal sections of preoperative magnetic resonance imaging scans. The measurement site was the thickest part of the fat between the anterior surface of the sacrum and the posterior wall of the rectum. Difficulty of the posterior approach and posterior dissection of the prostate was retrospectively evaluated using surgery video data.

Results: The mean body height, body weight, and BMI were 165 (154-180) cm, 64 (49-88) kg, and 23.4 (16.5-23.3) kg/m², respectively. The mean perirectal fat thickness was 11.3 (3.4-22.1) and 11.0 (3.0-23.4) mm in transverse and sagittal sections, respectively. Patients in whom the posterior approach and posterior dissection of the prostate were difficult had significantly higher BMI (27.3 vs 24.0 kg/m², p=0.003) and perirectal fat thickness (transverse section, 15.0 vs 11.4 mm, p=0.004; sagittal section, 14.9 vs 12.0 mm, p=0.04). No significant differences were found in surgical or console time, or blood loss.

Conclusion: The present results demonstrate that perirectal fat thickness can be an index of intraoperative difficulty during RARP.
MP-171
High Expression of SLCO2B1 is Associated with Prostate Cancer Recurrence after Radical Prostatectomy

Speaker: Tomoaki Terakawa, Speaker: Eriko Katsuma, Speaker: Kazuaki Takabe, Speaker: Yukari Bando, Speaker: Takuto Hara, Speaker: Koutarou Suzuki, Speaker: Hiroyuki Momozono, Speaker: Junya Furukawa, Speaker: Kenichi Harada, Speaker: Nobuyuki Hinata, Speaker: Yuuzou Nakano, Speaker: Masato Fujisawa

1: Graduate School of Medicine, Kobe University, Kobe, JAPAN
2: Department of Surgical Oncology, Roswell Park Cancer Institute, Buffalo, NY, USA

INTRODUCTIONS
SLCO genes encode transport proteins up-taking number of substrates into cells including androgens. Among them, high expression of SLCO2B1 has been shown to be associated with the resistance to androgen deprivation therapy. However, the significance of SLCO2B1 expression in the recurrence after radical prostatectomy has not been elucidated.

METHODS
Clinical and RNA-seq data were all obtained from the Cancer Genome Atlas (TCGA). Overall and disease-free survival as well as gene set enrichment analysis (GSEA) were compared between these groups. Survival was analyzed between Gleason score as well.

RESULTS
The patients with high expression of SLCO2B1 were found to have more aggressive cancer characteristics, including high Gleason score, higher T stage and positive surgical margin. High expression group showed significantly worse disease-free survival after radical prostatectomy (p=0.026), whereas no significant difference in overall survival. The patients with higher Gleason score had significantly higher levels of SLCO2B1 expression. Significant difference in disease-free survival between high and low expression groups were only observed in the patients with GS≥8 (p=0.005). GSEA demonstrated that in the high expression group of SLCO2B1 enriched EMT signaling related genes.

CONCLUSIONS
High expression of SLCO2B1 associated with the aggressive cancer characteristics and recurrence after radical prostatectomy. Furthermore, the high recurrence rate with high expression of SLCO2B1 may be able to be explained with up-regulated EMT signaling.

MP-173
The impact of high GP score (Gleason score X PSA level) in pre-and post operative Gleason score for biochemical failure after prostatectomy for prostate cancer

Speaker: Norihito Soga, Speaker: Jun Furusawa, Speaker: Toshiaki Wakita, Speaker: Yuji Ogura

1: Aichi cancer center hospital, 2: Wakita clinic

Introduction and objectives:
We propose the novel GP score, defined as the GS × PSA level, thus independent of the T stage, and evaluated its predictive value for biochemical failure (BCF) after prostatectomy, associated with comparison of the preoperative GS and postoperative GS.

Materials and methods:
In each case, the D’Amico classification was used, and the preoperative and postoperative GS scores were calculated. Three subgroups were classified according to risk (low, intermediate, and high) and GP score (low, < 50; intermediate, 50-99; and high, ≥ 100). The risk factors for BCF were evaluated by multivariate analysis using a Cox hazard model. Results:
The non-BCF rates of the high pre- and postoperative GP score subgroups were significantly lower than that of the high-risk subgroup (log-rank P<0.05). On multivariate analysis, a high GP score (P=0.001; hazard ratio [HR] 5.0 for high preoperative GP score and 4.0 for high postoperative GP score) was a significant independent risk factor for BCF after prostatectomy and was associated with a positive resection margin (i.e., local cancer cells remaining in the resected area) (P=0.001; HR 3.2).

Conclusion: High pre- and postoperative GP scores may be equally valuable predictive factors for BCF after prostatectomy.
Moderated Poster 19
Prostate cancer, screening, diagnosis, localized

Wed., April 18, 2018 15:00-16:00
Poster Room 2  |  Annex Hall, Kyoto International Conference Center 1F

Chairperson: Koji Okihara (Kyoto Prefectural University of Medicine, Japan)
Chairperson: Lap Hong Ian (Centro Hospitalar Conde de São Januário, Macau SAR, China)

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MP-174
Impact of multiple prostate biopsies: risk of perioperative complications and biochemical recurrence after radical prostatectomy

Speaker: Jae Wook Chung 1, Speaker: Bum Soo Kim 1, Speaker: Joon Gu Kang 1, Speaker: You Jin Lee 1, Speaker: Yun-Sok Ha 1, Speaker: Jun Nyung Lee 1, Speaker: Seock Hwan Choi 1, Speaker: Hyun Tae Kim 1, Speaker: Eun Sang Yoo 1, Speaker: Tae Gyun Kwon 1, Speaker: Sung Kwang Chung 1

1 Kyungpook National University

**Purpose:** The aim of this study is to analyze perioperative complications and oncological outcomes of radical prostatectomy (RP) in patients with multiple prostate biopsies.

**Methods:** A total of 1,112 patients who underwent RP between January 2009 and April 2016 at 4 different centers were included in this study. We divided these patients into two groups; patients those who underwent only 1 biopsy and patients those who underwent 2 or more biopsies. The association between number of biopsy and perioperative surgical and oncological outcomes was analyzed.

**Results:** Of the 1,112 patients, 1,046 patients (94.1 %) underwent only 1 biopsy, and 66 patients (5.9 %) underwent 2 or more biopsies. There were no significant differences in preoperative PSA, operation time, blood loss, and hospital stay between both groups (all $p > 0.05$). Significantly higher proportion of a localized tumor was found in patients who underwent multiple prostate biopsies ($p=0.003$). Gleason score and rate of positive surgical margin was significantly lower in patients with multiple biopsies ($p=0.002$ and 0.001). Cox proportional hazards model showed that there was no association between number of prostate biopsies and BCR ($p=0.210$). Kaplan-Meier curve analysis showed that BCR-free survival between the two groups were not significantly different ($p=0.711$).

**Conclusion:** This study demonstrated that multiple prostate biopsies were not associated with an increased risk of perioperative complication rate, adverse pathological outcome or BCR in patients undergoing radical prostatectomy.
MP-175
A prospective study using MRI and PSA parameters to avoid unnecessary biopsy in patients with PSA gray zone (4-10ng/mL)

Speaker: Hiroshi Okuno, Speaker: Suruga Saitou, Speaker: Katuhiro Itou, Speaker: Toshihiro Uchida, Speaker: Yumi Manabe, Speaker: Yu Miyazaki

Patients were assigned with a PSA between 4.0-10.0 ng/ml and PSA density (PSAD)< 0.2, who did not have abnormal findings with DRE, TRUS and MRI. Surveillance was performed with non-immediate biopsy, with PSA follow-up every 3-6 months, with repeated examination of DRE, TRUS and MRI every 12 months. The patients were exhorted biopsy with a) PSA >10 ng/ml, b) 3 consecutive rise of PSA, c)appearance of subjective or objective symptom (exhorted group). Furthermore, biopsy was performed to patients whose PSA >4 ng/ml after 3 years from beginning of surveillance (maturity group)

61 patients were enrolled for the study and 25 patients underwent biopsy. 9 patients were detected cancer by biopsy, 2 patients belonged maturity group out of the 9 patients. On the other hand, 11 patients belonged maturity group out of 16 patients which results were negative on biopsy. Maturity group were consisted with higher negative biopsies than exhorted group significantly (p=0.04). The breakdown of Gleason’s score(GS) in the positive biopsy group was as follows. exhorted group’s GS 3+3 : 3 cases, 3+4 : 3 cases, 4+3 : 1 case. Maturity group’s GS 3+3 : 1 case, 3+4 : 1 case. Grade Groups of all cancer were less than Grade Group 3 and all cancer was localized.

The result of this prospective study was that patients of positive biopsy can higher detected with the criteria significantly. On the other hand, the patients who were able to follow-up had few cancers and did not include high grade group malignancy. Unnecessary biopsies can be reduced by establishing appropriate criteria.

MP-176
Clinicopathologic outcomes of trans-perinial target/saturation prostate biopsy for patients with positive MRI


Objective: To investigate the pathology results of trans-perinial prostate target (TB) and saturation biopsy (TPTSB) in patients who were suspected to have prostate cancer due to positive MRI findings.

Methods: We performed a retrospective analysis of the data for 62 patients who underwent TPTSB at our institution between 2014 and 2016. We first performed cognitive TB at the suspicious area using MRI, followed by the biopsy of the whole prostate.

Results: The median age was 67 years (range: 43-77), the PSA value was 9.8 ng/ml (range: 1.3-41.8), the prostate volume was 37.8 ml (range: 16-128), and the total biopsy cores were 27 (range: 18-50). The positive rate for the TB from the MRI-positive area was 45%, and of the 28 patients with positive TB, 23 (85%) had a Gleason Score (GS) of more than 7 for prostate cancer. Out of the 28 patients with positive TB, 18 patients were found to have cancer in non-TB areas, and 6/18 (33%) had a cancer with a higher GS than that of the TB areas. Twenty patients with positive TPTSB underwent prostatectomy. Of these 20 patients, 3 and 7 had upgraded and downgraded diseases, respectively. From the analysis of whole-mount step sections of the prostatectomy specimens, we found that 12/20 patients had cancers that were not identified by TPTSB; most of these were of small volume.

Conclusions: TB of the MRI-positive areas alone was not sufficient to diagnose significant cancer. We should be cautious in interpreting the pathology results of TPTSB, because not a few patients diagnosed by TPTSB had downgraded cancer in the prostatectomy specimen.
MP-178
Role of MRI guided targetted prostate biopsy in patients with previous negative TRUS biopsy or on Active Surveillance

Speaker: Karthik Thandapani, Speaker: Tsang Woon Chau, Speaker: Thamboo Thomas Paulraj, Speaker: Chiong Edmund, Speaker: Tan Lincoln Guan Lim
1: National University Hospital, Singapore

Introduction: Multiparametric magnetic resonance imaging (mpMRI) is a common diagnostic adjunct in men with a previous negative TRUS biopsy or in patients on Active Surveillance (AS). Repeat cognitive TRUS prostate biopsy does not have the sensitivity for diagnosing small cancers detected on mpMRI.

Patients and method: Using the novel iSR™ obot MonaLisa™ robotic platform, we report the CsPCa detection rate and the role of MRI/TRUS fusion targetted and saturation biopsy in patients with raised PSA, previous negative TRUS biopsies and patients on AS. Clinically significant prostate cancer (CsPCa) was defined as Gleason score of 7 or more. 71 patients with mean PSA of 9.63 ng/mL (4.1-25.5) and a MRI lesion of at least PIRADS 3 (PI-RADS v.2) and above underwent Transperineal MRI/TRUS fusion robot guided Targetted (TB) and Saturated biopsy (SB) of the prostate between 2015 and 2017.

Results: From the 71 patients (mean age 65 years old) there were a total of 92 (PIRADS 5: 8.3% ; PIRADS 4: 48% ; PIRADS 3: 28% ; PIRADS 2: 14%) lesions detected on MRI. A mean of 9 targetted cores were taken per patient. 35.9% (n=33) of the targetted lesions had CsPCa. Significantly, 54.5% of AS patient were upstaged to CsPCa. 56% of PIRADS 4 and 71% of PIRADS 5 lesions were positive for CsPCa. PSA-density (P <0.05) and PIRADS Sum Score (P<0.05) were positive predictive factors for CsPCa

Conclusions: Based on our experience with this novel robotic biopsy platform, MRI/TRUS fusion targetted biopsy increases detection of CsPCa in patients with previous negative TRUS biopsies or on AS.

MP-179
Active surveillance in young prostate cancer patients: From the PRIAS-JAPAN study

Speaker: Takuma Kato, Speaker: Mikio Sugimoto, Speaker: Yoshiyuki Kakehi
1: Kagawa University

Objectives
We assessed the state of younger AS patients from the analysis Japanese cohort(PRIAS-JAPAN) forming part of the Prostate Cancer Research International: Active Surveillance (PRIAS) study.

Materials & methods
We defined re-biopsy at 1-year as 1st re-biopsy and at 4-year biopsy including extra biopsy as 2nd re-biopsy. We compared the clinical outcome and pathological result of re-biopsy between the group of less than 60 years old (young group) and the groups of over 60 years old or more (aged group).

Results
PRIAS-JAPAN started with 37 institutions in January 2010. Until September 2017, 768 patients were enrolled and 96 were in young group at enrollment. At enrollment, the prostate volume of young group was significantly smaller than that of older group. However, there is a not significant difference between both group in PSA value and pathological factors. Re-biopsy rate of young group is lower than that of aged group at 1 year and 4 year. Although Re-classification rate of 1st re-biopsy is lower in young group, that of 2nd re-biopsy was the equivalent of the value in both group. After one year and five years, both group shows similar AS remaining rate. 24 patients of young group selected definitive therapy and surgery was the most frequently chosen treatment option.

Conclusion
There is a not significant difference between both group in AS remaining rate. Younger patients tend to avoid re-biopsy but to choose surgery as a definitive therapy.
MP-180
Zero-antibiotic transperineal prostate biopsy under local anesthetic - a prospective cohort study

Speaker: Hidekazu Yamamoto
1: Maidstone and Tunbridge Wells NHS Trust, UK

Background:
A critical rise in sepsis and antibiotic use is seen for transrectal prostate biopsy (TRB) worldwide. The need for antibiotics is uncertain in transperineal prostate biopsy (TPB) which has low sepsis rates. TPB can be done under local anesthetic (LA) using a co-axial needle which also eliminates the need for multiple skin punctures.

Methods:
Patients with suspected prostate cancer had a magnetic resonance imaging (MRI) before biopsy. Patients were excluded if unable to lie flat or tolerate a rectal exam. Following skin preparation and LA injection, a transducer-mounted needle guide (BK) and a perineal co-axial needle was used to take systematic and cognitively registered target biopsy cores in patients with MRI lesions <15mm. Patient reported outcomes were assessed using a validated questionnaire on day 7.

Results:
51 consecutive patients had TPB under LA without antibiotics. 18-26 cores were taken per patient via 2-4 perineal puncture sites. All patients tolerated the procedure without sedation. No patient experienced sepsis, urinary infection, retention, or received antibiotics. Cancer detection rate was 65% of which 39% were clinically significant. Target biopsy in 31% showed significant cancer in 69%. In an unadjusted comparison against a TRB cohort, significant differences favored TPB for rates of rectal bleed (2% vs 33%) and fever (2% vs 12%). No differences were seen for other complications.

Conclusion:
Zero-prophylaxis appears to be safe in patients undergoing co-axial needle-guided TPB. Level 1 evidence is sought to validate this approach against TRB.

MP-181
Can routine MRI pelvis accurate exclude bone metastases in newly diagnosed prostate cancer?

Speaker: Zhen Wei Choo 1, Speaker: Ling Fung Liew 2, Speaker: Cher Heng Tan 2, Speaker: Kian Tai Chong 1
1: Tan Tock Seng Hospital, 2: Department of Radiology, Tan Tock Seng Hospital

Aim
To determine if routine MRI prostate including the pelvic bones can reliably exclude the presence of bone metastases.

Methods:
Institutional ethical approval was obtained. Routine multiparametric MRI of the prostate consists of large field of view imaging of the whole pelvis and lower lumbar vertebrae (up to L4). 89 out of 284 patients from our prostate cancer database from June 2013 to December 2014, had treatment naïve prostate cancer, and imaging studies (MRI prostate and bone scintigraphy) done within 3 months apart. Two radiologists reviewed MRI and bone scintigraphy imaging studies independent for presence or absence of bone metastases. PSA level, median Gleason score and 2 year mortality were also collected. The sensitivity, specificity, negative predictive values and positive predictive values were tabulated. Statistical significance was determined using chi square test at a p-value of <0.05.

Results:
Mean age was 68 ± 7.9 years. Mean serum PSA level was 53.7 ng/mL ± 207.9. Patients with metastases on MRI pelvis had higher PSA levels (254.9 ± 532.9 vs 21.9 ± 30.9; p<0.01) and higher median biopsy Gleason score (4+4 versus 3+4; p value < 0.01) compared to those without bone metastases detected on MRI. MRI performance status showed specificity 94% and negative predictive value of 87% for bone metastases.

Conclusion:
Our study provides support for routine imaging of the bony pelvis on routine staging MRI prostate scans. Where MRI was negative for bone metastases, bone scintigraphy adds little or no value, and can be omitted from the management algorithm.
MP-182
Prostate Cancer Mortality-To-Incidence Ratios Are Associated with physician density

Speaker: Hornyo Chien
1:Chung Shan Medical University Hospital, Taichung City, Taiwan

Purposes:
Increased primary care physician density has been associated with improved cancer mortality rates. The variation in mortality-to-incidence ratios (MIRs) among countries could also predict prostate cancer care disparities. We investigated the MIR variation of prostate cancer between densities of physician and hospital health care disparities among countries.

Materials and methods:
The epidemiological data of prostate cancer were obtained from the GLOBOCAN 2012 database, maintained by the International Agency for Research on Cancer. The World Health Organization (WHO) ranking was obtained from the World’s Health Systems, which is maintained by the WHO. The densities of physician and hospital of 2012 were obtained from the World Health Statistics 2015, which is the annual compilation of health-related data for its 194 member states. The associations between the MIR and other factors among various countries were estimated by simple linear regressions.

Results:
The density of physician was inversely correlated with the WHO ranking, not the density of hospital (p<0.001; p=0.102, respectively). The MIR of prostate cancer also demonstrated significant association with the WHO ranking (p<0.001). Physician density, not hospital density, significantly correlated with the MIR for prostate cancer (p<0.001).

Conclusion:
In this study, we provide the evidence that both low MIR of prostate cancer and high physician density are associated with good WHO ranking. Physician density may also impact care disparities of prostate cancer among countries.

MP-183
The cost-effectiveness of prostate health index for prostate cancer detection in Chinese men

Speaker: Jeremy Yuen Chun Teoh
Speaker: Peter Ka Fung Chiu
Speaker: Sin Ying Yip
Speaker: Chi Hang Yee
Speaker: Suk Yin Li
Speaker: Chi Fai Ng
1: S.H. Ho Urology Centre, Department of Surgery, The Chinese University of Hong Kong, Hong Kong.

Objective:
To compare the cost-effectiveness of prostate-specific antigen (PSA) and prostate health index (PHI) in managing patients with PSA of 4-10ng/mL and normal digital rectal examination (DRE).

Patients & Methods:
We compared two types of strategies in offering transrectal ultrasound-guided prostate biopsy (TRUS-PB). First is the PSA strategy in offering TRUS-PB to all patients with PSA of 4-10ng/mL and normal DRE; second is the PHI strategy in offering PHI testing to all patients with PSA of 4-10ng/mL and normal DRE, but only offer TRUS-PB when PHI is ≥35. PHI results were based on our prospective database from April 2008 to July 2015. Data regarding TRUS-PB-related complications were retrieved from our historical cohort.

Results:
Our PHI database consisted of 565 patients; 413 patients (73.1%) had PHI of <35 and 152 patients (26.9%) had PHI of ≥35. Among the patients who had PHI of <35, only three patients (0.7%) were diagnosed to have significant prostate cancer. Taking into account the costs of PHI testing, TRUS-PB, emergency attendances and hospitalizations required for managing TRUS-PB-related complications, the estimated mean cost of the PSA strategy was USD 1,649.2/patient, and USD 830.8/patient for the PHI strategy. Therefore, a mean cost of USD 818.4/patient could be saved if we adopt the PHI strategy.

Conclusion:
Compared to the PSA strategy, the PHI strategy is more cost-effective in managing patients with PSA 4-10ng/mL and normal DRE. (Supported by the Health and Medical Research Fund Research Fellowship Scheme, Project Reference No.: 02160047)
As the recent advancement of MR imaging and targeted biopsy technique, we have realized the possible existence of cancer legion to determine patient’s prognosis among multifocal lesions, namely “index tumor”. Currently the standard treatment of localized prostate cancer, radical prostatectomy or radiation, targets the whole prostate. If we could cure or control the “index tumor” including its surroundings with minimizing to harm the functional structures, both “cancer control” and “preservation of organ function” would be achieved.

We performed primary targeted focal cryotherapy for the index tumor of prostate cancer from March 2017 to May 2017. 5 patients participated in this study. Median age was 68 years old (54-81), median prostate volume was 26mL (19-43) and median initial PSA was 6.63ng/mL (4.14-8.39). They all underwent MRI and received MR-fusion biopsy with random biopsy. They all had a single MR-lesion suspicious for index tumor, that detected as the clinically significant cancer with biopsy.

We used CryoHit cryo-machine (Galil Medical) and delivered 2 or 3 cryo-probes to ablate the target region with monitoring by multi-thermal sensor and ultrasound. There was no perioperative complication. PSA decreased and maintained lower than 4ng/mL after operation. MRI confirmed the disappearance of the target 6 months after operation. We evaluated QOL by EPIC questionnaire and confirmed the preservation of organ function. These results suggest that primary targeted focal cryotherapy might be minimally invasive and achieve good cancer control.
**MP-185**

Transperineal Prostate Biopsy and its Impact on Positive Surgical Margins

Speaker: Tess Howard 1, Speaker: Mother Al-Shawi 1,2, Speaker: William Nolan 1,2, Speaker: Nathan Lawrentschuk 1,2, Speaker: Damian Bolton 1,2, Speaker: Greg Jack 1,2

1: Austin Health, 2: Olivia Newton John Cancer Centre

**INTRODUCTION**

Transperineal biopsy (TPBx) of the prostate has become the modality of choice at our health care facility since December 2015, primarily due to its decreased sepsis rate compared with Transrectal ultrasound guided biopsy (TRBx). This study hypothesized that TPBx of the prostate would alter the location of positive surgical margins on patients who underwent radical prostatectomy (RP), compared to patients who had TRBx. We believed the position of TPBx needle entry would contribute to difficult surgical extraction of the prostate apex due to fibrosis at the biopsy site.

**METHOD**

We retrospectively reviewed the case-notes of 1000 consecutive patients that underwent transrectal or transperineal prostate needle biopsies. Using logistic regression analysis, the cohort was matched for surgeon, tumour size, PSA, stage, and Gleason grade.

**RESULTS**

The cohort comprised 1000 consecutive prostate biopsies, 480 were TPBx and 520 were TRBx. Of these, a total of 261 patients were treated with RP. Simple and multivariate logistic regression analysis showed surgical margins were not adversely affected by route of prostate needle biopsy (p=0.347) (Pearson Chi Square p-value= 0.489). Although statistically insignificant, there was a trend towards higher apical margin rates and lower posterior margin rates with TP biopsy.

**CONCLUSION**

In our study, the TPBx approach did not have a statistically significant impact on positive surgical margin rates, or location at radical prostatectomy in comparison to the TRBx technique.

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**MP-186**

The risk of urothelial carcinoma of the bladder in prostate cancer patients treated with high-dose-rate brachytherapy: a case-control study

Speaker: Yoshiyuki Miyaji 1, Speaker: Tohta Nakatsuka 1, Speaker: Hiroyasu Takasaki 1, Speaker: Seietsu Kin 1, Speaker: Masaichiro Fujita 1, Speaker: Shin Ohi 1, Speaker: Shinjiro Shimizu 1, Speaker: Shohei Tsukimori 1, Speaker: Mikako Kaifu 1, Speaker: Ryoei Hara 1, Speaker: Tomohiro Fujii 1, Speaker: Atsushi Nagai 1

1: Kawasaki Medical School, Kurashiki, Japan

**OBJECTIVES:** Radiation-induced secondary cancers are possible late-onset adverse events of radiation therapy. Our hospital has actively performed high dose rate brachytherapy (HDR-BT) for localized prostate cancer (PCa). We retrospectively examined the risk of BCa after HDR-BT.

**METHODS:** The subjects were patients treated with HDR-BT or radical prostatectomy (RP) from 1998 to 2014. For this study, the outcome was defined as the onset of pathologically diagnosed BCa after local therapy. To exclude synchronous cancers, patients with BCa that developed within 2 years after PCa treatment and patients with a past history of urothelial cancer were excluded. Seventeen cases of newly diagnosed BCa and 136 controls (matched for both age at the time of PCa therapy and the follow-up period) were recruited.

**RESULTS:** In the BCa group, only 1 (6%) case had received PR, and the other 16 cases had received HDR-BT. The median time since PCa therapy was 56 months. All cases were non-muscle-invasive BCa. In the control group, 41 cases (30%) had received RP, and 95 cases had received HDR-BT. In the BCa group, 59% of cases had a history of smoking. In the control group, 54% of cases smoked cigarettes. On logistic regression analysis of local therapy with the history of smoking as confounding factors, the odds ratio of HDR-BT against RP was 6.99 (p=0.016) and that of the history of smoking was 1.22 (p=0.703).

**CONCLUSIONS:** The incidence of BCa after HDR-BT was about 7 times compared to that of RP. It is necessary to obtain sufficient informed consent when HDR-BT is selected to treat localized PCa.
**MP-187**
Correlation between microscopic distance to tumor and pathologically confirmed prostate cancer staging in patients with localized prostate cancer

Speaker: Kyung Kgi Park 1, Speaker: Huh Jung Sik 1
1: Jeju National University Hospital

**INTRODUCTION AND OBJECTIVES:** Tumor contacting with the fibromuscular capsule of prostate means extraprostatic extension. We determine whether a new parameter, the distance between fibromuscular capsule and tumor calculated by using prostate biopsy core (Distance to tumor; DTT) can predict extraprostatic extension. **METHODS:** We analyzed specimens of 82 patients who diagnosed with prostate cancer. All patients underwent pre biopsy prostate MRI and patients with suspicious lesion of prostate cancer located on transitional zone were excluded. We measured the distance to tumor on each prostate biopsy core and correlated with pathologically confirmed staging. **RESULTS:** Mean age was 65.8 years old. Mean prostate specific antigen level was 18.9 ng/ml. There was a positive correlation (r = 0.891, p <0.001) between DTT of prostate biopsy core and pathologically confirmed staging. A receiver operating characteristics curve of the ability of DTT estimated to predict extraprostatic extension revealed the best cutoff value to be 3.08 mm. with 77% accuracy. Logistic regression analysis revealed that DTT correlated better with extraprostatic extension than tumor volume, Gleason score, prostate specific antigen (PSA) level and tumor. Multiple logistic regression analysis revealed that the predictability of DTT improved by considering PSA value also. **CONCLUSIONS:** The distance between tumor and the fibromuscular rim is more significantly related to extraprostatic extension than tumor volume, PSA level and tumor grade.

**MP-188**
Nonprostate cancer mortality following radical prostatectomy or radiotherapy in men with localized and locally advanced prostate cancer

Speaker: Seol Ho Choo 1, Speaker: Jong Bo Choi 1, Speaker: Ji Young Kim 2
1: Ajou University, Suwon, Korea, 2: Gwangmyeong Sungae Hospital, 36 Digital-Road, Kwangmyung-city, Kyunggi-do, Korea

**Introductions**
Nonprostate cancer mortality (NPCM) is an important facet of life for patients with localized and locally advanced prostate cancer following a curative treatment. We compared NPCM and occurrence of second primary malignancy (SPM) and coronary artery occlusive disease (CAOD) between radical prostatectomy (RP) and radiotherapy (RT) ± androgen deprivation therapy (ADT).

**Methods**
Medical records of patients who underwent RP (501) or RT ± ADT (188) between 2000 and 2016 and with at least 1 year follow-up were retrospectively reviewed. RT ± ADT cases were 169 cases and were matched with an equal number of RP cases by propensity scoring based on patient age and Charlson Comorbidity Index (CCI).

**Results**
Mean age was 68.7 years. NPCM occurred in 45 patients, 10 in RP and 35 in RT ± ADT. SPM occurred in 27 patients, 8 in RP, and 19 in RT ± ADT. CAOD occurred in 8 patients, 0 in RP and 8 in RT ± ADT. 5year and 10year NPCM free survival for RP and RT ± ADT were 96% and 88%, and 91% and 74%, respectively. In multivariate cox regression analysis, predictors of NPCM were RT (vs RP) (HR=2.752, 95% CI 1.197-6.328) and CCI >1 (HR=3.915, 95% CI 1.857-8.257). None among age, primary treatment, duration of ADT and CCI were independently predictive of occurrence of SPM and CAOD.

**Conclusions**
In patients undergoing RP or RT ± ADT, RT ± ADT and CCI >1 were independently predictive of NPCM. Patient comorbidity should be scrutinized and considered before deciding curative treatment. Whether RT itself or concomitant ADT during RT causes higher risk of NCPM is unclear.
MP-189
Evaluation of early-stage quality of life following prostate cancer treatment using a Cyberknife M6 or Da vinci Xi

Speaker : Yasuaki Kubota
Speaker : Chie Nakai
Speaker : Kei Kawata
Speaker : Shingo Nagai
Speaker : Takahito Okuda
Speaker : Junji Suzuki

1:TOYOTA Memorial Hospital, Aichi, Japan, 2: The Department of Radiology, TOYOTA Memorial Hospital, Aichi, Japan

The 5-year relative survival rate with localized prostate cancer is reported to be 100%, and post-treatment quality of life (QOL) is a very important factor in selecting prostate cancer treatment. Subjects and methods: A CyberKnife (CK) group consisted of 20 patients who were treated with image-guided moderate hypofractionated radiation therapy (MHRT) using a CyberKnife M6. Patients with intermediate and high risk underwent endocrine therapy for at least 4 months prior to radiation. MHRT of 70 Gy/28 fractions/6 weeks (2.5 Gy/fraction) was performed. No serious complications were seen at 6 months after radiation. A da Vinci (RALP) group consisted of 20 patients who underwent radical prostatectomy with a da Vinci Xi. Six patients underwent preoperative endocrine therapy. Mean console time and blood loss were 246 minutes and 50 mL. A unilateral nerve-sparing procedure was used in 7 cases. No intraoperative complications were seen. QOL was evaluated using the Japanese versions of the Expanded Prostate Cancer Index Composite (EPIC) and SF-8 before treatment and at 1, 3, and 6 months after the start of treatment. Results: In the EPIC evaluation, voiding function was decreased in both the CK group and RALP group at 1 month after treatment, but the scores had improved at 3 and 6 months. The scores were better in the CK group than in the RALP group. The SF-8 physical component summary scores rose in the CK group at 1 month after treatment, but decreased after that. In the RALP group, they were decreased at 1 month after treatment and then rose.

MP-190
Recovery of serum testosterone following androgen deprivation therapy combined with IMRT in men treated with prostate cancer

Speaker : Sohei Kuribayashi
Speaker : Koji Hatano
Speaker : Hirotaka Tsuji
Speaker : Satoru Yamiba
Speaker : Yasutomo Nakai
Speaker : Masashi Nakayama
Speaker : Kenichi Kakimoto
Speaker : Kazuo Nishimura

1: Osaka International Cancer Institute, Osaka, Japan

Introduction and Objective
External-beam radiation therapy (EBRT) plus androgen deprivation therapy (ADT) improves overall survival in men with localized and locally advanced prostate cancer (PCa). However, little is known about testosterone recovery after cessation of ADT combined with intensity-modulated radiation therapy (IMRT).

Method
We reviewed our database of patients receiving IMRT combined with ADT at our institution between December 2006 and June 2014 with a minimum follow-up of 3 years. Testosterone (T) serum concentration was analyzed according to prostate-specific antigen (PSA) progression after cessation of ADT. T recovery was defined as T value > 200 ng/dl. The Kaplan-Meier method was used to estimate the cumulative incidence of T recovery.

Results
The study comprised 132 men with a median age of 70 (49-79) years. Median duration of ADT was 28 (2-69) months. At last follow up, 90 (68%) of patients achieved T recovery with a median duration of 17 (4-41) months after cessation of ADT. T recovery was defined as T value > 200 ng/dl. The Kaplan-Meier method was used to estimate the cumulative incidence of T recovery.

Conclusion
Approximately one-third of patients did not achieve T recovery after cessation of ADT combined with IMRT. ADT duration and age were significantly associated with TTR. Baseline PSA, clinical stage, Gleason score, BMI, and type of ADT were not associated with TTR.
MP-191
Clinical outcome of high dose rate brachytherapy and radical prostatectomy focused on local cancer control for high risk prostate cancer

Speaker: Takashi Okabe 1, Speaker: Hideyuki Kondo 1, Speaker: Soichi Makino 2, Speaker: Suguru Shirotake 1, Speaker: Koshiro Nishimoto 1, Speaker: Shingo Kato 2, Speaker: Masafumi Oyama 1

1: Saitama Medical University International Medical Center, Saitama, Japan, 2 Department of Radiation Oncology, Saitama Medical University International Medical Center, Saitama, Japan

Introduction Although there are retrospective studies on the clinical outcome of radiotherapy and surgery for high-risk prostate cancer, it is difficult to compare these two treatments because of the difference in definition of biochemical recurrence. In this study, we focused on the local treatment for high-risk prostate cancer, especially on radical prostatectomy (RP) and high dose rate brachytherapy (HDR), and conducted a retrospective study.

Background 344 high-risk prostate cancer patients (190 in HDR group, 154 in RP group) who underwent curative treatment from 2007 to 2012 were included. The endpoint was set to 5 years biochemical recurrence free survival rate (5y-bRFS).

Result In the RP group, the 5y-bRFS of each PSA group (low PSA [PSA ≤ 20], intermediate PSA [20 < PSA ≤ 50], and high PSA [PSA > 50]) was 61.4, 38.7, 25.0 % (low vs intermediate: p = 0.012). The bRFS of T2 or less, T3a, T3b group was 54.4, 47.1, 36.4%. In the HDR group, 5y-b RFS of each PSA group was 85.7, 84.7, 54.5% (low vs intermediate: p = 0.314). The bRFS by cT stage was 80.9, 76.3, 71.9%. Similar to RP group, the 5y-bRFS tended to be lower in cT3b cases.

Conclusion In the RP group, 5y-bRFS of the intermediate PSA group was significantly lower than the low PSA group, but in the HDR group, no significant difference was observed between these two groups. This result suggests that in the intermediate PSA group, HDR was might be more useful.

MP-192
Influence of neoadjuvant low-dose estramustine phosphate therapy on quality of life and oncological outcome in high-risk prostate cancer patients treated with intensity-modulated radiotherapy

Speaker: Tomonori Sato 1, Speaker: Yoshihide Kawasaki 1, Speaker: Syunichi Shimada 1, Speaker: Takuma Sato 4, Speaker: Hideaki Izumi 1, Speaker: Naoki Kawamorita 1, Speaker: Shinichi Yamashita 1, Speaker: Koji Mitsuozuka 1, Speaker: Akihiro Ito 1, Speaker: Yoichi Arai 1

1: Tohoku University Graduate School of Medicine, Miyagi, Japan

Objective: Androgen deprivation therapy (ADT) contributes to improvement in oncological outcome for high-risk prostate cancer patients treated with intensity-modulated radiotherapy (IMRT). We investigated the influence of short-term low-dose estramustine phosphate (EMP) therapy without long-term AHT about QOL and oncological outcome.

Methods: We investigated 429 high-risk prostate cancer patients treated with IMRT (76-80 Gy) between 2004 and 2016. The patients were divided to two groups. One received neoadjuvant LHRH agonist and EMP for 6 months until IMRT completion (E-ADT). The other received conventional ADT as NHT for 6 months and AHT for 24 months after IMRT(C-ADT). Expanded prostate cancer index composite (EPIC) was prospectively evaluated during NHT and 36 months after IMRT. We analyzed biochemical recurrence free survival (BFS) by the Kaplan-Meier method.

Results: 78 patients in E-ADT and 108 in C-ADT were analyzed for EPIC change and BFS. Hormonal function (HF) and Urinary function (UF) scores tended to get worse in E-ADT compared with C-ADT during NHT and 36 months after IMRT. We analyzed biochemical recurrence free survival (BFS) by the Kaplan-Meier method.

Results: 78 patients in E-ADT and 108 in C-ADT were analyzed for EPIC change and BFS. Hormonal function (HF) and Urinary function (UF) scores tended to get worse in E-ADT compared with C-ADT during NHT and 36 months after IMRT. We analyzed biochemical recurrence free survival (BFS) by the Kaplan-Meier method.

Conclusions: Our study suggested that the adverse effect profile of low-dose EMP therapy on UF and HF was different from that of conventional ADT during NHT and IMRT. Oncological outcome was equivalent between short-term low-dose EMP and long-term AHT groups.

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Moderated Poster 21
Prostate cancer, advanced, experimental 1

Wed., April 18, 2018 15:00-16:00
Poster Room 2 | Annex Hall, Kyoto International Conference Center 1F

Chairperson: Shintaro Narita (Akita University, Japan)
Chairperson: Jaemann Song (Yonsei University, Wonju College of Medicine, Korea)

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MP-194
Investigation of novel therapeutic targets for CRPC based on androgen receptor (AR) chromatin immunoprecipitation (ChIP) using a patient-derived xenograft

Speaker: Yuki Makino 1, Speaker: Takashi Kobayashi 1, Speaker: Brown J.b. 2, Speaker: Kei Mizuno 1, Speaker: Kosuke Okasho 1, Speaker: Takayuki Sumiyoshi 1, Speaker: Takayuki Goto 1, Speaker: Shusuke Akamatsu 1, Speaker: Naoki Terada 3, Speaker: Takahiro Inoue 1, Speaker: Toshiya Tanaka 4, Speaker: Tatsuhiko Kodama 4, Speaker: Osamu Ogawa 1

1: Kyoto University graduate school of medicine, Kyoto, Japan, 2: Center for Medical Education, Kyoto University graduate school of medicine, Kyoto, Japan, 3: Miyazaki University, Miyazaki, Japan, 4: Research Center for Advanced Science and Technology, The University of Tokyo, Tokyo, Japan

Objectives: It was reported that the majority of castration-resistant prostate cancers (CRPC) are driven by aberrant activation of androgen receptor (AR). There have been few reports on AR chromatin immunoprecipitation (ChIP), particularly on CRPC in vivo. Our original patient-derived xenograft model named KUCaP2 shrinks in response to castration and regrows over time. The aim of this study is to elucidate AR target gene profiles and identify new therapeutic targets of CRPC using AR ChIP on KUCaP2 tumors.

Materials & methods: We performed AR-ChIP-seq using KUCaP2 tumors under androgen-dependent (AD) and castration-resistant (CR) growth and extract genes which have AR binding sites (ARBS) inside or in neighboring regions. We obtained gene expression profiles of both tumors by RNA-seq.

Results: Based on suppression of tumor growth by AR knockdown and AR gene amplification in CR tumors, we consider KUCaP2 is an AR-dependent CRPC model. AR-ChIP-seq of AD and CR tumors showed a total of 11083 genes which have ARBS and 6101 genes (55%) were common to both. By narrowing down genes with significant change of expression level between AD and CR tumors and genes which are related to human CRPC on databases, we identified 8 genes (TRPA1, CP, CLSTN2, MGLL, OPRK1, NMNAT2, ROBO1, STARD4). Knockdown of OPRK1 and NMNAT2 showed growth inhibition on androgen-independent sublines derived from LNCaP.

Conclusions: KUCaP2 is a promising model for the investigation of AR target genes that drive CRPC. We identified new therapeutic targets of CRPC through the analysis with a focus on AR-ChIP.
**MP-195**

Migration and invasion enhancer 1 is a NFkB-upregulated gene inducing cell proliferation and invasion potential in human prostate carcinoma cells

Speaker: Horng-Heng Juang, Speaker: Ke-Hung Tsui

1: Department of Anatomy, Chang Gung University, 2: Chang Gung Memorial Hospital-Linkou

Migration and invasion enhancer 1 (MIEN1), a membrane-anchored protein, is highly expressed in various types of cancer. We compare the expressions of MIEN1 in human prostate tissues and carcinoma cells, and determine the potential biologic function and regulatory mechanism of MIEN1 in prostate carcinoma cells. Results of IHC assays indicated that MIEN1 expressed specifically in epithelial cells and significant higher immunostaining in adenocarcinoma compare to normal tissues. Knockdown of MIEN1 blocked the phosphorylation of AKT (pAKTs473) and attenuated cell proliferation, invasion, and in vitro tumorigenesis, while MIEN1 ectopic overexpression showed the opposite direction in LNCaP or PC-3 cells. Modulation of NFkB activity by ectopic overexpression of NFkB inhibitor a or NFkB-inducing kinase affected the MIEN1 expression and reporter activity in PC-3 cells. MIEN1 knockdown attenuated F-actin polarization in prostate carcinoma cells. MIEN1 modulated EMT through the upregulation of the N-cadherin and Slug, but downregulated E-cadherin expression. MIEN1 knockdown increased gene expressions of B cell translocation gene 2 (BTG2) and myc downstream-regulated gene 1 (Ndrg1) but blocked the gene expressions of interleukin-6 (IL6) and lipocalin 2 (LCN2) in prostate carcinoma cells. Our studies indicate that MIEN1 is a NFkB-upregulated oncogene in prostate carcinoma cells. Accordingly, the alterations gene expressions of BTG2, Ndrg1, IL6, LCN2 and EMT-associated proteins may account for the functions of MIEN1 on cell proliferation and invasion in prostate carcinoma cells.

**MP-196**

RNA splicing altered by SFX promotes malignancy in prostate cancer

Speaker: Norihiko Kawamura, Speaker: Keisuke Nimura, Speaker: Kotaro Saga, Speaker: Youhei Okuda, Speaker: Takuya Ito, Speaker: Kentaro Takezawa, Speaker: Koichi Tsutahara, Speaker: Go Tanigawa, Speaker: Tetsuya Takao, Speaker: Yasufumi Kameda, Speaker: Norio Nonomura, Speaker: Seiji Yamaguchi

1: Osaka General Medical Center, Osaka, Japan, 2: Osaka University Graduate School of Medicine, Suita, Japan, 3: Division of Gene Therapy Science, Osaka University Graduate School of Medicine, Suita, Japan

Androgen receptor splice variant-7 (AR-V7) is a constitutively active AR variant implicated in castration-resistant prostate cancers and detection of AR-V7 in circulating tumor cells indicates resistance to abiraterone acetate and enzalutamide. These findings suggest a critical role of splicing factors in modulating the activity of AR. However, key splicing factors that are critical for AR-V7 expression has not been identified and the molecular mechanism of AR-V7 generation remains unclear. Here, we show that the RNA binding protein SFX, identified by in silico and CRISPR/Cas9 analyses, is a critical determinant of AR-V7 expression and is correlated with aggressive prostate cancer phenotypes. Transcriptome and PAR-CLIP (photoacitivatable ribonucleoside enhanced UV crosslinking and immunoprecipitation) analyses reveal that SFX controls the splicing of target genes, including AR, to drive aggressive cancer phenotypes. Moreover, by CRISPR/Cas9 analysis, we show that the SFX binding site in pre-mRNA transcribed from AR is necessary for inclusion of cryptic exon 3 into AR mRNA, that is the AR-V7 generation. SFX overexpression increases AR-V7 expression and promotes tumor growth in vivo. Compound A, an inhibitor of a splicing modulator complex (SFX complex), suppresses the growth of tumors addicted to high SFX expression. Our results indicate that inhibiting the SFX complex in SFX-highly-expressing cancers represents a valuable therapeutic strategy.
MP-197
The analysis of androgen response mechanism using patient derived xenograft (PDX) of multi-drug resistance CRPC

Speaker: Daisuke Obinata 1,2, Speaker: Lawrence Mitchell 2, Speaker: Sandhu Shahneen 3, Speaker: Selth Luke 4, Speaker: Kenichi Takayama 5, Speaker: Satoshi Inoue 6, Speaker: Risbridger Gail 2, Speaker: Satoru Takahashi 1

1: Nihon University, Tokyo, Japan, 2: Department of Anatomy and Developmental Biology, Monash University, Melbourne, Australia, 3: Sir Peter MacCallum, Department of Oncology, University of Melbourne, Melbourne, Australia, 4: Dame Roma Mitchell Cancer Research Laboratories, University of Adelaide, Adelaide, Australia, 5: Research Team for Functional Biogerontology, Tokyo Metropolitan Institute of Gerontology, Tokyo, Japan

Patient-derived xenografts (PDX) are important preclinical models for cancer research, because they retain the histological and genomic characteristics of the original tumours. We established four serially transplantable PDXs from two patients with metastatic CRPC (C1 and C2). PDXs were derived from both patient’s dural metastases (C1Dura and C2Dura), a lymph node metastasis from C1 (C1LN), and a lung metastasis from C2 (C2Lung). In this study, we evaluated the androgen responsiveness of the CRPC PDXs and their resistance to AR-directed therapies. C1Dura, C1LN and C2Dura all expressed AR, while C2Lung did not. Therefore, we compared the androgen responsiveness of the PDXs in vivo using classical castration experiments. C2 Dura and C2 Lung had significantly faster growth rates and higher levels of proliferation that than the PDXs established from C1. When host mice were castrated, C2 Dura continued to grow over time, albeit at a slower rate. In contrast, castration had no effect on the growth of the AR-null C2Lung. To examine sensitivity to AR-directed inhibitors, PDXs were cultured ex vivo in culture media with 10 µM enzalutamide or 10 µM galetenone. Both compounds had similar effects for C1Dura; however, only galetenone was effective for C2Dura. C2Lung was not sensitive to either drug. In conclusion, most tumours remained androgen-responsive, while one tumour acquired an AR-null phenotype. Third line AR-targeted drugs, as exemplified by galetenone, may have further efficacy for some of multidrug resistant CRPCs.

MP-198
Establishment of cabazitaxel-resistant prostate cancer cell lines

Speaker: Ariunbold Natsagdorj 1, Speaker: Atsushi Mizokami 1, Speaker: Kazuaki Machioka 1, Speaker: Koji Izumi 1, Speaker: Maolake Aerken 1, Speaker: Yoshi-fumi Kadono 1, Speaker: Yuta Takezawa 1, Speaker: Hisaoaki Iwamoto 1, Speaker: Evan T Keller 2

1: Kanazawa University, Graduate School of Medical Science, 2: Department of Internal Medicine, University of Michigan

Background: The final treatment for CRPC is generally cabazitaxel treatment. However, once CRPC becomes resistant to cabazitaxel, the patients are obliged to best supportive care. It is important to reveal the mechanism of the cabazitaxel-resistance in order to improve the prognosis of the patients. Then we tried to establish cabazitaxel-resistant prostate cancer cell lines, and characterized them.

Methods: We established two cabazitaxel-resistant cell lines, PC-3-TxR/CxR and DU145-TxR/CxR from PC-3-TxR and DU145-TxR by increasing concentration of cabazitaxel from 1 nM to 30 nM gradually. After we confirmed the IC50 of docetaxel and cabazitaxel of these cells, we performed cDNA microarray analysis to identify the genes that are related with cabazitaxel-resistance. Then we performed knockdown of candidate genes.

Results: IC50 of PC-3-TxR, PC-3-TxR/CxR, DU145-TxR, and DU145-TxR/CxR for cabazitaxel was 1.3, 15.4, 7.0, and 30.8 nM, respectively. cDNA microarray analysis between PC-3-TxR and PC-3-TxR/CxR or between DU145-TxR and DU145-TxR/CxR revealed that 4,470 genes in PC-3-TxR/CxR, and 1,345 genes in DU145-TxR/CxR were up-regulated more than 3-fold, respectively. Expression of MDR1 was up-regulated in DU145-TxR by 500-fold compared with DU145 cells, it was not up-regulated in DU145-TxR/CxR cells any more. In contrast, expression of MDR1 was up-regulated in PC-3-TxR by 20-fold compared with PC-3 cells and it was further up-regulated in PC-3-TxR/CxR by 40-fold compared with PC-3-TxR.

Conclusion: various genes were regulated in cabazitaxel-resistant PCa.
MP-199
A new flavonoid-based agent: anticancer properties on docetaxel/cabazitaxel-resistant prostate cancer and inhibition of androgen receptor in prostate cancer cell

Speaker: Renato Naito 1, Speaker: Yuta Takezawa 1, Speaker: Kazuki Machioka 1, Speaker: Koji Izumi 1, Speaker: Tomoyuki Makino 1, Speaker: Hiroaki Iwamoto 1, Speaker: Suguru Kadomoto 1, Speaker: Atsushi Mizokami 1, Speaker: Natsagdorji Ariunbold 1

1: Kanazawa University Graduate School of Medical Science

Recently, the efficacy of the hormone chemotherapy which uses a docetaxel with the primary hormonal therapy to the metastatic prostate cancer was proved. This means the treatment to attack androgen-sensitive prostatic cancer cells and androgen-independent prostatic cancer cells at the same time is very valid as the treatment of the prostatic cancer. In Japan, the treatment to the castration-resistant prostate cancer, the AR axis inhibitor, abiraterone and enzalutamide is common and subsequently docetaxel and cabazitaxel are used for the recurrence after that. However, it is controversial which treatment should be used to the recurrence of these following therapies. We reported 2’-hydroxyflavanone (2’-HF) has the effect on AR activate inhibitor for the androgen sensitive LNCaP prostatic cancer cell, and antitumor effect for PC-3, DU145 androgen-insensitive prostatic cancer cells. This time, we created the derivative of 2’-HF, 16MS7F1624, and confirmed the effect of this derivative for the prostatic cancer cell. 16MS7F1624 inhibited the growth stimulation of LNCaP by DHT, and PC-3, DU145 (IC50 of LNCaP, PC-3, DU145: 0.48 µM, 0.60 µM, 0.45 µM). Flow cytometry and TUNEL assay suggested 16MS7F1624 caused G2/M arrest following apoptosis. 16MS7F1624 also showed an antitumor effect to the docetaxel-resistant cell line and the cabazitaxel-resistant cell line (It is IC50 at all resistant cell lines: <0.5µM). Taken together, 16MS7F1624 is widely available for not only androgen-sensitive prostatic cancer cell but also CRPC and taxane-resistant cancer cell cells.

MP-200
CNPY2 inhibits MYLIP-mediated AR protein degradation in prostate cancer cells

Speaker: Saya Ito 1, Speaker: Akihisa Ueno 1, Speaker: Takashi Ueda 1, Speaker: Hideo Nakagawa 1, Speaker: Hidefumi Taniguchi 1, Speaker: Naruhiro Kayukawa 1, Speaker: Fumiyu Hongo 1, Speaker: Koji Okihara 1, Speaker: Osamu Ukimura 1
1: Kyoto Prefectural University of Medicine, Kyoto, Japan

The androgen receptor (AR) is a ligand-dependent transcription factor that promotes prostate cancer (PC) cell growth through control of target gene expression. This report suggests that Canopy FGF signaling regulator 2 (CNPY2) controls AR protein levels in PC cells. We found that AR was ubiquitinated by an E3 ubiquitin ligase, myosin regulatory light chain interacting protein (MYLIP) and then degraded through the ubiquitin-proteasome pathway. CNPY2 decreased the ubiquitination activity of MYLIP by inhibition of interaction between MYLIP and UBE2D1, an E2 ubiquitin ligase. CNPY2 up-regulated gene expression of AR target genes such as KLK3 gene which encodes the prostate specific antigen (PSA) and promoted cell growth of PC cells. The cell growth inhibition by CNPY2 knockdown was rescued by AR overexpression. Furthermore, positive correlation of expression levels between CNPY2 and AR/AR target genes was observed in tissue samples from human prostate cancer patients. Together, these results suggested that CNPY2 promoted cell growth of PC cells by inhibition of AR protein degradation through MYLIP-mediated AR ubiquitination.
MP-201

Investigation of gene therapy for prostate cancer by the JC virus-like particles delivering a suicide gene

Speaker: Cheng-Huang Shen, Speaker: Yeong-Chin Jou, Speaker: Chang-Te Lin, Speaker: Wei-Hong Lai, Speaker: Mien-Chun Lin, Speaker: Deching Chang

Although prostate cancer can be treated by radical prostatectomy and androgen deprivation therapy, it recurs in the majority of cases and progresses to a castration-resistant prostate cancer accompanied by a high mortality rate. Therefore, it is imperative to develop a new therapy for prostate cancer. One promising approach is gene therapy. The JC polyomavirus (JCPyV), a human polyomavirus, has been detected in prostate tissue suggesting that the JCPyV virus-like particle (VLP) could be used as a vector to deliver therapeutic genes for prostate cancer treatment. In this study, a reporter gene, the green fluorescence protein (gfp) gene, and a suicide gene, the thymidine kinase (tk) gene, driven by prostate-specific (PSA) promoter were constructed respectively (pPSA-gfp and pPSA-tk). JCPyV VLP was employed as a delivery vehicle to transduce the plasmids into human prostate cancer cells. The specific expression of pPSA-gfp in AR+ prostate cancer cells was analyzed by fluorescence microscopy. The prostate cancer cells were assayed with CCK-8 to assess the tissue-specific cytotoxicity conferred by pPSA-tk to JCPyV VLPs (PSAtk-VLPs). Results show that the tissue specificity conferred by the PSA promoter and the viability of prostate cancer cells treated with PSAtk-VLPs in combination with gancyclovir (GCV) reduced by 50%, relative to the controls. The results demonstrate the applicability of JCPyV VLPs combined with the use of PSA promoter is a potential gene therapy against human prostate cancer.

MP-202

Independent validation of missense polymorphism in HSD3B1 in Japanese men treated with primary androgen-deprivation therapy for metastatic prostate cancer

Speaker: Masaki Shiota, Speaker: Naohiro Fujimoto, Speaker: Kenjiro Imada, Speaker: Eiji Kashiwagi, Speaker: Ario Takeuchi, Speaker: Junichi Inokuchi, Speaker: Katsunori Tatsugami, Speaker: Shunichi Kajio, Speaker: Takeshi Uchiiumi, Speaker: Masatoshi Eto

Background: Recently, the variation in HSD3B1 gene has been shown to be associated with oncological outcome when treated with androgen-deprivation therapy (ADT) for prostate cancer. However, its impact on prognosis among different ethnicities remains unclear. We aimed to investigate the significance of missense variation in HSD3B1 gene encoding 3β-hydroxysteroid dehydrogenase among Japanese men. Methods: This study included 104 Japanese patients with metastatic prostate cancer treated with primary ADT. The association of genetic variation in HSD3B1 (rs1047303, 1245C) with clinicopathological parameters and prognosis, including progression-free survival and overall survival, was examined. Results: Clinicopathological parameters were comparable between men carrying homozygous wild-type and men carrying heterozygous and homozygous variant types in HSD3B1 gene. Men with heterozygous and homozygous variants in HSD3B1 gene showed higher progression risk [hazard ratio (95% confidence interval), 2.34 (1.08-4.49), P = 0.033], but not any-caused death risk [hazard ratio (95% confidence interval), 1.36 (0.52-2.92), P = 0.50], compared with men with homozygous wild-type. Conclusion: The finding in this study was consistent with previous findings that HSD3B1 genetic variation is associated with high risk of progression in men treated with ADT for prostate cancer, suggesting universal significance among different ethnicities.
A phase 1/2a trial of docetaxel plus ribavirin for reprogramming efficacy in patients with castration resistant prostate cancer: DRREEM trial

Speaker: Takeo Kosaka, Speaker: Toshiaki Shinojima, Speaker: Takayuki Abe, Speaker: Koji Ueda, Speaker: Kayoko Kikuchi, Speaker: Yasuko Saito, Speaker: Sachiko Hagiwara, Speaker: Eiji Kikuchi, Speaker: Shinichiro Kojima, Speaker: Shinji Miyake, Speaker: Hideyuki Saya, Speaker: Mototsugu Oya

1: Keio University, Tokyo, Japan, 2: Keio University Hospital Clinical and Translational Research center, Tokyo, Japan, 3: Cancer Precision Medicine Center

Background: We previously reported a novel cell reprogramming approach, termed drug efficacy reprogramming, as a new model for identifying candidate antitumor drugs targeting the cancer stemness related gene network, and identified ribavirin as a candidate drug for overcoming docetaxel-resistant castration-resistant prostate cancer (CRPC).

Methods: In this clinical study, patients received intravenous docetaxel administered in combination with the investigational drug (ribavirin). During administration, the dose may be reduced based on the subject’s condition if necessary. The primary endpoint was safety. Accessory evaluation items included PSA response, objective response rate, health-related quality of life. Exploratory items included changes in CTC count and cfDNA.

Results: Six patients were enrolled in this study; average age was 71.7 ± 4.2. Average serum PSA concentration was 100.1 ± 128.0 ng/ml. The median cycle of docetaxel received before the study was 6 cycles. Safety: Grade 3/4 adverse events requiring dose modification were not observed. Two patients showed PSA reduction. Three patients showed stable disease. Changes in the blood concentrations of ribavirin, docetaxel, and prednisolone were within normal range.

Conclusions: This combination of ribavirin with docetaxel was well tolerated with a promising response rate that justifies further investigations in docetaxel resistant CRPC. This clinical study provides a useful drug repositioning model in the area of translational medicine.
Moderated Poster 22
Prostate cancer, advanced, experimental 2

Wed., April 18, 2018 15:00-16:00
Poster Room 2 | Annex Hall, Kyoto International Conference Center 1F

Chairperson : Hiroshi Fukuhara (Kyorin University, Japan)
Chairperson : Sang Eun Lee (Seoul National University Bundang Hospital, Korea)

MP-204
A multi-centre study comparing between hormonal therapy and chemohormonal therapy in treating Chinese men with metastatic hormone-naïve prostate cancer

Speaker : Jeremy Yuen Chun Teoh ¹, Speaker : Darren Ming Chun Poon ⁷, Speaker : Daisy Lam ⁴, Speaker : Tim Chan ³, Speaker : Michelle Chan ⁴, Speaker : Ka Chai Lee ⁹, Speaker : Snow Law ⁶, Speaker : Kuen Chan ⁴, Speaker : Nicole M.Y. Cheng ¹, Speaker : Kai Ming Lai ¹, Speaker : Chi Fai Ng ¹

¹: S.H. Ho Urology Centre, Department of Surgery, The Chinese University of Hong Kong, Hong Kong., 2: Department of Clinical Oncology, Prince of Wales Hospital, The Chinese University of Hong Kong, Hong Kong., 3: Department of Clinical Oncology, Queen Elizabeth Hospital, Hong Kong., 4: Department of Clinical Oncology, Queen Mary Hospital, Hong Kong., 5: Department of Clinical Oncology, Tuen Mun Hospital, Hong Kong., 6: Department of Oncology, Princess Margaret Hospital, Hong Kong., 7: Department of Clinical Oncology, Pamela Youde Nethersole Eastern Hospital, Hong Kong

Objective
To compare the oncological outcomes between hormonal therapy (HT) and chemohormonal therapy (CHT) in treating metastatic hormone-naïve prostatic cancer in Chinese men.

Methods
This is a multi-centre, age- and prostate-specific-antigen (PSA)-matched retrospective cohort study comparing between HT and CHT in Chinese men with metastatic hormone-naïve prostate cancer. Patients’ and disease characteristics were reviewed. Primary outcome was PSA progression. Secondary outcomes included clinical progression and castration resistance. Kaplan-Meier analysis and multivariate Cox regression analysis were performed.

Results
From January 2015 to July 2016, 32 Chinese men with metastatic hormone-naïve prostate cancer were treated with CHT, and they were matched to 32 Chinese men who were treated with HT-alone. Baseline characteristics were similar between the two groups. Upon Kaplan-Meier analysis, the CHT group had a significantly longer time to PSA progression \( (p=0.001) \) and a longer time to castration resistance \( (p=0.002) \) than the HT group. There was no significant difference in the time to clinical progression between the two groups. Upon multivariate Cox regression analysis, the use of CHT was significantly associated with a longer time to PSA progression (HR 0.26, 95% CI 0.11-0.63, \( p=0.003 \)) and a longer time to castration resistance (HR 0.32, 95% CI 0.14-0.73, \( p=0.006 \)).

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Conclusion
The use of CHT could prevent PSA progression and the development of castration resistance when compared to HT-alone in Chinese men with metastatic hormone-naive prostatic cancer.

MP-205
Prevention of the flare phenomenon of luteinizing hormone-releasing hormone therapy in patients with Korean prostate cancer by administration of bicalutamide

Speaker: Sunghyun Paick ¹, Speaker: Hyung Lae Lee ²
¹: Konkuk University, Seoul, ²: Kyung Hee University, Seoul

Objectives: The luteinizing hormone-releasing hormone (LHRH) agonist can induce "flare phenomenon" with reports of increased bone pain, pathologic fracture, bladder outlet obstruction and cardiovascular accidents. There is no study about flare phenomenon in Korean prostate cancer patients, Therefore, we did the study about the rate and possibility of prevention of bicalutamide for Korean prostate cancer patients.

Patients and Methods: We performed a 6 multicenter prospective randomized study. One hundred twenty five Korean prostate cancer patients enrolled. They were treated with leuprolide acetate 3.75mg with or without bicalutamide. One month later, we checked flare phenomenon.

Results: All 125 patients were well treated without dropping out. Rate of flare phenomenon was 13.6% (Bone pain 6.4%, bladder outlet obstruction 6.4%, pathologic fracture 0% and cardiovascular accident 0.8%). The administration of bicalutamide reduced the bone pain statistically significantly, but there was no significant differences in other flare phenomenon.

Conclusions: Rate of flare phenomenon in Korean prostate cancer patients with LHRH agonist treatment was 13.6%. Bicalutamide can prevent the flare phenomenon, especially bone pain.
MP-207

Visceral metastasis of prostate cancer increases after progression of castration-resistant status

Speaker: Hiroaki Iwamoto, Speaker: Kouji Izumi, Speaker: Kazufumi Nakashima, Speaker: Masashi Iijima, Speaker: Shohei Kawaguchi, Speaker: Takahiro Nohara, Speaker: Kazuyoshi Shigehara, Speaker: Yoshifumi Kadono, Speaker: Atsushi Mizokami

1: Kanazawa University Graduate School of Medical Science

Background:
Recent advances in castration-resistant prostate cancer (CRPC) therapy are remarkable, but we often experience a case of visceral metastases caused after CRPC progression.

Methods:
1038 patients with PCa were treated at our hospital. We retrospectively analyzed data from medical charts. Variables of interest included the ratio to cause CRPC and visceral metastases, the relationship between the number of agents and visceral metastases, overall survival (OS).

Results:
Patients were diagnosed with M1 (11%), and M1c (1.8%). There were 144 patients with CRPC and 43 patients with visceral metastases after CRPC progression. Of those with CRPC, patients with visceral metastases exhibited significantly shorter OS. Especially liver/adrenal gland metastases exhibited the shortest OS of CRPC patients. At diagnosis, the sites of visceral metastases included lung (90%), liver (5.3%), and adrenal glands (5.3%). After CRPC progression, new visceral metastases were found in the lung (47%), liver (44%), and adrenal gland (9.1%). Liver/adrenal gland metastases significantly increased after CRPC progression. The rate of new visceral metastases significantly increased as the number of therapeutic agents increased.

Conclusions:
Our findings confirmed that visceral metastases, especially liver/adrenal gland metastases, confer the worst survival. These metastases significantly increased as patients underwent powerful androgen receptor signal targeting therapies. Future prognostic improvements are expected through continued development of therapies for visceral metastases.

MP-208

Examination of effect predictor of Enzalutamide


1: Tokai University

[Introduction] New drugs with different mechanisms of action for castration resistant prostate cancer (CRPC) are covered by insurance since three years. Cabazitaxel (CBZ) therapy is popular, as is docetaxel (DTX). Several studies on optimal drug selection for CRPC exist. To deal with high costs, studies have been performed on new AR targeted drugs such as enzaltamide (ENZ), where the PSA change rate reportedly can predict the effect. [Purpose] We investigated whether initial PSA change rate can predict the effect of ENZ. The primary resistance group was defined based on the PSA decrease 1 month after ENZ therapy, and the patient characteristics of the group were analyzed. [Target and Method] Among 73 patients with CRPC who started ENZ from June 2014 to August 2017, 52 who were observed for ≥4 weeks without docetaxel were studied, including adverse events. [Results] Median age at ENZ administration was 75 years; baseline PSA, 13.69 ng/dl; and GS score, unknown in 9 cases, 5-7 in 9, and >8 in 34. Stage at diagnosis was A in 0 case; B, 2 cases; C, 8 cases; and D, 41 cases. [Conclusion] It was possible to predict ENZ resistance to some extent based on the PSA decrease rate after 1 month. However, ENZ might also be effective in patients with primary and acquired resistance; therefore, judging the effect in 1 month could be premature. Factors other than PSA can also predict the effect. We report our experiences of using ENZ for CRPC for 3 years at our hospital. The optimal usage of ENZ can be investigated only after studying more cases. Additional reports are forthcoming.
MP-209

Clinical Outcomes and Survival Surrogacy Studies of PSA Declines and PSA kinetics Following Enzalutamide in Men with mCRPC

Speaker: Yoshiyuki Miyazawa 1, Speaker: Takeshi Miyao 1, Speaker: Hiroshi Nakayama 1, Speaker: Sota Kurihara 1, Speaker: Ryo Oki 1, Speaker: Takahiro Syuto 1, Speaker: Yoshitaka Sekine 1, Speaker: Masashi Nomura 1, Speaker: Hidekazu Koike 1, Speaker: Hiroshi Matsui 1, Speaker: Yasuhiro Shibata 1, Speaker: Kazuhiro Ito 1, Speaker: Kazuhiro Suzuki 1

1: Gunma University Graduate School of Medicine

Background: Recent studies have shown that an early PSA response to AR-targeting agents in mCRPC is associated with a better prognosis. We analyzed the early PSA response to enzalutamide (ENZ) by measuring the PSA doubling time (PSADT) while monitoring oncologic outcomes and survival in Japanese patients. Patients and Methods: A total of 70 patients with mCRPC were treated with ENZ. The PSA-PFS, radiographic PFS (rPFS) and OS were assessed according to PCWG2 criteria. Results: Overall, 21 patients in the study showed no PSA or radiographic progression, 13 patients showed primary resistance whereas 36 patients in the study showed no PSA or radiographic progression. The PSA-PFS, rPFS and OS were assessed during the study period. PSA-PFS, rPFS and OS pre-docetaxel were significantly increased compared to patients’ post-docetaxel (PSA-PFS: 29.0 wks vs. 12.0 wks p=0.016, rPFS: 64.2 wks vs. 26.3 wks p=0.001, OS: 133.3 wks vs. 84.4 wks p=0.036). Multivariate analysis of prognostic factors, including the PSA response at 4 weeks, was performed using a Cox regression analysis. The PS (0 or 1-2), Hb (<11.4 or >11.4), and a PSA decrease of 30% at 4 weeks were all significant factors for the prediction of OS (all variables, p <0.001). In cases of acquired resistance (n=36), a multivariate analysis using factors such as PSADT during PSA progression, Hb, PSA decrease of 30% at 4 weeks, and PSADT of 2.0 m, were all factors predicting OS following PSA progression (p<0.05). Conclusions: Our study has demonstrated that PSA dynamics after ENZ administration may be a useful prognostication factor for mCRPC patients.

MP-210

Risk stratification by means of treatment phase related factors predicts resistance-free survival in patients with CRPC treated by ARTs

Speaker: Teruo Inamoto 1, Speaker: Naokazu Ibuki 1, Speaker: Kazumasa Komura 1, Speaker: Daisuke Kobayasi 1, Speaker: Atsushi Ichihashi 1, Speaker: Shunri Taniguchi 1, Speaker: Takeyuki Tsutsunami 1, Speaker: Takuya Tsujino 1, Speaker: Tomohisa Matsunaga 1, Speaker: Taizo Uchimoto 1, Speaker: Hayahito Nomi 1, Speaker: Haruhito Azuma 1

1: Osaka Medical College

Objectives
To validate the prognostic significance of these practice related factors in CRPC patients.

Methods
We stratified treatment related factors into three stepwise eras consisting of ADT, ART, and boney metastases related treatment. For example, during ADT era, initial PSA (ng/ml) on HSPC status (ng/ml), PSA nadir during ADT (ng/ml), time to PSA nadir during ADT (months), anti androgen withdrawal syndrome (AWS), positive reaction to alternative antiandrogens, PSA on CRPC status (ng/ml) were tested by the Log Rank test to indicate the hazard of association to time to treatment failure (TTF).

Results
The test yielded significant, associations of positive reaction to alternative antiandrogens (p=0.05) and any symptom on Abi/Enz initiation (p=0.01), and boney metastases at diagnosis (p=0.04) with TTF. To establish the scoring system, we assigned points for these factors, and then correlated the total points to predicted probability of the surviving outcome as follows; point “0” for those without those factors, point “1” for those with one or two of those factors, point “2” for all of those factors. Low risk patients with score “0” had better estimated mean survival of 7.6 months, compared to 4.0 months in score “1” and 2.0 months on score “2”, respectively.

Conclusions
The fact that patients with higher risk group exhibited poorer outcome makes it imperative that we understand the drug response of distinctive CRPC to better counsel such high risk patients on their need for aggressive treatment.
MP-211
Loco-regional radiotherapy targeting for oligo-progressive CRPC on the diffusion-weighted whole-body imaging with background body signal suppression (DWIBS)

Speaker: Soichiro Yoshida, Speaker: Taro Takahara, Speaker: Chikako Ishii, Speaker: Keiko Nakagawa, Speaker: Kazuma Tada, Speaker: Toshiki Kijima, Speaker: Minato Yokoyama, Speaker: Junichiro Ishioka, Speaker: Yohei Matsunaka, Speaker: Kazutaka Saito, Speaker: Ryoichi Yoshimura, Speaker: Kazunori Kihara, Speaker: Yasuhiro Fujii

Introduction: Imaging techniques are of increasing importance in the diagnosis of oligo-progressive castration-resistant prostate cancer (CRPC) and planning of loco-regional treatment strategies. Whole-body diffusion-weighted MRI (WB-DWI) along with WB-MRI has better accuracy for detecting metastasis than the combination of CT and bone scan, and enables assessment of the therapeutic response of the lesions, including that of osseous metastases. Recently, METastasis Reporting and Data System for Prostate Cancer (MET-RADS-P) has been proposed for standardization of data interpretation and reporting of WB-MRI including WB-DWI (Eur Urol. 2017).

Materials & Methods: To analyze the prevalence of oligo-progressive CRPC by WB-DWI and the treatment outcomes of loco-regional radiotherapy for the oligo-progressive lesions, we retrospectively evaluated WB-MRI including WB-DWI obtained from 55 CRPC patients between 2014 and 2016, at the time of starting a new line of anticancer therapy.

Results: Based on the MET-RADS-P scoring, 15 (29%) patients were diagnosed as having oligo-progressive CRPC with fewer than three progressive lesions. Of these oligo-progressive CRPC cases, 12 patients underwent loco-regional radiotherapy. A decline in PSA levels of at least 50% in response to the radiotherapy was observed in 8 (67%) patients; the median time to PSA progression was 4.5 months (range, 1 - 9).

Conclusion: WB-DWI facilitates identification of oligo-progressive lesions, which can be targets for loco-regional radiotherapy.

MP-212
Therapeutic outcomes of the LH-RH antagonist for metastatic prostate cancer: Multi-institution Prospective Study

Speaker: Go Kaneko, Speaker: Koshiro Nishimoto, Speaker: Suguru Shirotake, Speaker: Hideyuki Kondo, Speaker: Takashi Okabe, Speaker: Yukio Kageyama, Speaker: Tetsuo Monma, Speaker: Masa-fumi Oyama

Introduction
The aim of the present prospective study is to clarify whether a vintage antiandrogen agent is effective for metastatic castration-resistant prostate cancer (mCRPC) after Luteinizing hormone-releasing hormone (LH-RH) antagonist monotherapy.

Methods
Degarelix, which is LH-RH antagonist, was administered for metastatic castration sensitive prostate cancer. After progression to mCRPC, bicalutamide was added as the 1st line agent. After PSA or radiographic progression, and flutamide was administered with Degarelix as the 2nd line agent. The primary endpoint was a proportion of patients achieving PSA decline from baseline by antiandrogen agent. The secondary endpoint is progression free survival (PFS) of antiandrogen agent.

Results
A total of 54 patients were enrolled. Median age and PSA level at diagnosis was 71 years and 154.1 ng/ml. Bicalutamide was added to Degarelix after 8.0 months (median) in 35 cases (64.8%), and PSA decline was found in 27 cases (77.1%). After a failure of the 1st line therapy, flutamide was administered in 18 cases, and PSA decline was found in 7 cases (38.9%). The proportion of rate of PSA decline ≥30% and ≥50% by bicalutamide was 66.7% and 60.0%. And the proportion of rate of PSA decline ≥30% and ≥50% by flutamide was 17.6% and 0.0%. The median PFS of bicalutamide and flutamide was 5.8 and 2.8 months.

Conclusions
The present study clarified that a vintage antiandrogen agent is slightly effective only in the 1st line setting for mCRPC after LH-RH antagonist monotherapy.
Neuroendocrine differentiation of prostate cancer and clinical outcome of Everolimus against neuroendocrine prostate cancer (NEPC)

Speaker: Tatsuya Shimomura 1,3, Speaker: Takashi Kurauti 1,3, Speaker: Keigo Sakanaka 1,3, Speaker: Hidenori Suzuki 1,3, Speaker: Hirokazu Goto 1,3, Speaker: Yasuhiro Endo 2, Speaker: Shin Egawa 3

1: Fuji City General Hospital, 2: Department of Pathology, Fuji City General Hospital, 3: Jikei University

Clinical outcome of everolimus against neuroendocrine prostate cancer (NEPC)

Introduction
Neuroendocrine prostate cancer (NEPC) is a lethal disease subset with median overall survival of less than 1 year from time of detection. The treatment strategy against NEPC is not yet established. In this study we tried to introduce everolimus against pathologically proven NEPC and investigated the clinical outcomes of this agent.

Materials and methods
Total of seven cases were included in this study. All cases were proven the existence of neuroendocrine prostate cancer pathologically. Everolimus (10mg/d) were introduced into all cases. We investigated the neuroendocrine tumor markers (neuron-specific enolase: NSE, and pro-gastrin-releasing peptide: pro GRP), radiologic examination and survival.

Results
NSE increased in four cases, pro GRP increased in five cases and both markers increased in two cases. Tumor markers decreased in five of seven (71.4%) cases (NSE: 2 of 4 cases, pro GRP: 4 of 5 cases) after introduction of everolimus. Median decreasing rate were 67.1% in NSE and 65.5% in pro GRP. Two of seven (28.6%) cases progressed in radiologic examination and died from prostate cancer.

Conclusion
Everolimus showed efficacy against NEPC. It decreased tumor markers and stabilized the tumor status. Although this study was retrospective and number of cases was limited, there is a possibility that everolimus would be a one of the treatment options against NEPC.
Surgical Outcomes of Laparoscopic Adrenalectomy: a 10-year Single-Center Experience in the Philippines

Speaker: Dinno Francis Andaya Mendiola, Speaker: Jose Vicente T Prodigalidad
1: National Kidney and Transplant Institute, Quezon City, Philippines

Introduction & Objectives
The purpose of this study is to determine the surgical outcomes of laparoscopic adrenalectomy from a single high-volume center in a developing country for the past 10 years. The study will determine how safe and effective laparoscopic adrenalectomy is in the Philippines and how we par in this procedure with centers in developed countries.

Methods
92 patients underwent laparoscopic adrenalectomy from January 1, 2006 to January 1, 2016 in our institution. 90 underwent transperitoneal laparoscopic adrenalectomy while the other 2 underwent retroperitoneal approach. The clinical characteristics and surgical outcomes were gathered through retrospective chart review. Our results were compared to centers in developed countries with published 10-year experience.

Results
The median operative time is 145 minutes (range: 52-550 minutes). The median estimated blood loss is 50 cc (range: 30-4500 cc). The average length of hospital stay was 3.1 days (range: 2-6 days). There were 3 (3.3%) conversions to open adrenalectomy. There were 8 complications (Dindo-Clavien Class II) and no mortality. Our results have comparable surgical outcomes compared to centers in developed countries.

Conclusion
Our review confirms that the procedure is safe and effective with minimal complications and low conversion rate. Laparoscopic adrenalectomy can be performed in developing countries like the Philippines with surgical outcomes similar to other high-volume centers of developed countries with published 10-year experience of laparoscopic adrenalectomy.
**MP-215**  
Experiences of Adrenalectomy for the Incidentally Discovered Adrenal Masses

Speaker: Jongwon Kim, Kanghyon Song, Jongwook Park, Moonki Jo  
1: Korea Cancer Center Hospital, Seoul, Republic of Korea

**Introduction and Objective:** An adrenal incidentaloma is an adrenal mass that is discovered during a radiologic examination performed for indications other than an evaluation for adrenal disease. We investigate the pathologic and clinical features among the patients diagnosed with adrenal incidentaloma undergoing adrenalectomy.

**Materials and Methods:** Between July 2002 and May 2017, a total of 63 patients for routine health check-up or who have been followed up for the evaluation of another malignancy were enrolled. Retrospectively medical records including age, gender, underlying disease, adrenal mass size, operation method, and pathology of the adrenal specimen were reviewed.

**Results:** Mean patient age was 52 years (range 19 to 79). Thirty three males and 30 females were enrolled. Mean size of the adrenal mass was 4.4cm (range 1.0 to 16.0). The pathologic findings of the patients who have been followed up for the evaluation of another malignancy were 10 non-functioning adenoma, 2 aldosteronoma, 2 cortisol secreting tumor, 4 pheochromocytoma and 15 metastasis. Those of the patients for routine health check-up were 11 non-functioning adenoma, 6 aldosteronoma, 5 cortisol secreting tumor, 6 pheochromocytoma and 2 adrenocortical carcinoma.

**Conclusion:** In 70% of patients with underlying malignancy, the pathology of the incidental adrenal masses showed metastatic lesion or functioning benign tumor. More aggressive testing and treatment in the patients with another malignancy should be required.

**MP-216**  
Urachal Anomalies and benign tumors in Kyushu-Okinawa area: Diagnosis and management

Speaker: Kazuma Udo, Shohei Toku, Kiyoaki Nishihara, Tsukasa Igawa, Shigeru Miyajima, Masatoshi Tanaka, Tadasuke Ando, Hiromitsu Minata, Chie Onizuka, Toshiyuki Kamoto, Mitsuru Noguchi, Tadasuke Ando, Hiromitsu Mimata, Chie Onizuka, Toshiyuki Kamoto, Mitsuru Noguchi

1: Saga University, 2: Kurume University, Fukuoka, Japan, 3: Fukuoka University, Fukuoka, Japan, 4: University of Miyazaki, Miyazaki, Japan, 5: Oita University, Oita, Japan.

**Objective**  
Urachal abnormalities (UA) were not rare diseases, but there are no reports of many cases in Japan. The aim of this study was to investigate the clinical features and managements of UAs.

**Methods**  
Clinical and follow-up data of the patients with urachal abnormalities treated between 2005 to 2014 were obtained from 12 university hospitals in Kyushu-Okinawa area.

**Results**  
We identified 263 patients with either a urachal cyst (n = 34 (14%)), urachal diverticulum (n = 38(14%)), urachal sinus (n = 142(54%)), patent urachus (n = 11(4%)), or an unclassified (n = 38(14%)). The male patients were 173 cases (66%). The median age at diagnosis was 25 (range from 0 to 86) years old. Two hundred and thirty-two patients (88%) had symptomatic UAs. Umbilical discharge (175 cases (66%)) was the most common chief complaint, followed by abdominal pain (121 cases (46%)) and fever (29 cases (11%)). A tumor size was ranged from 0 to 11 cm (median 1.7 cm). In a radiographic imaging, Cystic tumor, solid tumor and mixed type were seen in 148, 33 and 3 cases, respectively. One hundred and thirty-six cases (52%) patients underwent surgical intervention of the UA. Drainage alone were 10 cases and complete resection were 123 cases. In a complete resection group, open surgery were 75 cases (29%) and laparoscopic surgery were 48 cases (18%). Umbilicectomy was performed in 53 cases (43%).

**Conclusions**  
Two hundred and thirty-two patients (88%) had symptomatic UAs. However, in future, asymptomatic UAs would increase with development of diagnostic imaging for pediatric patients.
MP-217
Personalized 3D kidney model produced by rapid prototyping method and its usefulness in clinical applications

Speaker: Seok-Soo Byun 1, Speaker: Hakmin Lee 1, Speaker: Sung Kyu Hong 1, Speaker: Sang Eun Lee 1, Speaker: Sangchul Lee 1

1: Seoul National University Bundang Hospital, Seongnam, Korea

Introduction: Three-dimensional (3D) printing has been introduced as a novel technique to produce 3D objects. We tried to evaluate the clinical usefulness of 3D-printed renal model in performing partial nephrectomy (PN).

Materials and Methods: We prospectively produced personalized renal models using 3D-printing methods from preoperative computed tomography (CT) images. Two different groups (professional and non-professional group) appraised the clinical usefulness of 3D-renal models by answering questionnaires.

Results: The 3D-renal models were created in total of 10 patients. The professional group gave highly positive responses in asking clinical usefulness of 3D-model among PN (understanding personal anatomy: 8.9/10, preoperative surgical planning: 8.2/10, intraoperative tumor localization: 8.4/10, plan for further utilization in future: 8.3/10, clinical usefulness in complete endophytic mass: 9.5/10). The non-professional group located each renal tumor correctly in 47.3% when they solely interpreted the CT images. After the introduction of 3D-models, the rate of correct answers was significantly elevated to 70.0% (p < 0.001). The subjective difficulty level in localizing renal tumor was also significantly low (52% versus 27%, p < 0.001) when they utilized 3D-models.

Conclusion: The 3D renal model was revealed to significantly enhance the understanding of correct renal anatomy in patients with renal tumors in both professional and non-professional personals. These models can be useful for establishing the perioperative planning and counselling for the patients.

MP-218
Diagnosis of urine leakage after bladder repair: A prospective comparative study of ultra-low-dose CT cystography and conventional retrograde cystography

Speaker: Taekmin Kwon 1, Speaker: Sejun Park 1, Speaker: Sungchan Park 1, Speaker: Kyung Hyun Moon 1, Speaker: Sang Hyeon Cheon 1, Speaker: Seong Hoon Choi 2

1: Ulsan University Hospital, University of Ulsan, Ulsan, Korea, 2: Department of Radiology, Ulsan University Hospital, University of Ulsan, Ulsan, Korea

Purpose: To evaluate the accuracy and technique of ultra-low-dose CT cystography, and compare it with conventional retrograde cystography.

Methods: Inclusion criteria consisted of the patients with bladder repair referred for cystography. An initial conventional cystography was obtained after retrograde distention of the bladder with dilute iodinated contrast material. And then, we underwent ultra-low-dose CT cystography for diagnosis of urine leakage. The diagnostic accuracy of two modalities was compared, and examined characteristics of ultra-low-dose CT cystography.

Results: All 31 patients were included in this study. Of the 31 patients, 27 (87.1%) underwent bladder repair after radical prostatectomy, 3 (9.7%) after radical cystectomy and 1 (3.2%) after bladder diverticulectomy. Four of the 31 patients had urine leakage on conventional cystography. These 4 patients was also confirmed urine leakage on ultra-low-dose CT cystography. The other 5 patients who did not have urine leakage on conventional cystography was confirmed urine leakage on ultra-low-dose CT cystography. Besides, we were able to tract precise location and amount of urine leakage in 9 patients with urine leakage on conventional cystography. These 4 patients was also confirmed urine leakage on ultra-low-dose CT cystography. The other 5 patients who did not have urine leakage on conventional cystography was confirmed urine leakage on ultra-low-dose CT cystography. Besides, we were able to tract precise location and amount of urine leakage in 9 patients with urine leakage on ultra-low-dose CT cystography. Based on these findings, we were able to establish a proper treatment plan.

Conclusions: The ultra-low-dose CT cystography is an accurate method for evaluating urine leakage after bladder repair. The ultra-low-dose CT cystography may help to decide the most appropriate treatment strategy for patients with urine leakage after bladder repair.
**MP-219**

**Effectiveness of Intelligent Flow System; AirSeal in Robot-assisted radical prostatectomy**

**Introduction**

Intelligent flow system; AirSeal is a novel carbon dioxide (CO₂) pneumoperitoneum insufflator that provides a stable pneumoperitoneum with continuous smoke evacuation and CO₂ recirculation during laparoscopic surgery. However, few studies have focused on the perioperative effectiveness of pneumoperitoneum with AirSeal. The aim of this study was to evaluate the effect of the AirSeal compared with a standard CO₂ insufflator in a field of Robot-assisted radical prostatectomy (RARP).

**Methods**

We retrospectively analyzed the clinical records of 207 patients with localized prostate cancer performed RARP between November 2013 and March 2017 in our hospital. The group using AirSeal (the AirSeal group) and the standard insufflation group not using AirSeal (the control group) were compared.

**Results**

Of the patients 46 (22.2%) of 207 were operated with the AirSeal. The two groups were similar in preoperative characteristics. In the AirSeal group, the mean surgical time (272 ± 71min. vs. 242 ± 6min., p=0.021), the mean pneumoperitoneum time (245 ± 69 vs. 208 ± 52 min., p=0.005), the mean console time (215 ± 69 vs. 182 ± 51, p=0.003), and the estimated blood loss (350 ± 339 vs. 218 ± 222ml, p=0.004) were less than the control group. CO₂ consumption was less in the control group (559 ± 236ml vs. 655 ± 210ml, p=0.002).

**Conclusions**

In the present study, the AirSeal may decrease the surgical time and the estimated blood loss during RARP. More research is needed, but the AirSeal would certainly be a choice in choosing pneumoperitoneum insufflators.

**Additional Information**

1: Saiseikai Yokohamashi Tobu Hospital, Kanagawa, Japan

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**MP-220**

**Changing Pattern In Urethral Stricture Surgery; Direct Visual Internal Urethrotomy (DVIU), Urethral Dilatation and Urethroplasty In Saiful Anwar General Hospital**

**Objectives:** To evaluate surgical case volume characteristics in 70 months evaluation on treatment of urethral stricture, compare practice patterns by time and describe urethral stricture epidemiology.

**Methods:** Along January 2012 - October 2017 (70 months) there was 313 complete urethral stricture patients data from medical record. Stricture site, etiology, treatment: direct visual internal urethrotomy (DVIU), urethral dilatation, urethroplasty have collected and analyzed descriptively.

**Results:** Among 313 patients data. The most urethral stricture site was bulbar (35,5%) and etiology was infection (23,6%). By time, DVIU mostly perform on 2012 (82,2%) and 2013 (67,3%), and only 9,3%, 7,8% and 5,1% on 2014 - 2017. Urethroplasty performed about 15,6% (2012) and 30,7% (2013) and increasing in last 4 years recently at 70,3%, 51,2%, 58,9 and 61,6% in 2014 - 2017.

**Conclusions:** The most urethral stricture site is bulbar, and the most urethral stricture etiology is infection. There is changing patterns treatment in urethral stricture, in 2012-2013 DVIU perform largely and decrease in 2014-2017. Contrastly, urethroplasty increasing in last 4 years (2014-2017). The changing pattern treatment in urethral stricture correlated with the fellowship of urologist in open urethral reconstruction/urethroplasty.

**Key Words:** DVIU, urethral dilatation, urethroplasty, urethral stricture
Contemporary experience in management of squamous cell carcinoma of the penis in Hong Kong: lessons learned

Speaker: Steffi Yuen 1, Speaker: Wayne Lam 1, Speaker: Brian Ho 1, Speaker: Terence Lai 1, Speaker: Chiufung Tsang 1, Speaker: Ada Ng 1, Speaker: Wai Kit Ma 1, Speaker: Marco Chan 1, Speaker: James Tsu 1

1: Department of Surgery, Queen Mary Hospital, University of Hong Kong

Introduction

Squamous cell carcinoma of the penis (SCCp) is rare. Optimal management of SCCp remains challenging. This study aims to provide a contemporary perspective to current management of SCCp at two institutions in Hong Kong.

Methods

A retrospective analysis was conducted. Patients with SCCp between 1997 and July 2017 at two institutions were identified using an institutional database. Patients who received treatment for histologically proven SCCp were eligible for the study. Patient demographics, clinical features, pathological staging, treatment approach and clinical outcomes were recorded.

Results

Sixty-nine patients were eligible, with median age of 65 (range 34-90). Mean time from development of symptoms to presentation was 10 months. Of the 56 patients who had surgical treatment for primary tumour, 52(93%) had partial or radical penectomy. Only 3 patients had positive surgical margins. 43(77%) of patients had ≤T2 on final pathology, potentially eligible for organ-preserving surgery. Despite poor sensitivity, CT was the most common imaging modality used for nodal staging. 19(28%) patients pN+ disease following inguinal lymphadenectomy. With a median follow-up of 115 months, 25(36%) of the patients died of SCCp.

Conclusion

SCCp patients in Hong Kong often present late, and is associated with high mortality rate. Penectomy was the commonest surgical treatment used, although many appeared eligible for organ-preserving surgery. Many patients underwent inguinal lymphadenectomy unnecessarily, and a development of a dynamic sentinel lymph node service is needed.

If competency is not enough, how should we approach surgical education? A comparative study on the role of trust for surgical trainees in Japan and in the UK

Speaker: Hiroka Komori 1,2,3, Speaker: Roberto Di Napoli 4

1: Department of Surgery, Addenbrooke’s Hospital, Cambridge University Hospital NHS Foundation Trust, 2: Department of Surgery and Cancer, Surgical Education, Imperial College, London, 3: Department of Urology, Kameda Medical Centre, Kamagawa, Japan, 4: Center for Innovation and Development of Education, St. George’s University, London

A reform in the postgraduate training is just on its way in Japan. One of the training models that have been referred to is competency-based education that is widely implemented in the western countries. However, a decade into its implementation, there have been rising concerns regarding professional identity formation and autonomy development. Competency-based education that typically breaks down what should be taught into “measurable competencies” often focuses away from the development of a surgeon as a “being”.

This qualitative study closely looked at the relationship between trainees and trainers during surgery, particularly on the role of trust, which is characterised by the notion of accountability and responsibility, derived from the inevitable patient safety issues that are deep-rooted in surgery.

Five Japanese and five UK surgical trainees possessing equivalent training experience were interviewed. This study inquired into how the trainees perceive trust between them and their trainers and the educational implications in relation to the various educational frameworks in place in the two countries, with careful consideration being paid to the cultural effects on the findings.

The themes generated through the interviews were coded and analysed from a constructivist standpoint. The analysis revealed complex but fundamental role of trust in surgical education, that may serve as catalyst to the current reformation of the Japanese postgraduate surgical training and also to the post competency based training era in the Western countries.
MP-223
Suturing practice by dry box for students: Characteristics of students who can improve skills

Speaker: Hiroyuki Tsunemori 1, Speaker: Hiroyuki Tsunemori 1
1: Kagawa University, Kagawa, Japan

OBJECTIVE:
We performed the training using the dry box for medical students and analyzed the questionnaire survey about the background that the laparoscopic training is easy to improve.

METHODS:
From 2014 to 2016 we analyzed 308 fifth grade medical students who underwent 2 weeks urology practice at Kagawa University. We instructed the suture training using the dry box and measured time one week later. In addition, We asked the students questions about laparoscopic interests, self-evaluation of dexterity, confidence in games, enjoyment of practical training, interest in robotic assisted surgery, and made self-evaluation in 10 level evaluation.

RESULTS:
A group with a shorter suture time than the median (58.79 seconds) was defined as faster group, and a group with longer suturing time as slow group. There was no significant difference between the groups at the ratio of male to female (p = 0.194), age (p = 0.340), and by grade (p = 0.091). Meanwhile, self evaluation of dexterity (p = 0.001), interest in laparoscopic surgery (p <0.001), pleasure evaluation of laparoscopic practice (p <0.001), interest in surgical system (p = 0.004) Regarding the interest in robotic surgery (p <0.001), the faster group had a significantly higher evaluation. We did not recognize significant difference by the question whether the game is good or not.

CONCLUSION:
Students who are interested in laparoscopic surgery and robotic surgery and highly self-evaluate about dexterity tend to improve laparoscopic techniques even in short exercise times.
Moderated Poster 24  
Infertility, andrology, sexual dysfunction 2

Wed., April 18, 2018 15:00-16:00
Poster Room 2 | Annex Hall, Kyoto International Conference Center 1F

Chairperson : Yasushi Yumura (Reproductive Center, Yokohama City University, Medical Center, Japan)
Chairperson : Shusuke Akamatsu (Kyoto University, Graduate School of Medicine, Japan)

MP-224  
Pudendal Nerve Somatosensory Evoked Potentials in patients with postprostatectomy incontinence and erectile dysfunction

Speaker : Se Yun Kwon 1, Speaker : Jin-Mo Park 2, Speaker : Ki Ho Kim 1, Speaker : Young Jin Seo 1, Speaker : Kyung Soo Lee 1

1: Dongguk University, Gyeongju, Korea, 2: Department of Neurology, Dongguk University College of Medicine, Gyeongju, Korea

Purpose: We aimed to evaluate correlation with pudendal nerve SSEP and functional outcome in patients undergoing radical prostatectomy.

Materials and Methods: We retrospectively analyzed data from 44 patients who underwent radical prostatectomy from January 2014 and December 2016, with at least 6 months of follow-up. Patients were divided into 2 groups depending on the presence/absence of incontinence and erectile dysfunction, respectively. Patient demographic characteristics, preoperative evaluations, postoperative outcomes and pudendal nerve SSEP were assessed. Erectile function recovery was defined as question 2 and 3 on the International Index of Erectile Function (IIEF)-5 and continence was defined as using no pads.

Results: Patients with/without postoperative incontinence were 22 and 22, respectively. Demographic characteristics and perioperative outcome were similar between 2 groups except pathologic stage. Patients with postoperative erectile dysfunction were 11 and 33, respectively. Demographic characteristics and perioperative outcomes were similar according to presence/absence of erectile dysfunction. Patients with erectile dysfunction were a significant increase in latency of pudendal nerve SSEP (p=0.001). Patients with postoperative incontinence (PPI) were a significant increase in latency of pudendal nerve SSEP (p=0.014).

Conclusions: Our results suggest that pudendal nerve SSEP can be an effective tool in the evaluation of patients with PPI and erectile dysfunction. The test can be used to provide more definitive assessment of functional dysfunction.
MP-225

Predictive value of pulse wave velocity to treatment response to PDE-5 inhibitor in erectile dysfunction patients as pilot study

Speaker: Sang Rak Bae 1, Speaker: Hoon Choi 3, Speaker: Jae Hyun Bae 3, Speaker: Hong Sub Kim 2, Speaker: Hong Chung 2

1: The Catholic University of Korea, Uijeongbu St. Mary's Hospital, 2: Konkuk University Chungju Hospital, 3: Korea University Ansan Hospital, Korea University

Objective: The objectives of this study is to identify the predictive value of pulse wave velocity at treatment response in phosphodiesterase-5 inhibitor to erectile dysfunction in erectile dysfunction

Material and Methods: From July 2014 to August 2017, the outpatients who complained the erectile dysfunction were included. All patients had done IPSS, IIEF-5 questionnaire and checked physical examination, vital sign, BMI, serum profile, PSA and testosterone level and pulse wave velocity (PWV) test. According to PWV results, patients were divided into two group; non-severe vessel stiffness group (non-severe group) and severe vessel stiffness group (severe group). All patients take PDE 5 inhibitor sildenafil for 4 weeks. After 4 week medication, patient also check serum profile and PWV, IPSS and IIEF5 again.

Results: Total 34 patients was included in the study. Patients’ ages and BMI did not have difference between two groups. Serum liver and kidney profile, PSA and testosterone also had no significant difference. IPSS did not show any significant difference between two group. But in IIEF5, there was no significant increase in the number of erections (0.7 vs. 0.5, p=0.029), satisfaction (0.75 vs. 1.14, p=0.001) and total score (0.86 vs. 3.46, p=0.012) in the severe group, but in non-severe group had significant improvement after medication.

Conclusions: Severe vessel stiffness by PWV was predicted of poor response on PDE 5 inhibitor treatment. Further study is needed for larger population for more precise predictive index for identifying response of PDE 5 inhibitor.

MP-226

Interposition of novel nerve-regeneration conduit after non nerve-sparing radical prostatectomy: short-term results from a prospective trial

Speaker: Nobuyuki Hinata 1, Speaker: Mariko Sakamoto 1, Speaker: Yasuyoshi Okamura 1, Speaker: Yukari Bando 1, Speaker: Kotaro Suzuki 1, Speaker: Takuto Hara 1, Speaker: Hiroyuki Momozono 1, Speaker: Junya Furukawa 1, Speaker: Kenichi Harada 1, Speaker: Yuzo Nakano 1, Speaker: Masato Fujisawa 1

1: Kobe University Graduate School of Medicine

Introduction and Objective

Sparing the neurovascular bundle (NVB) during radical prostatectomy was identified as a key predictor of postoperative erectile function (EF) recovery. However, wide extirpation is indicated for suspected extraprostatic tumor extension and the NVBs may need to be resected. Treatment using nerve-regeneration conduit (NRC) has been shown to be equally effective or more effective than the previous techniques of nerve autograft and nerve suture.

Methods

A total of 39 patients (21 unilateral, 18 bilateral) underwent unilateral or bilateral non nerve-sparing robot-assisted radical prostatectomy (RARP). They were classified into 2 groups, namely, unilateral nerve preservation with contralateral NRC (polyglycolic acid collagen tube; Nerbridge) interposition and bilateral non nerve-sparing with bilateral NRC interposition. Postoperative data of these patients were compared with the data obtained from 136 patients who underwent non nerve-sparing RARP only. The data from the patients with preoperative SHIM score > 17 were used for the analyses.

Results

No complication related to the interposition of the NRC was observed. In bilateral non nerve-sparing with bilateral NRC interposition group, recovery rate of the SHIM score was 31.8% at 12 months postoperatively. The recovery rate with NRC interposition was not significantly but tend to be higher than the rate without NRC interposition.

Conclusions

Interposition of NRC did not achieve significant improvement of potency rate after non nerve-sparing RARP in a intermediate-term period.
MP-227
The Efficacy and Safety of Tadalafil 5mg Once Daily for Treatment of Erectile Dysfunction depending on the vascular cause after Robotic-assisted Prostatectomy

Speaker: Yang Gyu Bae ¹, Speaker: Gyunghak Son ², Speaker: Soodong Kim ²
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Retrospectively, 92 patients who underwent RALP and had a penile rehabilitation by tadalafil 5mg OAD use were evaluated. Of 92 patients, 83 who were followed for at least 2 years were included. The patients were surveyed based on the abridged five-item version of IIEF-5 Questionnaire, which was self-administered before the surgery, and at 6 months, 1 yr and 2 yr after RARP. The 83 patients were classified into the tadalafil group (TG) (n=43) and the non-tadalafil group (NTG) (n=40). Each group was then classified depending on the nerve-sparing (NS) procedure. Also, some patients who had a penile color-duplex U/S study (PCDUS) to evaluate the cause of postoperative ED were analyzed.

Results: At 6 months, 1 yr, and 2 yr the total IIEF score of the TG and that of the NTG were 10.0 ± 3.4 vs. 7.0 ± 4.0, 13.2 ± 5.6 vs. 7.7 ± 4.8, 13.8 ± 4.7 vs. 8.1 ± 4.2. Statistically significant improvements were observed in the TG for all 5 domains of IIEF-5 score, while in the NTG there was no significant improvement in any of the domains at 1 and 2 yr. 53 patients had a PCDUS. Arteriogenic (AED) and venogenic ED (VED) were seen in 31 patients (58.5%) and 7 patients (13.2%). Interestingly, 15 patients (28.3%) showed no abnormal findings. In the VED patients had little response than AED patients by tadalafil 5mg OAD (22.5% vs 0%). The side effects were hot flushing (8.5%, n=4), headache (4.3%, n=2), and dizziness (2.1%, n=1).

Conclusions: In ED patients after NS RALP, a OAD of tadalafil 5 mg was well tolerated and significantly improved EF compared with the NTG up to two years.

MP-228
Postoperative cystogram findings can predict incontinence following robot-assisted laparoscopic radical prostatectomy

Speaker: Tomoki Takeda ¹, Speaker: Yusuke Noda ¹, Speaker: Yasuhiro Hirose ¹, Speaker: Akihiro Nakane ¹, Speaker: Atsushi Okada ², Speaker: Hiroki Kubota ¹, Speaker: Noriyasu Kawai ², Speaker: Keiichi Tozawa ², Speaker: Takahiro Yasui ²
¹: Kainan Hospital Aichi Prefectural Welfare Federation of Agricultural Cooperatives, Aichi, Japan, 2: Nagoya City University Graduate School of Medical Sciences, Nagoya, Japan

INTRODUCTION AND OBJECTIVE: Urinary incontinence is a preventable complication that affects the quality of life of patients who undergo robot-assisted radical prostatectomy (RARP). Although various surgical techniques to resolve urinary incontinence have been reported, clinical factors that affect urinary incontinence after RARP have not been fully assessed. In this study, we evaluated the relationship between findings on cystography (CG) and urinary incontinence after RARP.

METHODS: A total of 156 patients with prostate cancer who underwent RARP between May 2013 and March 2016 were enrolled in this study. The patients were divided into 2 groups according to pad usage at 6 months after RARP: continent patients, using 0-1 pads/day; and incontinent patients, using 2 or more pads/day. During RARP, total reconstruction (anterior and posterior reconstruction technique) was performed in all cases. CG was performed at day 7 to 10 after RARP to determine whether urethral catheter removal was possible. During CG, the bladder neck to pubic symphysis (BNPS) ratio, the bladder neck angle (BNA), and the posterior vesicourethral angle (PVUA) were measured.

RESULTS: BNPS ratio was significantly lower in the continent group than in the incontinent group (0.45 vs. 0.62). BNA tended to be larger in the continent group than in the incontinent group (117° vs. 107°). PVUA was not different between the continent and incontinent groups (129° vs 130°).

CONCLUSIONS: This study demonstrated that BNPS ratio and BNA are effective at predicting urinary incontinence in patients who undergo RARP.
**MP-229**

ED treatment using low-energy linear shockwave therapy applied by LSTC-ED technique. Double-blinded, sham-controlled, randomized clinical trial

Speaker: Igor Motil, Tatana Sramkova

1:urologickaambulance.cz, 2:Department of Sexology, University Hospital, Brno, Czech Rep, 3:Sexology Clinic, Charles University, Prague

Introduction: Previous studies have shown that focal low-energy extracorporeal shockwave therapy (Li-ESWT) can have a positive effect in men with erectile dysfunction (ED). Linear application of Li-ESWT for ED has been performed by G.L. Fojecki et al. in a randomized trial with an insufficient input parameters thus no clinically relevant effect on ED was found.

Aim: To evaluate the treatment outcome of LLi-ESWT for ED with an appropriate treatment parameters guaranteeing delivery of sufficient amount of energy to the cavernous tissues.

Methods: Men with ED (n = 60) and a score lower than 25 points on the International Index of Erectile Function erectile function domain were included. Subjects were divided into 3 groups according to their age (45-55, 55-65 and 65+). Subjects were assigned to receive LLi-ESWT once a week for 4 weeks or sham treatment once a week for 4 weeks. They completed the IIEF, Erection Hardness Scale (EHS), Sexual Quality of Life, and the Erectile Dysfunction Inventory of Treatment Satisfaction at baseline, and 8 weeks after the treatment. To set up a correct treatment parameters we used an unique algorithm that allowed us tailoring the treatment to the specific patient. This algorithm takes into account major factors that could influence treatment results such as initial IEF5 score and patient’s comorbidities. We also used a novel LSTC-ED technique that allows us to cover the whole erectile tissue by shockwaves.

Results: Complete results will be revealed and published for the first time during the presentation at the 16th JUA in Kyoto in April 2018.

**MP-230**

The role of low intensity shock wave therapy (LISWT) for erectile dysfunction treatment: A prospective single center study

Speaker: Chun-Yo Laih, Hung-Chieh Chiu, Chao-Hsiang Chang, Wen-Chi Chen, Chi-Ping Huang, Chieh-Lung Chou

1:China Medical University Hospital, Taichung, Taiwan, 2:Asia University Hospital, Taichung, Taiwan

Introduction:

LISWT has been introduced for erectile dysfunction (ED) treatment since 10 years ago. And it may change the result for Phosphodiesterase type 5 inhibitor (PDE5-I) non-responders base on some hypothesis advocated by some researchers recently. The aim of our study is to evaluate the efficacy of LISWT for ED patient previous dependent on PDE5-I.

Material and Method:

The patients were enrolled in our study from Mar. 2017 to Oct. 2017. All patients had ever tried PDE5-I but non-respondent or poor-respondent. Our protocol was set including applied 4000 shock waves in penile shaft and penile crus in perineum with energy density 0.16 mJ/mm2 and focus penetration depth set to 10 - 15 mm by using Piezowave2 Device, and 6 course of treatment within 6 weeks. The criteria for treatment success was defined as EHS above 2 points evaluated 1 month post-treatment.

Result:

Total 45 patients were enrolled in our study. Forty-three patients (95.6%) got less than or equal to 2 points on Erection Hardness Score (EHS). After treated one month later, only 9 patients (20%) still got EHS≤2, 21 patients (46.7%) got EHS=3, and 15 patients(33.3%) got EHS=4. Based on our treatment success criteria, our successful rate was 80%. Furthermore, the IIEF-5 scores increase from 10.2 to 18.3 points. No significant adverse event was observed during treatment session.

Conclusion:

LISWT may alter and improve the result for ED patients even for PDE5-I non-respondent previously.
MP-231
Relationship between the integrity of neurovascular bundle confirmed by MRI and the potency after robot-assisted laparoscopic prostatectomy

Speaker: Jun Hyuk Hong, Speaker: Wonseok Choi, Speaker: Dalsan You, Speaker: In Gab Jeong, Speaker: Cheryn Song, Speaker: Bumsik Hong, Speaker: Choung-Soo Kim, Speaker: Hanjong Ahn
1: Asan Medical Center, University of Ulsan, Seoul, Korea

Introduction: The neurovascular bundle (NVB) plays an important role in erectile function. Urologists try to preserve it as much as possible in patients receiving prostatectomy. NVB can be observed in MRI pre and post-operatively. We investigated the relationship between this NVB observed in MRI and the potency after RARP.

Methods: 33 patients with prostate cancer who underwent RARP and had postoperative MRI were analyzed. We compared the colorized T2 axial images traced NVB before and after surgery. Our patients were divided into group 1 (n=26) and group 2 (n=7). Group 1 had good preoperative potency, received nerve-sparing prostatectomy, and had good postoperative erection. Group 2 had poor preop potency, non-nerve-sparing and no postoperative erection.

Results: Median age of group 1 was 60.0 years (47-65) and of group 2 was 73.8 years (66-81). In their MRIs, we could confirm that NVB could be traced to the anastomosis site in group 1 whereas NVB was disconnected in group 2. The difference between the two findings was clearly reconstructed in color which helped better contrast. Group 1 patients who had intact NVB on MRI had good postoperative erectile function with shorter recovering time in potency.

Conclusion: We confirmed the preservation of the patient’s NVB objectively by using MRI after RARP and thus could predict the postoperative potency, which would help us decide whether to treat the erectile problem in the future.

MP-232
Intravenous infusion of mesenchymal stem cells reduces erectile dysfunction following cavernous nerve injury in rats

Speaker: Yohei Matsuda, Speaker: Ko Kobayashi, Speaker: Akio Takayanagi, Speaker: Naoya Masumori
1: Sapporo Medical University

Introduction: We evaluated the potential therapeutic effects of intravenously administered mesenchymal stem cells (MSCs) for erectile dysfunction (ED) in a cavernous nerve (CN) injury model.

Methods: Male Sprague Dawley rats were randomized into two groups after electric CN injury. Intravenous infusion of MSCs (1.0 × 10^6 cells) or vehicle was performed three hours after electric CN injury.

Main Outcome Measures
To assess erectile function, we measured the intracavernous pressure (ICP) at 4 weeks after MSC or vehicle infusion. Histological examinations were performed to investigate neuronal innervation and inhibition of smooth muscle atrophy. GFP+ MSCs (GFP-MSCs) were used for cell tracking. To investigate mRNA expression levels of neurotrophines in the major pelvic ganglia (MPG), real-time PCR was carried out.

Results
The reduction of ICP/AP and area under the curve of ICP (ICP-AUC) in the MSC group was significantly lower than in the vehicle group 4 weeks after infusions. Retrograde tracing study indicated that the MSC group had inhibition of decrease of the number of fluorogold (FG)+ neurons in MPs compared to the vehicle group. The smooth muscle to collagen ratio in the MSC group was significantly higher than in the vehicle group. GFP-MSCs were detected in the MPG and injured CN indicating homing of the cells to the MPG and injured CNs. BDNF and GDNF had expression levels in MPG significantly higher in the MSC group than in the vehicle group.

Conclusion
Intravenous infusion of MSCs following CN injury might have therapeutic efficacy in the experimental ED.
Moderated Poster 25
Pediatric urology
Wed., April 18, 2018 15:00-16:00
Poster Room 2  |  Annex Hall, Kyoto International Conference Center 1F
Chairperson: Kazuyoshi Johnin (Shiga University of Medical Science, Japan)
Chairperson: Isteaq Ahmed Shameem (Bangabandhu Sheikh Mujib Medical University, Bangladesh)

MP-233
Retrospective analysis of 91 cases of testicular nubbins

Speaker: Kohei Mori ¹, Speaker: Atsushi Hamano ¹
¹ Shizuoka Children’s Hospital

Introduction and Objectives In examinations of non-palpable testes, testicular atrophy is occasionally found at the end of the spermatic cord. These are treated as testicular remnants, so-called nubbins. Owing to the risk of malignancy due to the persistence of germ cells, excision of nubbins has been routinely performed. However, as germ cells are rarely present, routine excision of nubbins might be unnecessary. We examined cases diagnosed as nubbins in our hospital.

Materials and Methods 91 patients diagnosed as having nubbins between March 1995 and April 2017 at Shizuoka Children’s Hospital were retrospectively reviewed.

Results The patients’ ages ranged from 0 month to 12 years, but most of the patients were younger than 2 years at the time of diagnosis. Of the nubbins found, 59 (65%) were palpable and 33 (35%) were non-palpable. Among the excised nubbins (n = 36), one had germ cells in the tissue and 23 had hemosiderin deposits and calcifications. All the nubbins were detectable on ultrasonography of the scrotum. Of 56 cases with ultrasonography findings of nubbins, 8 showed high echoic regions.

Conclusion The histological findings of hemosiderin and calcification from the nubbin specimens showed that the testes were in an ischemic state. These findings indicate that the extravaginal spermatic cord torsion may have occurred in the perinatal period. Case reports on testicular tumours in nubbins are extremely rare. The nubbins in this study, which were palpable and detectable on ultrasonography, were recommended for follow-up and no less than surgical treatment.
**MP-234**

The evaluation of contralateral processus vaginalis in laparoscopic surgery for unilateral nonpalpable testis

Speaker: Hidenori Nishio 1, Speaker: Shoichiro Iwatsuki 1, Speaker: Yukihiro Umemoto 2, Speaker: Kentaro Mizuno 3, Speaker: Takahiro Yasui 3, Speaker: Yutaro Hayashi 3

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**INTRODUCTION AND OBJECTIVE**

An acquired undescended testis after contralateral orchiopexy can occur in some boys. Though we believe that the patency of processus vaginalis (PV) on the contralateral side is a future risk of acquired undescended testes, its mechanism is not clear. Therefore, the presence or absence of contralateral PV patency during laparoscopic surgery was examined.

**METHODS**

From June 2008 to June 2017, 127 patients underwent laparoscopic surgery for unilateral non-palpable testis at the Nagoya City University Hospital. The relationship between contralateral PV patency determined by laparoscopy and a contralateral retractile testis diagnosis before surgery was examined. For cases where contralateral PV was patent, PV was sutured and closed during surgery.

**RESULTS**

A total of 127 patients with unilateral nonpalpable testis were evaluated, of whom 83 underwent orchiopexy (Group I) and 44 patients underwent orchidectomy (Group II). There were 18 cases (14.2%) where contralateral PV was patent, and the patency rate of contralateral PV was significantly higher in Group I than Group II (Group I: 17 cases [20.5%], Group II: one case [2.3%], p <0.05). Of 18 patients in whom contralateral PV was patent during surgery, 9 patients (50.0%) were not diagnosed with contralateral retractile testis before surgery.

**CONCLUSIONS**

There were patients with contralateral apparently normal testis before surgery though their contralateral PV was found to be patent during surgery. In some cases, it seemed that the contralateral testis may become ascended in the future.

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**MP-235**

Correlation of spermatogonial stem cells with inhibin-B in infant boys with unilateral undescended testes

Speaker: Taiki Kato 1, Speaker: Kentaro Mizuno 1, Speaker: Yoshinobu Moritoki 1, Speaker: Takahiro Yasui 1, Speaker: Yutaro Hayashi 1

1: Nagoya City University, Graduate School of Medical Sciences

**Objective:** In boys with cryptorchidism, failures in germ cell development have been established. Sertoli cells produce inhibin-B and its serum level is lower than normal and reflect the state of germinative epithelium. However, there have been no reports regarding the relationship between serum inhibin-B level and testicular histopathology due to testicular positions. We evaluated whether testicular position is related to inhibin-B levels and testicular histopathology in unilateral cryptorchidism.

**Methods:** One hundred and seventy-seven boys who underwent orchiopexy, with ages ranging 7-147 months, between December 2014 and September 2017 were included. Serum inhibin-B level was measured preoperatively and testicular biopsy was performed. The average number of spermatogonias per seminiferous transverse tubule was measured.

**Results:** Of 91 boys with unilateral cryptorchidism excluding genetic disease were evaluated. The testis positions were classified as abdominal (N=9), inguinal canal (N=44), and suprascrotal (N=38). The serum inhibin-B level and the number of spermatogonia per tubule were 155 pg/dL (112-205) vs 128 pg/dL (20.6-264) vs 127 pg/dL (41.6-354) and 0.65 (0.025-1.49) vs 0.65 (0-1.39) vs 0.98 (0-4.55) respectively. There were no significant difference in serum inhibin-B level and the number of spermatogonia per tubule between the three groups. There was no correlation between serum inhibin B level and the number of spermatogonia per tubule.

**Conclusion:** In boys with unilateral cryptorchidism, inhibin-B might not be related to germ cell development.
MP-236
Impacts of asymptomatic pyuria and vesicoureteral reflux (VUR) grade on the developing of post-voiding distourethrogram (VCUG) urinary tract infection (UTI)

Speaker: Juyong Oh, Speaker: Yang Hyun Cho, Speaker: Sun-Ouck Kim, Speaker: Myung Soo Kim, Speaker: Ho Seok Chung, Speaker: Kyung Jin Oh, Speaker: Eu Chang Hwang, Speaker: Taek Won Kang, Speaker: Dong Deuk Kwon

INTRODUCTION: Voiding cystourethrography (VCUG) is a gold standard test to identify the anatomical causes of urinary tract infection (UTI) in children. However, exact criteria in terms of pyuria on urine analysis before performing VCUG is not established. In this study, we evaluate the impact of asymptomatic pyuria and vesicoureteral reflux (VUR) grade on the developing post-VCUG UTI.

METHODS: We retrospectively reviewed medical records of 430 children < 2 years of age who underwent VCUG and diagnosed as VUR. Pyuria was defined as the presence of 5 or more white blood cell (WBC) per high-power field of the urine collected. Post-VCUG UTI was defined as the presence of 100,000/mL or more colonies of single bacteria at urine culture with fever. Prophylactic antibiotic (Cefprozil dry syrup (15mg/kg) per 12hrs, 3days from test day) was used to every patient before performing the VCUG.

RESULTS: Pyuria was found in 81 children and 349 children showed clean urine. Post VCUG-UTI was developed in 42 children. Age, gender, laterality, VUR grade and pyuria at VCUG were not significantly associated with post-VCUG UTI (P > 0.05).

CONCLUSIONS: Asymptomatic pyuria and VUR grade were not associated factor with post-VCUG UTI. Therefore, VCUG is considered to be safe in children with non-asymptomatic pyuria in terms of developing post VCUG UTI.

MP-237
Clinical algorithm for infants with congenital grade 3 hydronephrosis by SFU classification: a retrospective study

Speaker: Akihiro Nakane, Speaker: Yoshinobu Moritoki, Speaker: Kentaro Mizuno, Speaker: Takahiro Yasui, Speaker: Yutaro Hayashi

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Purpose: In cases with congenital grade 3 hydronephrosis by the Society for Fetal Urology classification, it is difficult to judge the timing of intervention or observation. So it was considered to appropriate intervention or observation for cases with grade 3 hydronephrosis, we compared with the treatment in our case and the treatment algorithm of “the guideline 2016 in Japan Society of Pediatric Urology for congenital hydronephrosis (ureteropelvic junction obstruction) in children” (the guideline 2016 in Japan).

Patients and methods: We retrospectively evaluated 22 patients with grade 3 hydronephrosis of case in 154 with perinatally detected hydronephrosis on abdominal ultrasonography in Nagoya City University and related institutions. We checked the change in grade of hydronephrosis and the split renal function in diuretic renography (DR).

Results: The average observation period was 44.9 months. The grade of hydronephrosis improved in 90.9% of cases. In the timing of hydronephrosis improved, 50% of cases were improved within 12 months and 90% were improved within 36 months. DR was performed by 17 cases except for 5 improved within 6 months. The age that performed the first DR was during 3-12 months, and there was no case of the split renal function was less than 40%. There was no case that increased of hydronephrosis or needed operation for deterioration of split renal function in the follow up period.

Conclusion: We thought it was possible to avoid unnecessary intervention by follow-up along the algorithm of the guideline 2016 in Japan.
MP-238
What is the best exam to detect crossing vessels and ureteral polyps of ureteropelvic junction obstruction? - Comparison between CT and doppler ultrasonography

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INTRODUCTION AND OBJECTIVE
Preoperative information about crossing vessels and ureteral polyps is helpful to simulate and carry out the surgical procedure of the pyeloplasty. The more simple and more efficient exam to detect crossing vessels and ureteral polyps is demanded. We compared the CT with the doppler ultrasonography (US) about the detection power of crossing vessels and ureteral polyps.

METHODS
This study included 64 cases, robot-assisted pyeloplasty (n = 33) and laparoscopic pyeloplasty (n = 31), who underwent the pyeloplasty from January, 2012 to February, 2017. The age of the patients ranged from 1.5 to 52.3 years, pediatric patients (n = 38) and adult patients (n = 26). We retrospectively compared the images of the CT and the US with the operative findings, and evaluated the detection power.

RESULTS
From the operative findings, crossing vessels were found at 39%, pediatrics 34% and adults 46%, and ureteral polyps were found at 5%, pediatric 8% and adults 0%. The detection powers of crossing vessels by CT and US were sensitivity 96% and 55% and specificity 79% and 95%, respectively. Those of ureteral polyps were all 100%. The false-positive of crossing vessels by CT and US were 25% and 13%, respectively.

CONCLUSIONS
About the detection power of the crossing vessels, CT was high in the sensitivity and the false-positive rate, US was low in the sensitivity and the false-positive rate. US is the simple exam with a high certainty. We concluded that the first preoperative exam may be the US. If the crossing vessels cannot be detected by US, CT become the next choice.

MP-239
Efficacy of TWIST score system for different diagnosis in acute scrotum

Speaker: Yu Teranishi 1, Speaker: Hiroshi Asanuma 1, Speaker: Kimiharu Takamatsu 1, Speaker: Toshikazu Takeda 1, Speaker: Kazuhiro Matsumoto 1, Speaker: Shinya Morita 1, Speaker: Takeo Kosaka 1, Speaker: Ryuichi Mizuno 1, Speaker: Toshiaki Shinojima 1, Speaker: Eiji Kikuchi 1, Speaker: Mototsugu Oya 1

Introduction: Testicular torsion (TT) is a surgical emergency requiring prompt intervention to prevent testicular loss. We evaluate efficacy of TT scoring system in physical examination to diagnose TT. Methods: We retrospectively evaluated 164 patients with acute scrotum (TT: 10 patients, non-TT: 154 patients). TT scoring system consisted of 5 factors in physical examination at emergency consultation, testicular swelling (2 points), hard testicle (2 points), absent cremasteric reflex (1 point), nausea/vomiting (1 point), and high riding testis (1 point). We divided those patients to 3 groups according to total TT score, low risk (0-3 points), intermediate risk (4 or 5 points) and high risk (6 or 7 points). Results: Mean patient age was 46.5 years (TT: 17.3 years, non-TT: 48.6 years). All patients with TT underwent surgery (orchiectomy; 2 patients, orchiopexy; 9 patients). Mean TT score was 1.6 points (TT: 5.4 points, non-TT: 1.3 points). Of 164 patients evaluated 142 (86.6%) were at low risk, none of them had TT. For a cutoff of 3 negative predictive value was 100%. The intermediate risk group (17 patients, 10.4%) included 5 TT patients. A total of 5 patients were at high risk, all of whom had TT. Positive predictive value was 100% for a cutoff of 6. Such individuals comprised 50% of all TT patients. A strategy to perform ultrasonography in only intermediate risk group could decrease ultrasonography in 89.6% of patients with acute scrotum. Conclusion: This TT scoring system could be a valuable tool for clinical diagnosis of TT.
MP-240
Factors Influencing Rate of Testicular Salvage in Acute Testicular Torsion

Speaker: Yang Hyun Cho, Speaker: Sun-Ouck Kim, Speaker: Myung Soo Kim, Speaker: Ho Seok Chung, Speaker: Kyung Jin Oh, Speaker: Eu Chang Hwang, Speaker: Seung Il Jung, Speaker: Taek Won Kang, Speaker: Kwangsung Park, Speaker: Dong Deuk Kwon

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Purpose: To determine the factors influencing rate of testicular salvage in acute testicular torsion.

Materials and methods: Data was collected prospectively from a consecutive case series of patients who had scrotal exploration for acute testicular pain suspicious of testicular torsion from the January 2011 to December 2016. The main outcome measures were age, duration of symptoms prior to presentation, transfer status, time to surgical exploration, relationship between patient age and orchiectomy rate and the association between testicular torsion and cold weather.

Results: Data for 111 patients out of 120 was available for analysis. The median age of the patients was 15 (0-29) years. Testicular salvage was possible in 45.9% of patients. 48.6% of patients included in the study were transferred from another facility. Inter-hospital transfer did not affect testicular salvage rate. Time to surgery and duration of pain were higher among patients who underwent orchiectomy versus orchiopexy. Patient with primary visit, a short time to surgery, short hospital visits after pain were more likely to undergo orchiopexy than orchiectomy. On multivariate analysis, Patient with primary visit, a short time to surgery, short hospital visits after pain were associated with testicular salvage

Conclusions: Data suggest that torsion is a time dependent event and factors that delay time to treatment lead to poorer outcomes. A number of studies, including these factors, may be needed

MP-242
Preservation of renal/bladder function in newborns with spina bifida managed with early treatment by new definition of poor compliance in urodynamic evaluation

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Objective
Low compliance bladder can result in elevated detrusor pressure (Pdet), bladder deformities, and hydronephrosis or VUR, which leads to impairment of renal function. However, what low compliance in newborns with spina bifida (SB) is has yet to be determined. A Pdet above 20cmH2O and/or multiple detrusor overactivities (DO) seen prior to the expected bladder capacity (EBC) might reflect low detrusor compliance. The aims of this study were to assess the relationship between low detrusor compliance based on our definition on urodynamic study (UDS) and bladder deformities, and to determine if proactive measurements, including CIC and antimuscarinics, could prevent renal deterioration.

Patients and Methods
A retrospective review of 77 children with SB evaluated by UDS aged 0-2 years from June 2008 to August 2017 was performed. Low-compliance bladder was defined by Pdet above 20cmH2O and/or multiple DO noticed prior to the expected bladder capacity (EBC) might reflect low detrusor compliance. The aims of this study were to assess the relationship between low detrusor compliance based on our definition on urodynamic study (UDS) and bladder deformities, and to determine if proactive measurements, including CIC and antimuscarinics, could prevent renal deterioration.

Patients and Methods
A retrospective review of 77 children with SB evaluated by UDS aged 0-2 years from June 2008 to August 2017 was performed. Low-compliance bladder was defined by Pdet above 20cmH2O and/or multiple DO noticed before EBC. A series of DMSA renal scans was also evaluated.

Results
Multiple DO or Pdet above 20cmH2O before EBC was seen in five and nine patients respectively. Eleven had low-compliance bladder and eleven had bladder deformities. Pdet above 20cmH2O, multiple DO before EBC, or both were significantly correlated with bladder deformities (p=0.0006, 0.005, 0.0003 respectively). New onset of renal scarring was found in two of 20 children who had DMSA renal scans.

Conclusion
Our new definition of low detrusor compliance in newborns with SB is correlated with bladder deformities. Proactive intervention based on UDS might help to maintain a healthy upper urinary tract.