

C-10002

A Clinical Study to Evaluate the Outcome of Early and Delayed Voiding Trial in Catheterised Patients of Acute Urinary Retention Due to Prostatic Enlargement

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Introduction and Objectives: Voiding trial following acute urinary retention (AUR) after administration of alpha blockers is the traditional practice but the duration of catheter and alpha blockers is unclear, ranging from 1-32 days. Objectives: 1. To assess the feasibility of early voiding trial in catheterized patients of AUR due to BPH. 2. Compare the outcome of early and delayed voiding trial.

Methods: Aim: To compare the result of voiding trial after 72 and 120 hours of administration of silodosin in patients presenting with AUR due to BPH. Sample size 50, prospective study, inclusion criteria: Men above 55 years in AUR due to BPH. Exclusion criteria AUR due to other causes (calculi, stricture urethra) & chronic retention. Group A was called for catheter removal and voiding trial after 72 hours of catheterisation or after 72 hours of 1st dose of silodosin taken, whichever is later. Group B was called for catheter removal and voiding trial after 96 hours of catheterisation or after 120 hours of 1st dose of silodosin taken, whichever is later.

Results: Group A of 25 patients: 5 lost to follow up, 3 refused voiding trial and chose surgery, 8 patients had successful voiding trial and 9 had failed voiding trial. GROUP B of 25 patients: 3 lost to follow up, 2 refused trial, 15 had successful voiding and 5 failed to void.

Conclusions: Our study concluded that Group B patients had a better voiding trial so far. Hence, we made it our standard protocol to give voiding trial after 120 hours.

C-10012

The Utilisation of Prostate-Specific Membrane Antigen (PSMA) Positron Emission Tomography (PET) in Renal Cell Carcinoma (RCC) Staging: A Review of the Evidence so Far

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Introduction and Objectives: Metastatic RCC (mRCC) is a disease with limited therapeutic options and portends poor prognosis. Early detection of small metastatic foci and intervention may have significant impact on patient survival. Accurate staging of mRCC is strongly desired however the traditional modalities of computed tomography (CT) and/or bone scan (BS) have exhibited limited sensitivity and specificity. In the search for better imaging modalities, PSMA-PET CT imaging in mRCC has been explored, given its recent well-established role in the staging of primary, metastatic and biochemically recurrent prostate cancer (CaP). Our aim was to assess the role of PSMA-PET CT in RCC patients.

Methods: Given early encouraging reports, we performed a literature review on the available evidence, including the scientific basis for PSMA expression in RCC, the role of PSMA-PET CT imaging with potential clinical implications in mRCC, its limitations and future opportunities.

Results: PSMA is a type II transmembrane glycoprotein highly expressed on prostate cancer epithelial cells. Recently, small molecules targeting the PSMA ligand, linked to radioactive isotopes have been developed for use with PET. Initial clinical experience has demonstrated superior sensitivity and specificity compared to standard of care imaging in primary, metastatic and biochemically recurrent CaP. PSMA has also been found to be expressed in the neovascular of non-prostate cancers such as mRCC and hence PSMA-PET CT imaging has been proposed as an alternative staging modality (summarised table 1).

Conclusions: Early pilot studies using PSMA-PET CT in mRCC has been encouraging with evidence of improved staging sensitivity which has directly led to changes in management.

C-10010

Keeping on Track - The Implementation of an Electronic Stent Tracking System

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Introduction and Objectives: Ureteric stents form an indispensable component of urological practice. However, they are associated with the forgotten stent which is classified as a never event given its entirely preventable and with significant consequential harm including increased morbidity, healthcare cost and legal issues. Here we present the implementation of an electronic stent tracking system across a health service district.

Methods: Our electronic stent registry Stent Tracker was first developed in 2012 on a secure web application accessible via password on any hospital computer. The database operates within the electronic patient record, so all patient information and demographics are automatically imported facilitating data collection. It automatically interrogates stent records on a daily basis and identifies any stent that is overdue. Subsequently, an automated alert is highlighted on the home screen with patients contacted by staff via phone or mail.

Results: There have been over 15,000 entries across five different hospitals since the inception of stent tracker. One recent example of an overdue stent occurred 6 months post-op. It involved a patient of non-English background who had a stent inserted for a ureteric stricture causing infected obstructed kidney with plans to be followed up privately. However, upon contacting the patient, stent was still in-situ due to inability to afford treatment. Consequently, patient was re-referred into the public system and the forgotten stent was avoided.

Conclusions: Stent tracker is a patient safety application that provides a secure and simplified interface. A prospective study is needed for evaluation of its efficacy in preventing the forgotten stent.

C-10013

Prostate-Specific Membrane Antigen (PSMA) Expressed in the Neovasculature of an XP11.2 Translocation Renal Cell Carcinoma (RCC): Potential Role for PSMA-PET Staging?

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Introduction and Objectives: Renal cell carcinoma (RCC) represent the most common primary neoplasm of the kidney and encompass a heterogeneous group of tumours. XP11 translocation RCC is a distinct entity, most commonly associated with aberrations to the TFE3 gene located on chromosome Xp11.2. These tumours are associated with an aggressive disease trajectory in adults. PSMA is expressed in the neovasculature of clear cell RCC; however, its expression in XP11 translocation RCC has not been previously described. This report presents a case of XP11 translocation RCC in which PSMA expression was confirmed by immunohistochemistry.

Methods: In 2013 a 68-year-old male underwent partial nephrectomy for an incidentally detected renal tumour. The patient had an extensive past medical history, including stage 3b chronic kidney disease with a solitary kidney, congestive heart failure, and controlled type 2 diabetes. The tumour was resected without complication and with clear surgical margins.

Results: Morphological features were consistent with an XP11 translocation RCC. In 2017 disease recurrence was suspected based on follow-up imaging. The possibility of using Gallium-68 PSMA-PET to evaluate the extent of disease spread was discussed by the management team. Although not performed, primary tumour was evaluated immunohistochemically with PSMA identified in the tumour and limited to the neovasculature, which is concordant with findings in more common RCC subtypes such as clear cell, chromophobe and papillary RCC.

Conclusions: PSMA is expressed in this tumour subtype, and given the aggressive nature of XP11 translocation RCC, PSMA-PET may present as a viable tool for the evaluation and staging of patients with this RCC subtype.

C-10014

Expanding the Feasibility of Low-Intensity Extracorporeal Shockwave Therapy as a Promising Modality for Chronic Pelvic Pain Syndrome: A Meta-analysis of Randomized Controlled Trial

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Introduction and Objectives: Chronic prostatitis/chronic pelvic pain syndrome (CP/CPPS) is a common urological discomfort in men. Various oral and complementary therapies have failed to show a consistent improvement in CP/CPPS. Recent studies have found that the use of low-intensity extracorporeal shockwave therapy (Li-ESWT) could improve various chronic diseases, including CP/CPPS. This study aims to evaluate the feasibility of Li-ESWT for reducing symptoms in CP/CPPS patients.

Methods: A systematic search was conducted from the electronic database including PubMed, Clinicaltrials.gov, and Cochrane Library, published up to July 2019 following the PRISMA guideline. We screened RCTs with our inclusion criteria and assessed the quality with the Cochrane Risk of Bias tool. The primary outcome was the National Institute of Health Chronic Prostatitis Symptom Index (NIH-CPSI), subgroup analysis for triple therapy users was conducted to improve interpretability. The analysis was performed using RevMan 5.3.

Results: A total of 6 RCTs, comprising of 311 CP/CPPS patients were analyzed. Pooled analysis showed that compared to the control group, Li-ESWT had a significant decrease in NIH-CPSI total score at the endpoint of the treatment (MD -5.61 95% CI -7.4 to -3.82, $p < 0.001$) and during 12-week follow-up (MD -9.14 95% CI -12 to -6.27, $p < 0.001$). Subgroup analysis showed that Li-ESWT improved 12-week NIH-CPSI total score in triple therapy users (MD -7.46 95% CI -9.85 to -5.07, $p < 0.001$).

Conclusions: This study revealed that Li-ESWT has great feasibility in improving CP/CPPS symptoms, as demonstrated by a significant decrease in NIH-CPSI total score at the endpoint and 12-week follow-up of the treatment.

C-10020

Treatment and Outcomes of Prostate Abscess: A Cohort of 74 Adult Cases

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Introduction and Objectives: Prostate abscesses are rare, difficult to diagnose and lack guidelines for treatment. We present a case series of 74 patients with prostate abscess at our institution reporting on demographic, clinical findings and treatment outcomes.

Methods: We retrospectively examined the records of 74 patients who were diagnosed with prostate abscess in a tertiary hospital from April 2005 to December 2016. Therapy and intervention for individual patients were dictated by the treating physician; conservative, transrectal aspiration or transurethral deroofing of abscess. All patients received 4 to 6 weeks of antibiotics.

Results: Mean age of patients is 60 years. Mean duration of hospitalisation is 19 days. Thirty-four patients have multiple abscesses within the prostate (46%). Forty six percent of patients were managed conservatively with intravenous antibiotics, 50% underwent TRUS aspiration and 4% underwent transurethral deroofing. Mean abscess size in patients undergoing TRUS aspiration was significantly higher at 4cm as compared to 2 cm in the conservative group ($p=0.000$). For patients who underwent TRUS aspiration, 61.5% have negative urine culture, 53.8% have negative blood culture, and 48.7% have both negative blood and urine cultures. Two patients needed rehospitalisation; one had concomitant renal abscess, and the other had genitourinary tuberculosis. There were no reported complications after TRUS guided aspiration

Conclusions: Rates of negative blood and urine cultures in prostate abscess patients are high. Conservative treatment with antibiotics alone may not be effective in large prostate abscess and negative cultures. TRUS aspiration and drainage is safe, effective and assist in obtaining tissue culture to guide appropriate antimicrobial therapy.

C-10018

Real World Experience with Lenvatinib in Metastatic Renal Cell Carcinoma (mRCC) Patients in an Asian Comprehensive Cancer Centre

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Introduction and Objectives: Lenvatinib is a tyrosine kinase inhibitor that inhibits vascular endothelial growth factor receptor (VEGFR1-3), fibroblast growth factor receptor (FGFR1-4), platelet-derived growth factor receptor (PDGFR), stem cell factor receptor (KIT), and rearranged during transfection (RET). However data on lenvatinib use in an Asian mRCC population is limited.

Methods: In this single centre retrospective study, we examined data on lenvatinib use in 27 patients with metastatic renal cell carcinoma who had been treated with lenvatinib alone, or in combination with other systemic agents.

Results: 88% were male patients (n=24), median age was 57 years at diagnosis and histology was clear cell renal cell carcinoma in 88.9% (n=24). 70.4% (n=19) of patients had prior nephrectomies and average prior lines of treatment was 2 (range 0-5). Partial response was observed in 55.6% of patients (n=15), stable disease in 33.3% (n=9) and progressive disease in 7.4% (n=2). Median progression free survival was 5.9 months. Discontinuation was due to progressive disease in 57.8% (n=12) and toxicity in 26.3% of patients (n=5). Grade 3 toxicities occurred in 59.3% (n=16) patients of which the most frequent were hypertension (25.9%, n=7) and gastrointestinal toxicity (14.8%, n=4). Cutaneous toxicities while common (53.6%, n=15) were only grade 3 in 7.4% (n=2) of patients.

Conclusions: This data suggests that lenvatinib in an Asian population produces response rates similar to that seen in the pivotal trial with a tolerable toxicity profile.

C-10021

Pre Treatment Neutrophil Lymphocyte Ratio as Oncological Prognostic in Bladder Cancer Patients : A Meta-analysis

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Introduction and Objectives: A meta-analysis to evaluate the evidence of pretreatment NLR as Oncological Prognostic of survival in Non-Muscle Invasive Bladder Cancer (NMIBC) and Muscle Invasive Bladder Cancer (MIBC).

Methods: Author was using a meta-analysis were searched by PUBMED, EMBASE, and the Cochrane Controlled Trials Register and were carried out hazard ratios (HRs) with 95% confidence intervals (CIs) were used to summarise the correlations between NLR and both Cancer Specific Survival (CSS) and Recurrence-Free Survival (RFS). The data was evaluated and statistically analysed by using RevMan version 5.3.0.

Results: The meta-analysis included 14 studies with a total of 10184 patients assessed the prognostic value of NLR in NMIBC and MIBC patients. Overall, high pre-treatment NLR was correlated to poorer CSS (pooled HR = 1.49, 95% CI 1.261.75, $p = 0.00001$) and RFS (pooled HR = 1.39, 95% CI 1.201.63, $p = 0.0001$).

Conclusions: In this meta-analysis demonstrated a significant correlation between elevated NLR and poorer prognosis in cancer specific survival and also increase risk of disease recurrence. The prognostic role of NLR may become valuable indicator in bladder cancer patients.

C-10022

Optimal Prostate Biopsy Regime for the 21st Century: Is it Necessary to do a Combined Target and Saturation Biopsies?

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Introduction and Objectives: There's dispute over optimal prostate biopsy strategy, whether target only or with systemic biopsy. Recent meta-analysis suggested that target only biopsy could miss up to 13% CSPC. Our aims were to determine the missed CSPC rate for target-saturation combined biopsies.

Methods: Sept 2015–Sept 2019, 241 patients recruited into a prospective study for TP MRI-fusion biopsies. Lesions identified via 3T MRI and classified with PIRADv2. Any PIRADv3 lesions were targeted.

Results: Of 241 TP-Fusion-BX patients, 235 (95.4%) had target and saturation biopsies, total 306 lesions targeted. 116 (48%) biopsy-naive, 73 (30%) prior negative biopsy, 52(22%) on AS. Mean target cores 5.452.60; mean positive target cores 1.752.52. Mean target lesion volume 0.951.54cc. Mean saturation cores 13.774.30 (right) and 13.414.66 (left). Mean positive saturation core 1.382.10 (right) and 1.311.90 (left). Proportion of positive cores 565/1792 (31.5%) for target biopsy, 647/6531(9.9%) for saturation biopsy. 235 patients had TP MRI-Fusion biopsies with target and saturation biopsies: 46.4% (n=109) both target and saturation positive (T+/S+); 6.4% (n=15) had target only (T+/S-) positive; 35.3% (n=83) both target and saturation negative (T-/S-); 11.5% (n=27) saturation positive only (T-/S+). For T-/S+ group, 27 patients had total 39 target lesions negative. 74.1% (n=20) had insignificant cancer and 25.9% (n=7) CSPC. From our cohort, we would have missed 2.97% (7/235) CSPC. Post biopsy sepsis was 0.9% and urinary retention was 10%.

Conclusions: This comprehensive target-saturation-combined biopsies had a miss rate 2.97% CSPC, 2-3 times lower than target only and target-systematic biopsy. 57.1% of the missed CSPC was in contralateral side of PIRAD lesion.

C-10033

Characteristics of Microbial Colonisation of Ureteric Stents and Urinary Tract Cultures

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Introduction and Objectives: Urosepsis post-instrumentation of the upper urinary tract is a commonly observed event. The aim of this study is to describe the microbiology of stent colonisation, the use of pre- and intra-operative urinary tract cultures and the potential clinical implications.

Methods: A prospective study of all pre-stented patients whose upper urinary tract was instrumented from June 2017. The urine and ureteric stents were sent for culture for all patients who underwent a ureteroscopy. Patients were followed for the development of urosepsis.

Results: The study involved 46 patients, median age of 61 years, and 28% were female. Pre-operative urine cultures were positive in 26% of patients, whereas 11% of intra-operative bladder cultures and 9% of the kidney urine cultures were positive. The bladder end of the stent was colonised in 26% of patients and the kidney end was colonised in 15%. The most commonly cultured organisms from stents were *Escherichia coli* (24%) and *Enterococcus* (24%), and from bladder urine was *Escherichia coli* (60%). A patient deemed clinically infected had an increased risk of a positive pre-operative urine culture (3-fold), intra-operative urine culture (4-fold) and stent colonisation (5-fold). 4% of patients developed post-operative urosepsis, whose cultures were most concordant with the intraoperative stent cultures.

Conclusions: The most commonly isolated organism was *Escherichia coli* which is covered by the recommended empirical antibiotics for urosepsis. Ongoing research into the usefulness of a preoperative urine culture compared with intraoperative cultures is needed to decrease the rate of urosepsis in this population.

C-10023

Should Patients with Lower PSA (< 10) be Offered Up-Front Multi-Parametric MRI (mpMRI) Scan and Trans-Perineal MRI-Fusion Targeted and Saturation Biopsies?

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Introduction and Objectives: EAU guidelines recommended mpMRI scan for prior negative biopsy and was expanded to include biopsy-naive and active surveillance patients. Our aim were to review local patients who underwent TP-fusion-biopsy, and to determine CSPC detection rate, compared to US guided systemic TRUS-biopsy and TP-biopsy and complications.

Methods: Sept 2015-Sept 2019, 241 patients with elevated PSA and mpMRI scan were recruited into prospective study for TP MRI-fusion targeted and saturation biopsies using a robotic-assisted iRobot Mona Lisa™ biopsy platform. MRI lesions were classified according to PIRADv2.

Results: For 241 TP-fusion-biopsy patients, 116 (84%) biopsy-naive, 72 (30%) prior negative biopsy, 52 (22%) of active surveillance; 80 (33%) PSA < 10, 27 (11%) PSA 10-20, 9 (4%) PSA > 20. patient mean age 65 years, median PSA 7.32 ng/dL, mean target cores 7.444.83, mean saturation cores 29.8010.78 (IQR 12-56 cores). For 178 TRUS-biopsy patients, median PSA 10.76 ng/dL (IQR 0.93-4679), mean cores 11.142.92 (IQR 2-18 cores). 87 (49%) PSA < 10, 26 (15%) PSA 10-20, 64 (36%) PSA > 20. For 117 TP-biopsy patients, median PSA 12.51 ng/dL (IQR 0.30-1000), mean cores 12.993.68 (IQR 12-18 cores). 44 (38%) PSA < 10, 32(27%) PSA 10-20, 41 (35%) PSA > 20. CSPC detection rate was significantly higher (p=0.019) in TP-fusion-biopsy patients(38.8%), compared to TRUS-biopsy(14.9%) and TP-biopsy (25%) for PSA < 10 patients. For PSA 10-20 patients, CSPC detection rate was 77.8% for TP-fusion-biopsy. Post biopsy sepsis rate low: 1.7% vs. 0.9% vs. 4.4% for TP-fusion-biopsy vs. TP-biopsy vs. TRUS-biopsy.

Conclusions: CSPC detection rate was significantly higher for patients with PSA < 10 and satisfactory for PSA 10-20 patients, using mpMRI TP-fusion-biopsy. Post biopsy sepsis rate acceptable. mpMRI thus advisable as initial test for prostate cancer management algorithm.

C-10034

The Use of Prostate Health Index to Predict Clinically Significant Cancer in Prostate Imaging-Reporting and Data System 3 Lesions

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Introduction and Objectives: With the incorporation of Magnetic Resonance Imaging (MRI) scans into our preliminary evaluation of men with raised PSA, the diagnostic dilemma of Prostate Imaging-Reporting and Data System (PIRADS) 3 lesion is an increasing phenomenon. Studies have shown a 10-15% risk of clinically significant cancer detected on the biopsies of PIRADS 3 lesions. This equates to the excessive subjecting of 85-90% of patients to the risks of prostatic biopsies. We hypothesize that the use of phi can help to risk stratify patients with PIRADS 3 lesions and better identify candidates for prostate biopsy.

Methods: We performed a retrospective review of patients who had PIRADS 3 lesions and underwent MRI targeted prostatic biopsies at the National University Hospital of Singapore. All patients who underwent MRI targeted biopsy also had a saturation biopsy performed at the same setting. The histological findings on biopsy were evaluated together with phi levels.

Results: 63 patients were collected and analysed in the study. Mean prostate-specific antigen (PSA) level was 9.49 (SD 3.44). Mean lesion size was 0.44 cm (SD 0.46). 8 (12.7%) patients had clinically insignificant cancer and 5 (7.9%) had clinically significant cancer. A cut-off of PHI value 30 has a sensitivity of 100% and specificity of 15.5%.

Conclusions: PHI score of < 30 demonstrates high sensitivity and may be useful in ruling out clinically significant prostate cancer in PIRADS 3 lesions. The incorporation of phi for the further evaluation of patients with PIRADS 3 lesions would enable a certain group of patients to avoid unnecessary biopsies.

C-10035

Robotic Heminephrectomy for Renal Cell Carcinoma in a Horseshoe Kidney

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Introduction and Objectives: Horseshoe kidney is the most common renal fusion anomaly. When performing extirpative renal surgery in a horseshoe kidney, one must consider the variations in anatomy like the lower positioned renal unit and the aberrant blood supply. Here we present a case of robot-assisted laparoscopic heminephrectomy in a horseshoe kidney for a left sided renal tumour.

Methods: A 36 year old gentleman presented with an incidental 4 cm left renal tumour in a horseshoe kidney during health screening. We performed a robotic left heminephrectomy rather than a partial nephrectomy, as the tumour was postero-medially located with overlying hilar vessels, and there was limited mobility of the horseshoe kidney. We used the Da Vinci SI system. Patient was in right lateral position with the camera port, 2 robotic working ports and two assistant ports. A transperitoneal approach was used and renal hilar vessels supplying left renal moiety controlled with Hem-o-lok clips after adequate mobilization of bowel. This resulted in a demarcation zone of the ischemic left renal unit along the isthmus. A Satinsky clamp was placed across before transection and over-sewing with Vicryl and interlocking Hem-o-lok clips.

Results: Patients recover was uneventful and he stayed in hospital for six days. Estimated blood loss was 200 mls. Renal function before and after surgery was normal. The final histology was that of Fuhrman Grade 2 clear cell renal cell carcinoma with negative margins.

Conclusions: Careful pre-operative planning is crucial prior to extirpative surgery for renal cell carcinomas that arise in horseshoe kidneys as the anatomy is widely variable.

C-10041

Patient-Reported Outcomes of Neoadjuvant Apalutamide (ARN-509) and Radical Prostatectomy in Treatment of Intermediate to High Risk Prostate Cancer (NEAR) Trial - A Phase II Trial

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Introduction and Objectives: We report on the patient-reported outcomes following 12 weeks of neoadjuvant ARN-509 therapy.

Methods: Participants received ARN-509 240 mg daily for 12 weeks followed by RP within 6 weeks of the last dose of medication. Patient-reported outcomes assessed included Sexual Health Inventory for Men (SHIM), EORTC QLQ-PR25 and QLQ-C30 questionnaires. The total daily step counts taken by the subjects were taken as a surrogate measure of physical activity level. Metabolic outcomes were measured using body mass index (BMI).

Results: Of the 30 subjects to enrolled, 25 have completed the study. The SHIM median scores showed a statistically significant reduction with ARN509 therapy ($p < 0.001$). There were no statistically significant changes to QLQ-PR25 total scores ($p = 0.1$) and in the in QLQ-C30-overall health and quality of life mean scores ($p = 0.8$ and $p = 0.1$). QLQ-C30-single items mean scores showed a small deterioration that was statistically significant ($p = 0.01$), but not clinically significant. There were no significant changes in weight or BMI during ARN 509 therapy ($p = 0.3$). Activity levels of subjects remained stable throughout the trial period ($p = 0.99$). The most common adverse events (AE) attributable to ARN-509 therapy included skin disorders (88%) and general disorders (72%). There were no falls, fractures or seizures described.

Conclusions: These results show that 12 weeks of neoadjuvant ARN-509 treatment is fairly well tolerated. There was also no impact on the daily physical activity of the patients.

C-10040

Neoadjuvant Apalutamide (ARN-509) and Radical Prostatectomy in Treatment of Intermediate to High Risk Prostate Cancer (NEAR) Phase II Trial

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Introduction and Objectives: The NEAR trial is a phase II single arm study of neoadjuvant apalutamide (ARN-509) and radical prostatectomy (RP) in the treatment of D'Amico intermediate and high-risk prostate cancer (Clinicaltrials.gov identifier: NCT03124433).

Methods: Participants received ARN509 240mg daily for 12 weeks followed by RP within 6 weeks of the last dose of medication. Primary outcomes included tumour response defined by residual cancer burden (RCB), post-therapy morphologic characterization, and post-operative serum PSA levels. Secondary outcomes included prevalence of significant adverse events (AE) with ARN509 and operative complications following RP. Statistical significance was defined as $p < 0.05$.

Results: 25 participants completed the study. The median age was 68 years, and serum PSA at recruitment was 11.6 ng/mL. They comprised D-Amico intermediate-risk $n = 12$ (48%) and high-risk $n = 13$ (52%). 84% of subjects achieved post-prostatectomy nadir PSA levels, and the rest achieved nadir PSA levels of 0.03-0.05. The post-therapy morphology classifications were group A (50%), group B (10%) and group C (40%). The median reduction in RCB was 19% (range 7% to 40%, $p = 0.0002$). The median reduction of serum PSA after neoadjuvant apalutamide alone was 97.3% (range 61.2 to 100.0, $p < 0.0001$). No subjects with Clavien-Dindo grade III and above surgical complications.

Conclusions: Results of the phase II NEAR trial show safe and reasonable oncological outcomes in patients with organ confined prostate cancer.

C-10049

Improving the Identification of Clinically Significant Prostate Cancer using Multiparametric Magnetic Resonance Imaging - a Predictive Model based on PIRADSV2, PSA Density and Lesional Volume Derived from a Radiopathologic Correlation Study

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Introduction and Objectives: The aim of this study is to establish a clinic-radiological model that improves upon mpMRI in the detection of clinically significant prostate cancer.

Methods: Retrospective review of our institutional database of men who have radical prostatectomies operated between 1/1/2015 to 31/12/2017 with available whole-mount histology, as well as biopsy-naive mpMRI. mpMRIs were over-read by an expert radiologist with special interest in prostate MRI. PIRADSV2 was used to assess the imaging. Each lesion was outlined on wholemount histology, with the low grade (LG) (Gleason 3) and high-grade (HG) components (Gleason 4 and 5) colour coded differently. Lesions on imaging were matched to wholemount histology. For the model derivation, data from PIRADSV2 and other clinical parameters were used. Receiving operator characteristic curves was generated and the area under curves (AUC) were compared.

Results: 70 patients met criteria. Most missed lesions by mpMRI were LG. Missed HG lesions has a median diameter of 4.90 mm versus 8.20 mm ($p = 0.002$) compared to HG lesions detected by mpMRI. Our model using a combination of PIRADSV2, PSA density and MRI Volume of lesion showed improved predictive performance of $AUC = 0.799$, superior to that of mpMRI using PIRADSV2 alone ($AUC = 0.769$, $p = 0.001$). A cut-off point of predicted probability of HG, $P(HG) < 20\%$ corresponded to a negative predictive value of 87.5% and a positive predictive value of 59.7%. Which means that for $P(HG) < 20\%$, the lesion is most likely to be LG.

Conclusions: Our study derived a risk model using PIRADSV2, PSA density and mpMRI volume of lesion could help clinicians better select for gland sparing strategies and/or, avoid unnecessary biopsies.

C-10050

Kidney Transplant in Patients with Severely Low Ejection Fraction (15-20%) - Our Experience

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Introduction and Objectives: A significant percentage of ESRD patients on hemodialysis have concomitant heart failure of varying severity. Because of concern about perioperative cardiovascular events and mortality, delayed or nonfunctional grafts the decision of transplant in this subgroup of patients is not straightforward. We present our experience of 10 such patients with EF 15-20%.

Methods: We analyzed the records of total 150 transplants done between July 2017 - July 2019. 10 patients had severe systolic dysfunction - EF 15-20% with features of CHF having NYHA class - I/II. All patients were assessed and evaluated by cardiologist and cardiac anaesthetist for better peri-operative optimisation and received rigorous hemodialysis for 2-3 weeks. In only 2/10 patients, coronary angiography was done which did not reveal significant disease. All patients were monitored intensively with Flo trac monitoring system for 24 hrs.

Results: Mean age of patients was 52.6 + 4.1 years. 7/10 patients were male. Mean EF 15-20%. All patients had good diuresis after transplantation. 3 patients were electively ventilated for 24 hrs. Post operatively, fall of creatinine was satisfactory. Mean nadir creatinine was 1.2 + 0.3 at time of discharge. There was no rejection/graft dysfunction at 6 months followup. All patients had improvement in the cardiac function post-operatively.

Conclusions: In these subgroup of patients, improvement in LV systolic function is significant provided the perioperative issues are tackled diligently along with the cardiologist and cardiac anaesthetist. These patients should not be denied a renal transplant solely on account of poor cardiac function.

C-10058

Is it Start of the End of Non-Endoscopic Stone Treatment in Australia? A Study of Medicare Claims Data in the Last Decade

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⁽¹⁾ The Prince Charles Hospital

Introduction and Objectives: The incidence of urolithiasis has been increasing worldwide coupled with an increasing number of interventions. Endoscopic management has become mainstay treatment for majority of stones given laser technology advances, innovations and availability. With increasing utilisation of endoscopic treatment, our objective was to assess the contemporary trends of non-endoscopic stone treatment over the past decade in Australia and examine for any regional variations given our countrys unique diversity in geography.

Methods: Medicare Australia databases were used to extract total number and population data (per 100,000) of procedural interventions for stone disease per calendar year, state and gender between 2010-2018. Item rebate codes were used pertaining to ureteroscopy/pyeloscopy, extracorporeal shockwave lithotripsy (SWL), nephrolithotomy/pyelolithotomy and percutaneous nephrolithotomy (PCNL).

Results: In Australia between January 2008 and December 2018, a total of 172,732 stone-related cases were performed. 10,803 (40 per 100,000 population) were performed in 2008 compared with 20,079 (65 per 100,000) in 2018. The increasing number of procedural interventions for stone disease is primarily related to endoscopic treatment whereby there has been in absolute terms, population adjusted, 3.9 per 100,000 yearly increase. In contrast there has been a decline in SWL and PCNL of -0.74 and -0.07 per 100,000 respectively. Nephrolithotomy/pyelolithotomy have remained stable.

Conclusions: In the last decade, there has been a significant increase in the number of urolithiasis-related interventions performed on Australian adults. A continual yearly incline in utilisation of endoscopic procedures was observed in all Australian states with a corresponding decline in ESWL and PCNL.

C-10051

To Assess the Benefits of ERAS in Live Kidney Donors

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Introduction and Objectives: There have been constant efforts to improve the outcomes in kidney transplants and concurrently reduce donor morbidity. The application of the ERAS (enhanced recovery after surgery) protocol to enhance the functional recovery of the donor and reduce length of stay can help to meet this aim. We report our experience with ERAS in donor nephrectomy.

Methods: Retrospective analysis of all live related kidney donors done from April 2012 to April 2019. Patients were divided in two groups, Gp 1-Patients operated between April 2012-April 2014 before application of ERAS protocol (n- 70) and group 2-Patients operated between 2014- 2019 in whom ERAS protocol was followed (n-220). Comparison of two groups was done on basis of perioperative parameters. ERAS protocol includes incentive spirometry, minimizing dosage of opioids, TAPP block with bupivacaine, laparoscopic/mini-incision nephrectomy using small subcostal incision and vascular clipping with angled clip applicators, no drains, single dose antibiotic, early catheter removal, early enteral feeding and early ambulation.

Results: Mean age of donors in both groups were comparable. Mean length of stay in group 1 was 4.5 + 1 days vs. 3.4 + 1 days in Gp2. Mean pain score after 6 hrs, 24 hrs and at discharge were significantly lower in group 2. Bowel movement was earlier in Group 2. None of the patients in either group had wound infection.

Conclusions: ERAS protocol can give donors early and smooth recovery. We recommend easy to follow steps of ERAS should be used routinely in donor nephrectomies.

C-10060

Would you like Apnoea for Extracorporeal Shockwave Lithotripsy (ESWL)? A Pilot, Prospective Study

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Introduction and Objectives: ESWL is commonly used for the treatment of urolithiasis, facilitated by general anaesthesia (GA). Inherent with ventilation is diaphragmatic movement causing movement of urolith/s. This may result in increased shockwaves, operating time and risk of injury to adjacent renal tissue. High flow nasal oxygenation (HFNO) incorporating a muscle relaxant is an alternative anaesthetic technique that provides oxygenation during extended periods of apnoea. Our aim was to assess the safety and feasibility of this for patients undergoing ESWL in this pilot study.

Methods: The study population comprised a consecutive number of voluntary patients undergoing ESWL and HFNO over a 6-month period in 2017. Data was prospectively collected to include baseline patient characteristics (age, sex, BMI), anaesthetic measures (duration, drugs, assisted ventilation) and surgical procedure (stone/s size and side, screening time, total shocks). Blood pressure, heart rate, oxygenation and transcutaneous carbon dioxide (CO₂) were recorded at baseline and at 5-minute intervals during the procedure.

Results: 26 patients were included in the analysis. Mean age, BMI, surgery time, anaesthetic time and duration of muscle paralysis were 49 years, 27 kg/m², 23 minutes, 40 minutes and 25 minutes respectively. Oxygenation was maintained within normal range for all patients. However, CO₂ levels increased progressively over time, especially when muscle relaxant was active (OR: 7.2; 95% CI 2.3-22.7). No patients required conversion to GA.

Conclusions: This pilot study demonstrated progressive hypercarbia over time in patients who underwent ESWL with HFNO. Future studies are necessary to evaluate if decreasing respiratory-induced motion results in improved clinical outcomes.

C-10066

Optimal Prostate-Specific Antigen (PSA) Cut-off Value and Transrectal Ultrasound Guided Prostate Biopsy for the Diagnosis of Prostate Cancer at Ramathibodi Hospital: The First Study in Southeast Asia

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Introduction and Objectives: To create an optimum prostate specific antigen (PSA) cut-off level for performing prostate biopsy in the Thai population.

Methods: Excluding patients with missing data, 1486 transrectal ultrasound guided prostate biopsies were performed at Ramathibodi Hospital from January 2011 to January 2017. Patient data, such as age, PSA level and prostate biopsy findings, were collected. Sensitivities, specificities, positive predictive value and negative predictive value of the PSA cut-off were assessed by retrospective analysis.

Results: Of the 1486 transrectal ultrasound guided prostate biopsies evaluated, patients with PCa had a significantly higher mean age (69.34 vs. 67.71 years for PCa and non-PCa, $p < 0.001$) and had a higher median PSA level (17.11 vs. 7.89 ng/mL for PCa and non-PCa, $p < 0.001$) than non-PCa patients. Sensitivity, specificity and positive predictive value of the PSA cut-off levels of 4 and 10 ng/ml were 97.3%, 8.4% and 33.3% and 68.0%, 66.4% and 48.7%, respectively. While the sensitivity, specificity and positive predictive value of PSA cut-off levels of 5.5 and 11 ng/ml were 91.8%, 23.3% and 33.3% and 64.0%, 72.5% and 52.2%, respectively.

Conclusions: The PSA cut-off should be increased to a level with an optimum trade-off between sensitivities and specificity. New PSA cut-off levels of 5.5 and 11 ng/mL would still detect 91.8% and 64% of cancers and refrain 23.3% and 72.5% of Thai men, respectively, from having unnecessary biopsies. Furthermore, this cut-off may be adopted for use in other Southeast Asian countries since they share similar environmental and genetic factors. More studies still need to validate these findings.

C-10071

Cost-Impact Analysis of Shifting Benign Prostate Hyperplasia (BPH) Patients Undergoing TURP or TUVF from Inpatient to Ambulatory Day Surgery Centre

Zhen Wei Choo ⁽¹⁾

⁽¹⁾ Tan Tock Seng Hospital

Introduction and Objectives: Outpatient TURP has been reported as early as 1994 with excellent clinical outcomes without compromising quality of care while freeing up inpatient beds, even in Singapore (1,2). A change in care design was proposed to reduce the average length of stay (ALOS) at Tan Tock Seng Hospital by shifting patients who had undergone TURP or TUVF from the inpatient wards to ambulatory settings at our Day Surgery Centre (DSC). We aim to analyze the cost-impact to our institution and patient between pre and post-implementation.

Methods: Patients were chosen for DSC based on our institutions selection criteria by the primary surgeon on listing day. A total of 513 patients bill profiles were manually retrieved and analyzed for the period from April 2014 to March 2015 and from April 2016 to March 2017 as well as from April 2017 to March 2018. The following key performance indexes were evaluated as results below.

Results: Total of 94 bed days saved for every 100 patients; S\$199,584 ward charges saved over 2 years, S\$56,244 ward charges saved for every 100 patients and average length of stay (ALOS) lessened from 2.6 days in the pre-implementation year (April 2014 to March 2015) to 1.4 (April 2016 to March 2017) and 1.36 (April 2017 to March 2018). Readmission rates within 30 days are similar to pre-implementation.

Conclusions: The care redesign helped to reduce the ALOS which translated to cost savings for both the patient and the hospital ward charges saved over 2 years.

C-10070

The Role of a Multidisciplinary MRI Prostate Review Meeting in Reducing the Number of Targeted Biopsies of PIRADS 3 Lesions Found on Multiparametric Prostate MRI

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Introduction and Objectives: Literature has reported detection rates of 12-20% for clinically significant cancer in PIRADS 3 lesions on MRI prostate (1-3). In our monthly MRI prostate review meeting, all PIRADS 3 lesions are re-read by one of two dedicated uro-radiologists and combined with clinical data, and in discussion with urologists, a decision on biopsy is made. Also, the results of the previous months targeted biopsies are reviewed.

Methods: A retrospective review of 352 consecutive patients with PIRADS 3 lesions discussed at the review meeting between January 2017 to September 2019. A decision is made on whether to proceed with targeted biopsy based on radiological features, laboratory results (PSA/PHI levels and PSA density), prior biopsy, and clinical status.

Results: The meeting recommended 49% (171/352) of PIRADS 3 cases not to proceed with targeted biopsy. Within this, 137/171 (80%) patients had their PIRADS score downgraded, and 34/171 (20%) were not recommended for targeted biopsy due to other clinical or radiological considerations. Overall, 36/352 (10%) had MRI lesions upgraded, and 141/352 (40%) were downgraded to PIRADS 1 or 2. Among patients with PIRADS 3 lesions after the meeting, who proceeded, 27/114 (24%) had prostate cancer, of which 16/114 (14%) were clinically significant (? Gleason grade group 2).

Conclusions: Nearly half of patients with PIRADS 3 lesions reviewed were recommended not to proceed with biopsy, with clinically significant cancer detection rates similar to known literature. This meeting streamlines the number of targeted biopsies for PIRADS 3 lesions and provides feedback and educational opportunities for both urologists and radiologists.

C-10076

A Multiphoton Microscopic Study of the Renal Cell Carcinoma Pseudocapsule Reveals its Heterogeneity

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Introduction and Objectives: Renal cell carcinoma tumor enucleation has gained popularity as a nephron-sparing surgery technique. This involves dissection along the fibrous pseudocapsule, which remains poorly understood. Multiphoton microscopy combines second harmonic generation and two photon excitation fluorescence to image extracellular matrix architecture. This study aimed to utilise MPM as a novel imaging technique to characterize and quantify collagen at the pseudocapsule, and assess for both intra-tumoral and inter-tumoral variation.

Methods: 20 partial nephrectomy specimen tissues were retrieved, cut into 5 -micron sections, mounted on slides and deparaffinized. The PCs were imaged with 2X and 20X objective at selected regions of interest. Corresponding clinical information was retrieved. PC thickness was determined. Collagen was quantified by collagen area ratio, and qualitatively measured by collagen fibre density and collagen reticulation index.

Results: The boundaries between tumour, PC and normal renal parenchyma were distinguished by multiphoton microscopy without the need for staining. In the thickest areas of the pseudocapsule, collagen content and density were quantitatively higher compared to the thinnest areas. Median collagen area ratio was higher in the thickest compared to the thinnest areas of the PC ($p=0.01$). Clear cell RCC specimens had a consistently higher collagen fibre density in both the thickest and thinnest areas compared to non-clear cell RCC specimens ($p=0.02$).

Conclusions: In this study, we demonstrated the ability of multiphoton microscopy to quantify collagen characteristics of pseudocapsules without fluorescent labelling. Even with a complete and intact pseudocapsule, it is not a homogenous structure, and varies in its thickness and its collagen characteristics within and between tumours.

C-10085

Increasing Rate of Bladder Cancer within Australia

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Introduction and Objectives: Bladder cancer is the seventh most common cancer and makes up 2% of all new cases diagnosed in Australia. Occurs most commonly in males and within the fifth and seventh decades of life. The aim of the study was to determine if bladder cancer diagnosis is increasing within Australia over a 15-year period.

Methods: This was an observational study of the Australian rates of bladder cancer from the year 2000 until 2015. The study used publicly available Australian Institute of Health and Welfare (AIHW) data, and included both sexes and all ages.

Results: Over the study period a total of 37,630 people were diagnosed with bladder cancer within Australia. The average number of new diagnosis increased by 10.3% per annum of the study period. Bladder cancer was most common in the male population with 75% (28,271) of diagnosis being males and 25% were females with bladder cancer. The rate of bladder cancer increased with increasing age, with the age group of 75-79 years (6,666) having the highest incidence of bladder cancer. The total incidence of bladder cancer over the time period was highest in NSW (11,827), followed by VIC (8,875), QLD (7,737), WA (3,310), SA (3,264), TAS (1,099), ACT (399) and lastly NT (138) with the lowest incidence.

Conclusions: The incidence of bladder cancer has continued to increase within Australia since the year 2000. The increase in bladder cancer incidence is likely multifactorial, and may indicate: increasing diagnosis and investigation; increasing ageing population; or increasing risk factors.

C-10087

Can Machine-Learning (ML) Augmented Audio-Uroflowmetry Distinguish Between Normal and Abnormal Flows from Voiding Sounds?

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Introduction and Objectives: Urinary flows predicted by an artificial intelligence (AI)-assisted system analysing voiding sounds have correlated well with standard uroflowmetry measurements. Presently, we evaluate its accuracy in distinguishing normal and abnormal urinary flows based on voiding sounds.

Methods: 233 male participants aged 21-80 years with or without lower urinary tract symptoms (LUTS), were enrolled between 01 December 2017 and 30 June 2018. Participants voided into a gravimetric uroflowmetry machine while voiding sounds were recorded on a smartphone. Audio recordings were digitally processed, paired with the corresponding uroflowmetry parameters and split into two groups, for training and testing the AI system. The training dataset was dichotomised into normal and abnormal flows by two urologists, and used to train two ML algorithms - Gaussian Mixture Model/Universal Background (GMM-UBM) and Long-Short-Term Memory (LSTM) model. Both trained algorithms were asked to categorise audio recordings from the testing dataset into normal/abnormal groups, and this was referenced against the urologists diagnoses. Accuracy and area under ROC (AROC) curves were calculated for each ML algorithm.

Results: From 233 paired audio recordings/uroflow measurements, 131 (63 normal and 68 abnormal flow patterns) were used to train the ML algorithm. On testing, the GMM-UBM model had an accuracy of 89.2% and AROC of 0.93, correctly classifying 34/40 normal and 57/62 abnormal flows. The LSTM model had an accuracy of 91.1% and AROC of 0.92, correctly classifying 39/40 normal and 54/62 abnormal flows.

Conclusions: Audio-uroflow predictions from voiding sounds using AI-assisted algorithms can distinguish normal and abnormal flows with good accuracy, but further validation is required.

C-10086

Percutaneous Nephrolithotomy for Calyx Inferior Stones: Stone Burden will Affect? Stone Burden as Predisposition Factor in Calyx Inferior Stones by Supine Percutaneous Nephrolithotomy

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Introduction and Objectives: To compare the stone free rates of inferior calyceal stones with different stone burden on supine percutaneous nephrolithotomy patients in Zainoel Abidin Hospital, Aceh, Indonesia.

Methods: The data was collected retrospectively from medical records in Zainoel Abidin Hospital, Aceh between January 2014 until December 2019. Patients were followed-up with plain abdominal radiography (BNO) or renal ultrasonography (USG). Stone free status was defined as no residual fragments on radiography or USG.

Results: 97 patients with inferior calyceal stones who underwent PCNL were included. 53 cases had stone burden < 20 mm, 34 cases with stone burden 21-30 mm, and 10 cases with stone burden > 30 mm. Overall, 91 (94%) cases were defined as stone free. On group < 20 mm, 21-30 mm, and > 30 mm; 51 (96%), 32 (94%), and 8 (80%) cases defined as stone free respectively (p = 0.485).

Conclusions: Supine PCNL was still superior in management of calyx inferior stones with different stone burden. The stone free rate of these three groups showed no statistically significant difference.

C-10090

Safety and Outcomes of Combined External Beam Radiation Therapy (EBRT) with High Dose Rate (HDR) Brachytherapy for Localized Prostate Cancer

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Introduction and Objectives: Combined external beam radiotherapy (EBRT) and high dose rate brachytherapy boost (HDR-BT) has been proven a safe and effective option to deliver high dose radiation in selected patients with intermediate-risk to high-risk prostate cancer. This study aims to report the clinical outcomes of Asian population treated with this combined approach in a tertiary academic institution.

Methods: Medical records of 37 patients who underwent EBRT with HDR-BT boost 2015-2019 retrospectively reviewed. Mid-term safety and efficacy data particularly gastrointestinal (GI) and genitourinary (GU) toxicities evaluated. Short to mid-term outcomes including biochemical recurrence, distal metastasis, progression-free survival, and overall survival were assessed. Adverse effects assessed using CTCAE version 4.0. Biochemical failure defined by the Phoenix consensus definition of PSA level 2.0 ng/mL above the nadir value.

Results: Total 37 patients received 15 Gy in one fraction. Two defaulted, one was lost to follow up. For rest 34 patients, median follow-up 28.5 months. Patients stratified by Damico risk classification: 21% patients (n=7) intermediate risk and 79% patients (n=27) high risk. All patients received androgen deprivation therapy. Combined median dose to 2 cc (D2 cc) of rectum and bladder was of 63.0Gy and 71.4Gy respectively. One patient (2.9%) developed grade 3 GU toxicity requiring admission for washout; no grade 3-4 GI toxicity. One patient (2.9%) developed biochemical recurrence 2 years post treatment, and distal metastasis 15months later. The overall progression-free survival rate was 97.1%, and overall survival rate was 100%.

Conclusions: EBRT with HDR-BT is a safe and effective approach for intermediate and high-risk prostate cancer, with excellent biochemical control and long-term toxicities.

C-10092

Is Multiparametric MRI (MP-MRI) Prostate Reliable in Detecting the Location of the Highest-Grade Lesion? A Western Australian Experience

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Introduction and Objectives: Transperineal prostate biopsy allows some degree of targeting during biopsy but is still invasive with complications. Some studies have suggested that MP-MRI prostate may allow up to 25% of men avoid prostate biopsy. The range of MP-MRI sensitivity and specificity is however wide, varying between 59-96% and 23-87% respectively. Hence, we aim to review the effectiveness of MP-MRI in detecting clinically significant prostate cancer in Western Australia.

Methods: A retrospective study of patients who had template TP prostate biopsies at a single Western Australian centre and MP-MRI performed at a single respected radiology provider between 2015 and 2018 was done. Patient information was de-identified. Demographic data, PSA, prostate volume, the location of MRI PIRADS 3-5 lesions and the histopathology results were recorded. Standard methods were used to calculate sensitivity, specificity, positive predictive value and negative predictive value.

Results: A total of 300 cases were analysed. MP-MRI demonstrating a clinically significant lesion (PIRADS 4/5) had a sensitivity of 92% [87-95], specificity of 83% [74-89], PPV of 91% [86-94] and NPV of 85% [76-91] in detecting clinically significant prostate cancer (Gleason 7-10). MP-MRI PIRADS 4/5 correctly identified the location of clinically significant prostate cancer in 91% of the cohort while it only correctly identified location of Gleason 6 cancer in 21% of cases.

Conclusions: This study demonstrates that clinically significant lesions on MP-MRI corresponded to a high rate of clinically significant cancer being detected on biopsy at that same location, supporting the use of MRI target prostate biopsies.

C-10095

Who Dies of Localized Prostate Cancer? A Natural History Study in Singaporean Men

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Introduction and Objectives: Prostate Cancer (PCa), accounts for 13.0% of the cancers diagnosed in men between 2011-2015. There is little data on the natural history of localized PCa, nor a clear definition of lethal PCa in this population. We aim to describe the natural history of men with clinically localized PCa.

Methods: A clinical review of a prospectively collected prostate cancer registry in SingHealth was performed. 1679 patients were diagnosed with PCa between 2001-2008. Patients with non-adenocarcinomatous histology, metastatic disease, definitive local or systemic therapy, absent PSA/histology/T-staging, and unknown cause of death were excluded.

Results: 204 patients were analyzed. Median follow up was 10.11 years, 19 (9.3%) patients lost to follow up; 19 PCa and 84 non-PCa deaths. Cumulative incidence of overall mortality, PCa mortality (PCM) and NPCM was 64.2%, 11.7% and 52.5%. Age, comorbidities and CCI were statistically significant for NPCM. CCI had a higher AUC (73.1%) for NPCM compared to comorbidities (63.1%) and age (71.1%). sdHR of NPCM with CCI and DAmico was significant for CCI ≥ 4 (sdHR 3.21 CI 2.05-5.04, $p < 0.001$). PCM of DAmico high-risk PCa patients with CCI 0-3 and ≥ 4 was 55.6% and 14.6% ($p = 0.026$). sdHR of PCM in this population was significant for CCI 0-3 (sdHR 3.55 CI 1.08-11.7, $p = 0.036$).

Conclusions: Older men with CCI ≥ 4 have a significant risk of NPCM, a more conservative approach should be. Men with high-risk PCa and CCI ≤ 3 are likely to die of prostate cancer and may represent candidates for aggressive treatment. CCI could serve as a better predictor for NPCM.

C-10094

99mTc-Sestamibi Renal SPECT/CT in the Differentiation Between Malignant and Non-Malignant Renal Tumours: the Initial Experience at a Western Australian Centre.

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Introduction and Objectives: The incidental detection of small renal masses is increasing however standard imaging modalities remain unable to differentiate between benign and malignant lesions. 99mTc-MIBI SPECT/CT is a form of nuclear imaging that is used extensively in myocardial perfusion, breast and parathyroid scanning. There is limited experience with its use in the assessment of renal lesions however results from the few reported series is encouraging and so its utility was assessed in our unit in this prospective audit. The aim of this study was to assess the feasibility of using 99mTc-MIBI SPECT/CT in our department and to determine its sensitivity and specificity in differentiating between benign and malignant renal tumours.

Methods: 99mTc-MIBI SPECT/CT was offered to all patients referred to Fiona Stanley Hospital with newly identified small renal masses between 1 July 2018 and 1 October 2019. Nuclear medicine radiologists reported the scans and described lesions as either avid (suggestive of benign lesion) or non-avid (suggestive of malignant lesion). Results were prospectively collected and recorded. Patients subsequently underwent core renal mass biopsy and/or extirpative surgery after discussion with treating urologist. Results from 99mTc-MIBI SPECT/CT were compared to histopathology results to determine its sensitivity and specificity.

Results: Of the 67 patients with new renal masses who have undergone 99mTc-MIBI scanning, 50 have histopathology available. 99mTc-MIBI demonstrated a sensitivity of 0.95 and a specificity of 0.85 in diagnosing malignant lesions.

Conclusions: 99mTc-MIBI SPECT/CT has the potential to change the evaluation of renal masses by minimizing the role and complications associated with renal mass biopsy.

C-10097

Robotic-Assisted Laparoscopic Ureteral Re-Implantation: A Single Center Experience

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Introduction and Objectives: The open reconstructive surgery of lower ureter requires large incision and is associated with increased morbidity, whereas laparoscopic reconstruction is associated with steep learning curve, prolonged operative time and difficult. We report our single centre experience with robot-assisted laparoscopic ureteral reimplantation (RALUR).

Methods: From 2014 to 2019 total 27 patients (age range 6-50 years) underwent RALUR for various underlying pathologic conditions. The da Vinci surgical system was utilized. We analyzed epidemiological characteristic of each patient, underlying pathology, unilateral or bilateral involvement, operative time, hospital stay and peri-operative or long term complication.

Results: Total 27 patients underwent RALUR, out of which 8 were male and 19 were female. Inflammatory ureteral stricture was predominant underlying pathology with total 9 cases, followed by iatrogenic ureteral stricture (7 cases). Ureterovaginal fistula, obstructed megaureter and VUR contributed for 3 cases each. 2 cases were for ectopic ureter. Unilateral involvement was present in 21 cases with Bilateral involvement was present in 6 cases. Only ureteral reimplantation was sufficient in 17 cases, UR with psoas hitch was needed in 9 cases and 1 case required boari flap. Mean operative time, mean docking time and mean console time were recorded. Mean blood loss and mean hospital stay were 250 ml (range 50-500 ml) and 3 days (range 2-6 days), respectively. According to Clavien-Dindo classification, there were 4 grade 1, 1 grade 2 and no grade 3 complications.

Conclusions: The robotic assisted ureteral reimplantation is not only technically feasible option but also give comparable outcome with minimal morbidity and better aesthetic.

C-10099

One-Stage Dorsal Onlay Buccal Mucosa Graft Supplemented with a Tunica Vaginalis Flap: a Novel Technique for Redo Bulbar Urethroplasty

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Introduction and Objectives: Urethral stricture disease is an abnormal narrowing of the urethra resulting from fibrosis. This fibrosis may be caused by various risk factors and may include previous instrumentation, perineal trauma, and infections, among others. These primary strictures may be managed with urethrotomy, end-to-end anastomosis or outright open urethroplasty. Recurrent urethral strictures after initial correction, on the other hand, pose an even greater challenge for the reconstructive urologist. These wounds are highly complex due to the extensive tissue fibrosis and poor vascularity, rendering the urethroplasty more likely to fail. We aim to present a difficult case successfully managed by a novel technique not previously described in literature for urethral strictures.

Methods: We present an 18-year-old male who previously suffered from severe trauma to the pelvis from a vehicular crash causing significant tissue loss. The patient initially underwent open urethroplasty with buccal mucosal graft. However, the initial repair failed few months after and a tube cystostomy was placed for diversion. During workup and imaging, a combined cystourethrogram revealed a 4.2 cm bulbar urethral defect. A surgical plan was formulated and the patient was scheduled for operation. The patient was then successfully managed with a one-stage dorsal onlay buccal mucosal graft with tunica vaginalis flap redo urethroplasty.

Results: Post-operative course was unremarkable and the patient remains symptom-free nine months after surgery. A repeat urethrogram was performed and showed patency of the bulbar urethra after repair.

Conclusions: We recommend this method to be considered a part of the reconstructive urologists armamentarium in the management of recurrent urethral strictures.

C-10103

Indications for Native Nephrectomy in Patients with Autosomal Dominant Polycystic Kidney Disease

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Introduction and Objectives: Manifestations of autosomal dominant polycystic kidney disease (ADPKD) include numerous large renal cysts leading towards end stage renal disease (ESRD), haematuria, pain, and urolithiasis. Multiple enlarging cysts, especially with concurrent liver cysts, can cause intra-abdominal compartment compromise leading to early satiety and malnourishment. We assess patients who underwent native nephrectomy (NN) for ADPKD to determine indications and outcomes.

Methods: A 9-year retrospective review from 1/10/10-1/10/19 identified 33 cases of NN for ADPKD. Retrospective chart review identified patient demographics, indications for surgery, histology, and perioperative details.

Results: Average age at NN was 56.1+/-9.3 years. 45.5% (n=15) were male. 42% of patients were renal transplant recipients. The most common indication for NN was symptomatic abdominal compartment compromise in 36.4% (n=12). 24.2% (n=8) of patients underwent NN to create abdominal space prior to renal transplantation, and 6% (n=2) of patients underwent NN at the time of simultaneous liver-kidney transplantation. 15.2% (n=5) underwent NN due to infective pathologies, and 18.2% (n=6) due to a suspicious renal lesion. Two patients who underwent NN for abdominal compartment compromise, underwent subsequent contralateral NN for abdominal compartment compromise.

Conclusions: ADPKD is an uncommon genetic disorder that can cause a constellation of conditions for patients. In our series, patients most commonly required surgery to relieve their symptoms from abdominal compartment compromise. Subsequently, it was associated with renal impairment with requirement for renal replacement therapy or transplantation. NN for ADPKD is a challenging procedure that balances the short-term quality of life improvement against the long-term implications of impending renal failure.

C-10101

Contemporary Indications for Serial PSMA-PET in Prostate Cancer Patients

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Introduction and Objectives: PSMA-PET is a novel molecular targeting imaging modality that has been found to be useful in staging patients with biochemical recurrence. As facilities have become more readily available, the indications for imaging have widened to include primary staging and response to treatment. We investigate the contemporary indications for serial PSMA-PET in a large tertiary referral centre.

Methods: We performed a retrospective review of all PSMA-PET studies completed from 2015 to 2019. Patients who had undergone more than one study were identified. Medical records, radiology, and pathology were reviewed to ascertain indications and outcomes of serial PSMA-PET studies.

Results: We identified 35 patients in our 5-year study period. 48.6% (n=17) of patients underwent more than two PSMA-PET studies (range 2-9/patient). 14.3% of patients underwent an initial PSMA-PET study to assess response to systemic therapy, and 55.6% (n=10) of second PSMA-PET studies were to assess response. In patients who had undergone a third PSMA-PET study (n=17), 35.3% were performed to assess systemic therapy response and 50% (n=2) of fourth PSMA-PET studies were performed on patients post chemotherapy. Other common indications for serial PSMA-PET included assessing for site of recurrence in biochemical recurrence, or ongoing PSA progression post salvage treatment.

Conclusions: The use of PSMA-PET as a tool to assess treatment response to systemic therapies has increased without guidelines or long-term prospective studies to indicate the impact on patient outcomes. The use of serial PSMA-PET out of the multidisciplinary-team setting and without long-term studies assessing impact on patient outcomes comes at a potentially significant cost to the healthcare system.

C-10104

Management of Acute and Chronic Transplant Ureteric Complications

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Introduction and Objectives: Ureteroneocystostomy is routine practice at the time of renal transplantation. Rarely, it can be associated with anastomotic leak, breakdown or strictures that may require immediate or staged procedures. We review renal transplant ureteroneocystostomy complications, management, and outcomes in our transplant centre.

Methods: The renal transplant database was used to identify all renal transplant recipients in our 10-year study period from 2009-2019. Patients who underwent further management of ureteric complications were identified. Management and outcomes were ascertained from medical records, pathology, and radiology.

Results: Mean age of patients was 49.8+/-14.4 years. In our 10 year study period, 13 patients were managed for obstructive ureteric pathologies, five patients with urine leak, and one patient for ureteric perforation. Obstruction was secondary to stenosis or stricture in six cases, pelvi-ureteric junction obstruction in five cases, urolithiasis in one case, and herniation in one case. Ureteroneocystostomy was routinely stented at time of transplantation. Time from transplant to ureteric complication ranged from 2 days to 6 years. Surgical repair techniques consisted of native ureteropyeloplasty (n=14), reimplantation (n=3), Boari flap pyeloplasty (n=1), and flap repair of renal pelvis (n=1). Two patients required a subsequent surgical procedure.

Conclusions: Ureteric complications post renal transplantation are rare and can be varied. In cases that were amenable to native ureteropyeloplasty, surgical management was shown to be successful in our study population. Further research into other perioperative factors such as patient comorbidities, warm and cold ischaemic times, and other confounders should be considered in future studies assessing contributing factors to transplant ureter complications.

C-10105

Outcomes of Polyomavirus Positive Micropapillary Urothelial Cancer

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Introduction and Objectives: Polyomavirus has been associated with rare bladder histopathological subtypes such as micropapillary urothelial cell carcinoma (UCC). The virus is more prevalent in the transplant population and associated with poorer cancer outcomes due to immunosuppression. In this study, we review micropapillary UCC associated with polyomavirus in transplant recipients at our tertiary transplant centre.

Methods: We performed a retrospective review from April 2010 to April 2019 of micropapillary variant UCC. SV40 staining was assessed for positivity and retrospective chart review was performed on patient demographics, comorbidities, histology, treatment, and outcomes.

Results: We identified four cases of SV40 positive micropapillary variant UCC in our 9 year study period. All patients were male, and average age at diagnosis was 62+/-9.5 years. Patients had received kidney-pancreas (n=2), kidney (n=1), and bilateral lung (n=1) transplants. Average time since transplant was 10+/-2.9 years. 50% (n=2) of patients were found to have HGT1 at initial TURBT, and 50% (n=2) were diagnosed with HGT2. All patients were managed with radical cystoprostatectomy. Concurrent CIS and prostate cancer were identified in three and three patients respectively, with two patients found to have synchronous CIS and prostate cancer. Average time of follow-up was 17.8 months (range 6-36). Average cancer specific time to death in two patients was 9 months.

Conclusions: Although a recent meta-analysis reports seemingly more favourable outcomes for micropapillary variant UCC than expected, there is scant data on polyomavirus associated micropapillary UCC in transplant patients. We identified four cases of this rare entity in our institution, and despite radical cystoprostatectomy, found that these patients experienced a clinically aggressive disease course.

C-10107

Contemporary Management of Prostate Cancer in Renal Transplant Recipients

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Introduction and Objectives: Prostate cancer is a ubiquitous disease affecting a significant proportion of the male population including renal transplant patients. Management has been complicated by the presence of a pelvic allograft and uretero-neovesicostomy at the bladder dome. We assess our current trend in management of prostate cancer in renal transplant recipients and outcomes.

Methods: Retrospective review of all renal transplant recipients managed for prostate cancer between 2010 to 2018 was performed. Medical records, pathology and radiology were reviewed to determine outcomes.

Results: Mean age of patients diagnosed with prostate cancer was 68.57+/-7.98 years in this unique population. PSA on referral ranged from 1.1-1260 ng/mL (mean 98.48+/-279.26 ng/mL). Average time to diagnosis from time of renal transplantation was 6.35+/-4.65 years. 50% (n=13) of patients had localised disease; 61.5% (n=8) underwent intensity modulated radiation therapy (IMRT), and 38.5% (n=5) underwent radical prostatectomy (RP), 4 of which were robot assisted laparoscopic prostatectomy (RALP). 11.5% (n=3) of patients ultimately died from cancer related deaths during the review period. There were no graft-related adverse events.

Conclusions: While traditionally thought to be associated with high risk to the allograft, a contemporary review from our tertiary transplant unit found no graft related adverse events associated with any treatment modality. There was a trend for RALP in this cohort as well as tailored IMRT for radiotherapy including virtual high dose brachytherapy with stereotactic radiotherapy. With advancing age of renal transplant recipients and increased life expectancy, it is important to recognise the ongoing need for prostate cancer assessment and treatment in these males.

C-10106

Time on Dialysis and Prevalence of RCC in ADPKD Patients Undergoing Native Nephrectomy

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Introduction and Objectives: Multiple enlarging bilateral renal cysts in ADPKD can lead to ESRD necessitating renal replacement therapy (RRT). It has been suggested that ESRD and time on RRT may be associated with RCC of native kidneys in ADPKD patients. In this contemporary review, we assessed the prevalence of RCC in nephrectomy specimens, and whether it is associated with duration on RRT.

Methods: Data was collected on patients with ADPKD who underwent nephrectomy from 1/10/10-30/11/18. Retrospective chart review collected data on patient demographics, perioperative details, time on RRT, and formal histological diagnosis.

Results: 29 nephrectomies were performed in 27 patients. Average age at nephrectomy was 56.8+/-9.3 years, and average age of patients with RCC was 66.8 years. RCC was found in 13.8% (n=4) of nephrectomy specimens. One patient was dialysis naive and commenced dialysis on day one postoperatively. Average time on RRT for all patients was 24.8+/-27.2 months. Average time on RRT in RCC confirmed patients and non-RCC patients was 35+/-46.8 and 23.2+/-24 months respectively. There was not a statistically significant difference between time on RRT between the non-RCC and RCC groups (p=0.21).

Conclusions: We report contemporary findings on ADPKD patients who underwent native nephrectomy. There was a wide range in time on RRT, and although patients with RCC were found to have longer mean dialysis exposure, our sample size was too small to draw conclusions. Nevertheless, given the trend of increasing risk of RCC in ADPKD patients who are dialysed, it would be reasonable to suggest imaging of native kidneys especially prior to proceeding with transplantation.

C-10111

Breast Cancer Metastasis to the Urinary Bladder and the Role of Immunohistochemistry Profiling

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Introduction and Objectives: Breast cancer is a one of the commonest malignancies affecting women. It is known to metastasize to multiple sites such as the lymph nodes, lung, liver, and bones. The urinary bladder is an uncommon metastatic site and its incidence may be under-reported, requiring a high level of clinical suspicion to diagnose them. At times, due to the poorly differentiated nature of the metastatic cells, ascertaining the primary origin of the metastases can be challenging to pathologists. Immunohistochemistry is the molecular technique to detect protein expression and changes in nucleic acids in various tissue samples. They can be a very useful adjunct for pathologists and knowing some of its basic principles may be useful to the practising urologist.

Methods: We present a 42 year old female patient that initially underwent radical mastectomy and axillary lymph node dissection for high grade invasive ductal breast carcinoma (pT3N3cM0).

Results: Despite adjuvant radiotherapy, chemotherapy and hormonal therapy, the patient developed interval liver metastasis 6 years later which required further palliative chemotherapy. Unfortunately while on anticoagulation therapy for a lower limb deep vein thrombosis, the patient developed visible haematuria. CT abdomen/pelvis showed no urological abnormalities. A flexible cystoscopy revealed extensive sessile tumour at the bladder trigone. Histology of the biopsy specimen revealed poorly differentiated adenocarcinoma. Immunohistochemistry profile supported that it was breast cancer in origin.

Conclusions: In this case report we present a literature review on metastatic breast cancer to the urinary bladder as well as an overview of immunohistochemistry profile relevant to the practising urologist.

C-10113

Intranodal Lymphangio-Embolization as Treatment for Lymphocele after Kidney Transplantation : A Case Report

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Introduction and Objectives: Symptomatic lymphoceles after renal transplant requiring interventions are reported to be only at 5.6%. (1) Creation of a peritoneal window, frequently performed laparoscopically, is deemed the gold standard for management. However, in recent years, less invasive methods like instillation of various sclerosants have been described. We herein report a case of lymphocele post renal transplant treated with intranodal lymphangio-embolization, with a review of current literature of this uncommon procedure.

Methods: Retrospective review of this patients electronic medical records.

Results: We present a 43-year-old male with end-stage kidney disease secondary to chronic glomerulonephritis, having been on hemodialysis for seven years. He underwent a deceased donor dual kidney transplant, complicated post-operatively by renal vein thrombosis in one of the grafts resulting in early graft nephrectomy as well as a distal uretero-vesical leak requiring reimplantation. On re-implantation post-operative day 16, he was noted to have persistent high drain output with a normal drain fluid creatinine. Right intranodal lymphangiogram was performed and demonstrated active lymph leak around the transplanted kidney. 33% Glue (NBCA) - Lipiodol infusion was then injected at a rate of 0.2 ml/min intranodally under fluoroscopic guidance. He underwent another repeat embolization 5 days later for residual lymph leak with satisfactory results. Drain output subsequently decreased and was removed.

Conclusions: This case suggests that intranodal lymphangiography and embolization may not only be a diagnostic tool but can be considered as an effective, minimally invasive and safe method for treatment of lymphoceles after kidney transplantation.

C-10115

A Rare Case of Severe Vaginal Stenosis Causing Bladder Outlet Obstruction in a Post-Menopausal Female Patient

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Introduction and Objectives: Bladder outlet obstruction (BOO) is an uncommon condition in women. In elderly women, genitourinary syndrome of menopause (previously also known as urogenital atrophy, vulvovaginal atrophy or atrophic vaginitis) is a common hypoestrogenic condition that affects close to 50% of postmenopausal women, resulting in a host of lower urinary tract symptoms (LUTS). In this case report, we describe a rare case of BOO in a female patient with severe vaginal stenosis and a retracted urethral meatus onto the anterior vaginal wall.

Methods: We present a 69-year-old post-menopausal female patient that presented with LUTS.

Results: The patients uroflowmetry voiding graph showed a stricture pattern with reduced peak urinary flow rate of 5 ml/s. Flexible cystoscopy was performed, showing what was initially thought to be a pinhole urethral meatus with a completely obliterated vagina. Serial dilatation via S-dilators was performed. Post-dilatation however, we realised that what was initially thought to be the pinhole urethral meatus was in fact the severely atrophied vaginal opening. The patients urethral meatus remained patent, and was merely retracted onto the anterior vaginal wall. Urine was therefore collected in the vaginal vault during voiding, prior to expulsion from the narrowed vaginal introitus. Vaginal dilatation showed significant improvement in urinary flow rate post-procedure.

Conclusions: Genitourinary syndrome of menopause is a common condition. Post-menopausal women presenting with LUTS and/or BOO should be carefully examined for features of vaginal stenosis with a retracted urethral meatus onto the anterior vaginal wall. Dilatation of the vaginal stenosis is a safe and effective treatment option.

C-10114

The Role of Telecommunications for Clinical Review of Patients with Haematuria - A Patient Perspective

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⁽¹⁾ Queensland Health

Introduction and Objectives: Macroscopic and microscopic haematuria is a common urological presenting complaint. Causes can be due to benign and malignant conditions. The investigations of haematuria is routinely completed with a urine cytology, imaging of the upper tracts, followed by cystoscopy for visual examination. In Australia, haematuria is a common presentation, and examination and investigations have put an increased burden on the health service in a tertiary hospital. To improve patient outcomes, patient waitlists and the burden on the public system, a streamlined telephone clinic was created to assess patients then book them for their appropriate procedure - likely a flexible cystoscopy. This study looks at the patient perspectives.

Methods: A retrospective survey was completed of patients involved in the haematuria phone clinic. Patients were called or surveyed at time of follow up. Specific outcomes that were monitored included patient satisfaction in consults, wait times, as well as their health literacy and understanding of their condition and further investigations that was required.

Results: Over a 3 month period, 94 patients were involved in the haematuria phone clinic. 82 of these patients participated in this study. Results showed that over 80% of patients were happy with the reduced wait time for review. However 28% of patients felt the consult was too brief. More concerning over 15% of patients were unsure why they were getting a cystoscopy.

Conclusions: Telecommunication clinics can be used to improve the efficiency within a tertiary surgical system, however clinicians must be cautious to provide adequate care and thorough explanation for best patient outcomes.

C-10116

Predictors of Patient Anxiety during Flexible Cystoscopy: A Single Tertiary Centre Experience

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Introduction and Objectives: It is well documented that a flexible cystoscopy performed under local anaesthetic can provoke anxiety. The objective of this study was to provide a better understanding of the factors which underpin this.

Methods: Consecutive patients undergoing flexible cystoscopies at Royal Hobart Hospital were prospectively asked to complete a questionnaire. Flexible cystoscopies were performed using local anaesthetic. Data collection included pre & post cystoscopy anxiety levels on a scale of 1-10 as well as a list of 30 standardized items. Univariate analysis and ANOVA testing were then conducted.

Results: 70 males and 35 females (n = 105) completed the questionnaire. Across the cohort there was decrease in anxiety pre to post cystoscopy (3.05 vs. 1.69, p < 0.05). Patients with a gender preference had higher (4.64 vs. 2.81, p < 0.05) scores. Patients with mental health burden had higher scores (4 vs. 2.63, p < 0.05). ANOVA analysis showed anxiety scores to be highest amongst those aged 40-70. Further ANOVA showed indication for cystoscopy, number of previous cystoscopies, education, income and rurality to be insignificant at p = 0.05. The remainder of our univariate analysis showed abuse, substance use, gown use & preference to be insignificant at p = 0.05.

Conclusions: From this cohort, overall anxiety burden in cystoscopies remains low, however patients with mental health diagnoses, a gender preference for their urologist and those aged 40-70 are likely to have higher anxiety. Interestingly, our data also reflects that conventional socio-economic determinants including patient gender as well as reasons for and frequency of surveillance don't significantly affect anxiety.

C-10117

Pre-Stenting for Infected, Obstructed Kidney Secondary to Urinary Tract Calculi and the Risk of Urosepsis Post Ureterscopy.

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Introduction and Objectives: The infected, obstructed kidney secondary to a ureteric calculus requires urgent decompression, most commonly with a ureteric stent. Studies have shown that pre-stenting increases the risk of urosepsis post-definitive stone treatment with ureteroscopy. Furthermore, a longer stent dwell time and prior stenting for sepsis have been associated with an increased risk of post-operative urosepsis. Our objective was to evaluate our rates of post-ureteroscopy urosepsis in patients who have been pre-stented for infected, obstructed kidneys secondary to urinary tract calculi.

Methods: A retrospective study of patients who had ureteric stents placed for infected, obstructing urinary tract stones at a single Western Australian centre from 2017-2019 was performed. Data was collected from digital medical records and patient information was de-identified. The primary study endpoint was sepsis within 48 hours of ureteroscopy for definitive treatment of urinary tract stones while the secondary endpoint was sepsis within 10 days of ureteroscopy. Standard methods were used for analysis.

Results: Between July 2017 and June 2019, 126 patients underwent ureteric stent insertion for infected, obstructed kidneys secondary to renal tract stones. 37 patients were lost to follow-up. 3 patients developed post-operative sepsis within 48 hours following definitive treatment of their urinary tract stone while 4 patients developed post-operative sepsis within 10 days after definitive treatment. Median stent dwell time in those who developed post-op sepsis within 48 hours was 78 days compared to 36 days in those who did not develop sepsis post definitive ureteroscopy.

Conclusions: Longer stent dwell time was associated with higher rates of post-operative sepsis.

C-10119

Is There a Role of Improving and Ongoing Education in our Workplace? - The Learning Curve of Guidewire Assisted Urethral Catheter Insertions

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Introduction and Objectives: The insertion of an indwelling urethral catheter is a vital skill which is taught in medical school in Australia and around the world. However due to decreased exposure, the skill of inserting a catheter is becoming more and more problematic, requiring specialty assistance. A safe technique which has been identified in previous studies to insert difficult catheters includes guidewire assisted insertions. This skill is not routinely taught or educated to other specialties, creating increased frustration and diminished patient care. This study pursued the role of ongoing inter departmental education, and analysed the learning curve required to confidently insert a urethral catheter.

Methods: Education was provided with demonstrations on inserting a guidewire assisted urethral catheter; these were provided for those in other surgical specialties, critical care and emergency department. Post education after a trial period, a survey was conducted to determine whether other physicians felt comfortable using this technique to insert a catheter. Other variables including knowledge of anatomy, and concerns were also recorded.

Results: Members of staff at a tertiary Australian hospital volunteered for the education. 74% of staff were much more confident in inserting a catheter post education, more importantly they felt that they could provide care to patients more efficiently. 60% were surprised at the technical ease of the guidewire.

Conclusions: Ongoing education is critical in improving patient care in surgery. Urology is a subspecialty but simple skills can be translated to other members of staff. The methods of education is also a critical aspect of the learning curve.

C-10118

A Review of MRI Prostate Findings in a Tertiary Australian Hospital - Are we Using them Appropriately?

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Introduction and Objectives: Prostate cancer remains one of the more common malignancies in men in Australia and worldwide. In investigation of prostate cancer, a PSA blood test is followed by a physical examination. If there is any concern the next step is for an MRI prostate scan, followed by a transrectal ultrasound (TRUS) guided prostate biopsy. MRI scans have become more readily available with increased fundings. The question is whether MRIs are being over or under utilised in diagnosis of prostate cancer. This study looks at its use over a 12 month period in a tertiary hospital.

Methods: A retrospective study was completed over a 12 month period in 2017. All MRI's completed were reviewed, variables including family history, rectal examination, PSA and histology were recorded. Further statistical analysis was completed to review indication and findings.

Results: A total of 318 MRI scans were undertaken at Gold Coast University hospital. 268 were completed for the diagnosis of prostate cancer. 191 went on to have a TRUS biopsy. 34.7% and 12.7% were scored PIRADS 4 and 5 lesions, and over 90% of these patients went to have a biopsy, resulting in 46.2% and 85.3% clinically significant prostate cancer diagnosis. Approximately 20% had non conclusive lesions, resulting in only 1 significant prostate cancer. An association with other risk factors was made in this study.

Conclusions: The study concludes that MRI scans are being used appropriately in diagnosing prostate cancer. As a tool to assist in histological diagnosis, and a tool to assist in minimising invasive biopsies in patients.

C-10120

Spontaneous Peri-Renal Haemorrhage of Renal Origin (Wunderlich Syndrome): Analysis of 5 Cases

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Introduction and Objectives: Wunderlich syndrome is a rare condition where spontaneous non-traumatic haemorrhage occurs in the subcapsular and peri-renal spaces. It is classically characterized by Lenk's triad: acute flank pain, flank mass, and hypovolemic shock. We report our experience in its surgical management.

Methods: We performed a retrospective review of all patients who underwent emergency open nephrectomy at our institution from 2015 to 2019. Clinical variables (age, co-morbidities, presenting symptoms), radiological and histopathological results were reviewed.

Results: We identified 5 patients (2 males and 3 females) aged between 35 to 68 (mean: 57.4) who presented with Wunderlich syndrome and were diagnosed on computed tomography scan with peri-renal haemorrhage. Significant co-morbidities included hypertension and diabetes mellitus (n=3), end-stage renal disease (n=2), and atrial fibrillation (n=1). Mean haemoglobin level on presentation was 9.96. One patient underwent immediate emergency nephrectomy. Four patients underwent immediate emergency angioembolisation which was initially successful, however 3 patients either became hypotensive or had downtrending haemoglobin levels and required emergency open nephrectomy. The last patient remained haemodynamically stable and underwent an interval elective radical nephrectomy subsequently 3 months later. Mean operative time was 168 minutes with a mean estimated blood loss of 470 mls. Mean hospitalisation stay was 14.8 days. Final histopathology revealed 2 renal cell carcinoma (both clear cell subtype), 1 angiomyolipoma, 1 ruptured renal cortical cyst and 1 perinephric abscess with secondary haemorrhage.

Conclusions: While Wunderlich syndrome may be initially managed with angioembolisation, our experience has shown that most patients require surgical extirpation eventually, which can be safely performed with good peri-operative and functional outcomes.

C-10121

The Role of Streamlining Patients for Clinic Review - How will this Affect our System and our Patients?

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⁽¹⁾ Queensland Health

Introduction and Objectives: A current problem in departments of Urology has been the increase in the burden of disease. With increased number of referrals for early and urgent reviews, public hospital stakeholders have found difficulty in satisfying the increased demand and providing timely medical care. Management of ureteric calculi is a common urological presentation that requires review of imaging and decision for intervention. At Gold Coast University Hospital these patients were waiting for longer than the recommended 6 weeks to intervention. A stones protocol was created and patients were streamlined to a clinic only for assessment of stones. The attempt was to improve patient outcomes and lessen burden on hospital resources.

Methods: A preliminary Stones Protocol was created at Gold Coast University Hospital. Patients would be called by a urology registrar 2 weeks after ED presentation, then liaised with the booking and radiology departments to create timely outpatient bookings with a scan. Outcomes that were monitored included wait times for category 1 waitlists, as well as subjective outcomes to determine patient and staff views within the hospital.

Results: Over 3 months, the streamlined stones protocol clinic created a huge improvement in wait times of category 1 patients in urology (graph 1.) thus leading to improved patients care. Subjectively staff found it easier to run a streamlined clinic, as tasks were easier to follow when a team were focussed on one goal.

Conclusions: Over a short period, the streamlined protocol at decreased wait times significantly and increased the likelihood of patients receiving more appropriately timed care.

C-10124

Acquired Phimosis as an Indicator of Diabetes Mellitus

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Introduction and Objectives: Diabetes mellitus (DM) results in recurrent genitourinary infections and phimosis, and early identification would allow more effective treatment to prevent disease progression. The aim of this study is to assess the prevalence of DM in patients with acquired phimosis, and secondarily to compare the outcomes of conventional versus laser circumcision.

Methods: EPIC was used to generate a list of circumcisions done by Ng Teng Fong General Hospital urologists from 1 January 2018 to 31 December 2018, excluding those with concurrent procedures done in the same session. Information including patient demographics, indication for circumcision, DM status, duration of procedure, and post-operative complications, was collected and analysed using Microsoft Excel statistics tool.

Results: 82 patients were included; the mean age was 33.7 years (SD 15.3). 61% of circumcisions were done for phimosis, while other indications included recurrent infections and religious reasons. Among those with acquired phimosis, 83.3% had DM, 1 had impaired fasting glucose (IFG), and 1 did not have DM. In the group with congenital phimosis, 97.4% did not have DM, while only 1 had IFG. The mean operative time was 30.6 minutes (SD 6.1) for conventional circumcision and 21.1 minutes (SD 4.9) for laser circumcision. The rate of post-operative complications for conventional circumcisions was 6.1%, and 2% for laser circumcisions.

Conclusions: There is a high prevalence of DM in patients with acquired phimosis, hence such patients should be routinely screened for DM for earlier detection and treatment of disease. Secondly, laser circumcisions are shorter operations, and at least as safe as conventional circumcisions.

C-10123

Pathological Concordance Between Biopsy and Radical Prostatectomy in the Era of MRI-US Fusion Targeted and Saturation Prostate Biopsy

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Introduction and Objectives: MRI-targeted biopsy has been shown to increase the pathological concordance between prostate biopsy and radical prostatectomy (RP). We aimed to determine the rates of pathological upgrading between MRI-US fusion transperineal prostate biopsy (saturation and targeted) and RP.

Methods: This ethics board approved prospective study included consecutive men with any suspicious lesion on mpMRI who underwent both saturation and MRI-US fusion targeted biopsy using our transperineal robot-assisted prostate biopsy platform between January 2015-January 2019. The gleason grade group at saturation and targeted biopsy was compared to that at RP to determine the rates of pathological upgrading.

Results: 248 out of 433 men (57%) had prostate cancer detected on biopsy, out of which 117 men (47%) underwent RP. Combined saturation and targeted biopsy had the lowest rate of pathological upgrading at RP compared to saturation biopsy and targeted biopsy alone (20% vs. 38%, $p < 0.001$ and 20% vs. 34%, $p < 0.001$ respectively). There were no differences in the pathological upgrading rates between saturation and targeted biopsy (38% vs. 34%, $p = 0.627$). Age, BMI, PSA density and previous biopsy status were not predictors for pathological upgrading. Men with PIRADS 3 were more likely to have pathological upgrading if only targeted biopsy was performed (OR = 16.1, 95%CI: 1.9-136.3, $p = 0.011$).

Conclusions: Combined biopsy provided the lowest rates of pathological upgrading on radical prostatectomy and there were no differences in pathological upgrading between saturation and targeted biopsy. Lower PIRADS score was predictive of a higher rate of pathological upgrading if only targeted biopsy was performed.

C-10126

Enhanced Expression of mRNA PDL-2 in Muscle Invasive Bladder Cancer: a Unique Model to Understand Cancer Immunity

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Introduction and Objectives: Programmed death ligand 2 (PDL-2) play an important role in the induction of immune tolerance in the tumor microenvironment. The aim of this study is to examine the mRNA PDL-2 expression in bladder cancer.

Methods: mRNA PDL-2 expression was real-time polymerase chain reaction (RT-PCR) detected in paraffin-embedded specimens of primary tumors from thirty patients with bladder cancer. The sample is divided into two groups, muscle invasive and non-muscle invasive based on histopathological status. The mean differences between the two groups were analyzed using Mann-Whitney test.

Results: Our data showed that mean patient age was 59.2 years with male more common than female. Mean range of mRNA PDL-2 expression was higher in the muscle invasive group, with 21.7. Non parametric analysis using Mann-Whitney test proves that there is a significant difference between mRNA PDL-2 expression in both groups ($P = 0.000$).

Conclusions: We conclude that, these results indicated mRNA PDL-2 expression in muscle invasive bladder cancer was increased significantly and may be the basis to understand the cancer immunity and also to development of anticancer immunotherapy of PDL-2 blockade.

C-10128

Robotic Guided Transperineal Prostate Biopsy vs. TRUS biopsy: Complications and Cancer Detection Rate

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Introduction and Objectives: Transperineal prostate biopsy has been reported to have less septic complications and higher cancer detection rate. In this study we present our series comparing complications and cancer detection rate between robotic guided transperineal prostate biopsy (RTPB) and transrectal prostate (TRUS) biopsy to guide clinical case selection.

Methods: Patients who underwent RTPB for suspected prostate cancer at the Singapore General Hospital (SGH) between September 2006 and February 2016 were retrospectively analyzed. Then, complication rate was evaluated using the modified Clavien classification system. Consecutive patients who underwent TRUS biopsy in SGH between March 2012 to Dec 2013 were also analyzed for comparison.

Results: Total 950 patients were included in RTPB group. After excluding patients with inadequate data total 865 patients were included. Total of 731 patients were included in TRUS biopsy group after excluding cases with missing data. 1. Complication rate: Sepsis complication rate was significantly lower in RTPB group compare to TRUS biopsy group (0.1% vs. 2.2%, $P < 0.05$). TRUS biopsy group had significantly higher Clavien Grade 3 and 4 complications compare to RTPB group (9.4% vs. 0; $P < 0.05$). 2. Cancer detection rate: a) for biopsy naive patients MRI targeted biopsy had higher cancer detection rate compare to template RTPB and TRUS biopsy (78.6% vs. 43.6% vs. 34.0% $P < 0.05$) b) for previous negative biopsy patients similar results revealed, cancer detection rate were 45.3% 27.5% 20.4% $P < 0.05$

Conclusions: RTPB have lower high-grade complications especially septic complication. MRI targeted biopsy have higher cancer detection rate compare to TRUS and template RTPB

C-10134

Relationship Between Age and Metabolic Syndrome with Prevalence of Lower Urinary Tract Syndrome (LUTS) in Beaneno Village, Sasitamean District, Malaka Regency, East Nusa Tenggara, Indonesia In 2019

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Introduction and Objectives: Lower Urinary Tract Symptoms (LUTS) was a syndrome that characterized with obstructive, irritative and post voiding symptoms. Several study have predicted the prevalence of LUTS will be increase from 45.2% in 2008 to 45.8% in 2018. In Indonesia there are limited study about prevalence rate of LUTS and the relationship between LUTS and risk factors of LUTS. The purpose of this study was to determine the relationship of age, body mass index (BMI), abdominal circumference, blood glucose, cholesterol, and blood pressure with the incidence of LUTS.

Methods: This study use cross-sectional analytic design which involving all male respondents with aged over 40 years old in beaneno village. This study use international prostate symptom score (IPSS) questionnaire for LUTS, identification cards for the demographic, height and weight measurements for BMI, abdominal circumference, blood glucose and total cholesterol test, and blood pressure to get metabolic syndrome data

Results: The mean age of respondents was 57,79 ± 12,36 years old and the prevalence of LUTS was 72,1%. By using chi-square test, the p values from age ($p = 0,004$), BMI ($p = 0,025$), AC ($p = 0,445$), Blood Glucose ($p = 0,271$), Cholesterol ($p = 0,680$) and blood pressure ($p = 0,292$).

Conclusions: The result from this study obtained a correlation between age and BMI with the incidence of LUTS.

C-10133

Glansectomy with Split Skin Graft Coverage as an Alternative to Mutilating Penile Surgeries

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Introduction and Objectives: Penile squamous cell carcinoma accounts for ~0.4% of cancers among local males. Due to its aggressiveness, most patients undergo partial or total penectomy as treatment, resulting in significant impact on the psychology and sexual function of patients. We aim to highlight an alternative surgical approach of glansectomy with split skin graft (SSG) coverage for suitable malignant lesions of the glans. Literature review revealed that organ-preserving surgeries has compatible oncological outcomes as non-organ-sparing surgeries while preserving function.

Methods: A 42-year-old Chinese male with no past medical history, presented with a 4 cm warty lesion involving the prepuce and the glans. He underwent an incisional biopsy with circumcision. The lesion was histologically proven to be well-differentiated squamous cell carcinoma (SCC). He then opted to undergo glansectomy with SSG coverage. The glans was dissected off the corporal bodies and urethra was divided sharply. Specimen was then removed and urethra spatulated. 10 x 5 cm SSG with thickness 16/1000 of inch was harvested from the thigh and anastomosed to the urethra and the penile shaft skin circumferentially. SSG was then quilted to corporal bodies.

Results: Final histology reported pT2 Grade 1 SCC with negative margins of 3 mm. At 3 months post-operation, both the penile wound and SSG donor site have healed well without recurrence. Both urinary and sexual functions are preserved. Patient is satisfied with the cosmesis and the functional status.

Conclusions: In selected patients with carcinoma confined to the glans, glansectomy with SSG coverage is a feasible method that can give good functional and psychological outcomes.

C-10136

The Uro-Oncology Multi-Disciplinary Team (MDT) Clinic – Clinical and Patient Reported Outcomes from Implementing a New Model of Care

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Introduction and Objectives: We present our experience of a Uro-Oncology Multi-Disciplinary (MDT) Clinic in a single urology unit evaluating the access to multidisciplinary care, potential benefits to clinic resource utilisation and to patients receiving such care.

Methods: All consecutive patients attending the MDT clinic between December 2018 to December 2019 were included. The MDT clinic is a one stop clinic comprising joint consultations with urologists, medical oncologists, radiation oncologists and nurses. Time efficiency was calculated assuming 1 clinic visit required 15 minutes consult time, and 60 minutes travel time. Patient satisfaction surveys were administered, and comprised three standardized questions scored from 1 (very unsatisfied) to 5 (very satisfied) assessing adequacy of medical advice given, and whether the MDT clinic potentially saved total consult time and facilitated subsequent treatment.

Results: Of 51 consecutive patients who attended, the mean age was 69 years (range 35-88). There were a majority of males (86.2%) and Chinese (80.4%) patients. There were 33 patients (64.7%) living within a 5 kilometers radius from the hospital. The casemix included prostate cancer (57%), urothelial cancer (22%), renal cancer (12%) and others (9%). The median time from MDT to therapy initiation was 8 days. When the MDT model was compared to a traditional tumour board (multivisit) model mean time savings were 16 minutes consult time and 64 minutes travel time per patient respectively. The patient survey showed a mean score of 4 (satisfied) across all 3 domains.

Conclusions: The MDT clinic improves access to early therapy, enhances clinic efficiency, is time-saving and associated with high patient satisfaction scores.

C-10138

Safety and Efficacy of Holmium Enucleation of Prostate (HoLEP) for Octogenarians and Nonagenarians in Singapore

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Introduction and Objectives: As life expectancy in Singapore increases, people in their eighties (octogenarians) and nineties (nonagenarians) are common surgical candidates. LUTS and urinary retention from BPH is prevalent in them and the need for surgical intervention has increased over the years. We evaluate the safety and efficacy of HoLEP in this group of patients.

Methods: Between February 2018 and November 2019, 76 patients underwent HoLEP by a single surgeon in Ng Teng Fong Hospital, Singapore. We analysed the subgroup of patients between age 80-99 from the prospectively maintained database. Pre-operative and post-operative IPSS, Qmax and PVRU was obtained when possible.

Results: 16 patients with a mean age 84.2 years (80-94), underwent HoLEP during the study period. Indications for surgery were chronic urinary retention in 15 patients and LUTS in 1 patient. Pre-operative IDC duration was between 1 month - 6 years. Mean enucleation time was 60.89 minutes (+/- 19.6) Mean histology weight 54.3 g (-/+ 25.2) Mean enucleation efficacy was 0.89 g/min Average length of stay : 5 days Mean IDC time post op: 59.1 +/- 37.3 (hours) 2 patients had prostate cancer on histology (Gleason 3+3 and Gleason 3+5). 2 patients had a ClavienDindo (CD) grade 2 complication, one requiring blood transfusion, the other needing IV antibiotics for urosepsis post-procedure. 1 patient had a CD Grade 3 complication, needing cystodiathermy under GA for significant hematuria. Average PVRU was 55.9 mls +/-40.3, with no patient needing catheterization during follow-up.

Conclusions: HoLEP is a safe and effective treatment for prostatic bladder outlet obstruction in our elderly population.

C-10147

Tobacco Smoking Effects on Male Sperm Quality: Systematic Review and Meta Analysis

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Introduction and Objectives: Inadequate sperm quality might be a noteworthy cause of infertility. Toxins from tobacco smoking can potentially affect sperm development and function, with a negative effect on semen parameters. Tobacco smoking is considered to be one of the causes of infertility amongst men. We conducted systematic review and meta-analysis to methodically explore the quality of sperm from tobacco smokers and non tobacco smokers.

Methods: Studies were generated from online databases such as Cochrane Controlled trials and Medline. In this study, there were 2287 men consisted of 1051 smokers and 1236 non smokers. Oligozoospermia, asthenozoospermia, and teratozoospermia were appraised as the result.

Results: Five studies with 2287 participants were included in the meta-analysis. The endpoints of this analysis revealed that oligozoospermia remarkably higher in smokers (RR: 1.35, 95% CI: 1.10-1.65; P = 0.004) than non-smokers. Asthenozoospermia was significantly higher in smokers (RR: 1.56, 95% CI: 1.09-2.23; P = 0.02) than non-smoker. Teratozoospermia was also significantly higher in smokers (RR: 1.37, 95% CI: 1.12-1.68; P = 0.002) than non-smoker.

Conclusions: Regarding to the result from our analysis comprising 2287 men shows that tobacco smoking is indicated on having influence in lessening the sperm quality (Oligozoospermia, Teratozoospermia, Asthenozoospermia).

C-10144

PrecisionPoint Biopsy and its Feasibility in the Outpatient Setting Under Local Anaesthesia

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Introduction and Objectives: Transperineal prostate biopsies have shown to have lower infection rates and are able to target anterior tumours better compared to the TRUS guided prostate biopsies. However, they are usually done under a general anaesthetic (GA). The PrecisionPoint transperineal access system allows the transperineal sampling of the prostate under local anaesthetic (LA). We present our experience in Western Australia.

Methods: 93 patients underwent transperineal prostate biopsies using the PrecisionPoint access system at Fiona Stanley Hospital. The initial cases were performed under GA to allow the surgeon to get accustomed to the technique and local anaesthetic protocol. Subsequent cases were done under sedation and then LA alone. Single dose intravenous cephazolin was used as antibiotic prophylaxis. Standard methods were used for analysis.

Results: A total of 93 PrecisionPoint transperineal prostate biopsies were done. 41 were done under GA / spinal anaesthetic, 15 under sedation/LA and 37 under LA. All except 4 had pre-biopsy MRI. 34 patients had clinically significant cancer (ISUP2-5) on histopathology while 26 had low grade cancer and 31 had benign biopsies. 2 had neuroendocrine tumour and rectal adenocarcinoma respectively. Of the 67 patients with MRI showing suspicious lesions, 50 had biopsies positive for malignancy. 52 patients had pre-biopsy MRI showing PIRADS 4-5 lesions, of which 25 had clinically significant cancer on biopsy. Out of the 22 patients who had prior negative TRUS biopsies, 10 had cancer detected on PrecisionPoint biopsy. 8 had their low grade cancer upgraded post PrecisionPoint biopsy.

Conclusions: PrecisionPoint transperineal prostate biopsy is reliable and feasible under LA.

C-10148

Chronic Hypertension in Pregnancy and Risk of Hypospadias: Systematic Review and Meta-Analysis

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Introduction and Objectives: Hypospadias is one of the most common birth defects in male infants. Chronic hypertension in pregnancy is a suspected risk factor. We performed a meta-analysis to confirm correlation between chronic hypertension in pregnancy and hypospadias. However there is still debate on the role of hypertension in pregnancy and hypospadias on this congenital malformation. Therefore, we conducted a systematic review and meta-analysis to comprehensively evaluate the relationship between these frequent maternal conditions and hypospadias

Methods: Studies are obtained by using MEDLINE and the Cochrane Controlled Trials Register. Keywords were "Hypertension", "Pregnancy" and " Hypospadias". Three studies including 282.670 patients were studied. Review was carried out using the Preferred Reporting Items for Systematic Reviews and Meta-analyses. The data was evaluated and statistically analyzed by using RevMan version 5.3.0.

Results: There is significant difference (P < 0,05) between chronic hypertension in pregnancy and control group among baby with hypospadias (OR 1.56; 95% CI 1.38-1.76; P = 0.00001).

Conclusions: Our results indicate that chronic hypertension in pregnancy are positively associated with hypospadias. Further studies are needed to confirm the suggestive association, how the mechanisms involved, and to ultimately develop public health strategies geared toward prevention of hypospadias.

C-10152

The Feasibility of Tissue Adhesive for Wound Approximation in Pediatric Circumcision: A Meta-analysis of Randomized Controlled Trial

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Introduction and Objectives: Circumcision is one of the most common surgical procedure in men around the world. The wound approximation technique varies from sutures, plastibell to sutureless. Absorbable suture materials have been traditionally used for wound approximation in circumcision. However, the existence of stitch marks and sinuses, and irregularity in skin mucosa border usually occur those cause unsatisfactory cosmesis. A study reported that sutureless wound approximation with tissue adhesive has superior cosmetic result. However, the feasibility of tissue adhesive for circumcision in children has not been well established. This study aims to evaluate the feasibility of tissue adhesive for wound approximation in pediatric circumcision.

Methods: A systematic search was conducted from the electronic database including PubMed, Clinicaltrial.gov, and Cochrane Library, published up to November 2019 following the PRISMA guideline. We screened RCTs with our inclusion criteria and assessed the quality with the Cochrane Risk of Bias tool. The primary outcome was the complication and the secondary outcome was the operation time. The meta-analysis was performed using Review Manager 5.3.

Results: A total of 5 RCTs, comprising of 629 children underwent circumcision were analyzed. Pooled analysis showed that compared to the suture group, tissue adhesive had no significant difference in total complication (OR 1.09 95% CI 0.54 to 2.21, $p = 0.81$), dehiscence, infection, and bleeding. The study showed a significant reduction in operation time (SMD -3.58 95% CI -3.83 to -2.52, $p < 0.01$), pain severity (SMD -3.58 95% CI -3.83 to -2.52, $p < 0.01$), and pain duration (MD -0.56 95% CI -0.8 to -0.32, $p < 0.01$).

Conclusions: This study revealed that tissue adhesive has good feasibility in pediatric circumcision wound approximation as demonstrated by similar total complications compared to the suture group. Tissue adhesive is a good alternative and could reduce operation time, pain duration and pain severity in pediatric circumcision.

C-10164

Conservative Management of Methamphetamine Induced Testicular Torsion

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Introduction and Objectives: A 35-year-old man presented with acute left scrotal pain with ultrasound confirming left epididymitis. However, it incidentally showed a lack of vascularity of the right testicle despite being asymptomatic on the right hemiscrotum. He was known to use intravenous methamphetamine, admitting to his last usage only four hours prior to his presentation. The left epididymitis was treated with intravenous antibiotics, analgesia and scrotal support, while right testicle was treated conservatively with serial ultrasound under the impression of methamphetamine induced vasoconstriction rather than torsion. The return of normal vascularity of the right testicle was confirmed with ultrasound twenty hours later, confirming the former. The patient was discharged home three days later, upon clinical improvement, with a prescription of oral antibiotics for two weeks. No surgical intervention was required. The objectives are to confirm that methamphetamine can cause testicular ischemia, then to prove that the latter can be managed conservatively.

Methods: We managed this young man conservatively by monitoring, serial examinations and ultrasounds to confirm resolution of ischemia.

Results: The testis returned viable with normal vasculature upon repeating the ultrasound twenty hours later.

Conclusions: Methamphetamine induced testicular ischemia can be managed conservatively without the need for surgical scrotal exploration.

C-10162

Ambulatory Robotic-Assisted Laparoscopic Radical Prostatectomy (RARP) With Extended Recovery

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Introduction and Objectives: There were three recent negative feasibility studies of ambulatory RARP mainly due to transperitoneal approach-related post-operative ileus. This prospective study aims to evaluate the feasibility of performing RARP in an ambulatory surgery with extended recovery (ASER) setting by total extra-peritoneal (TEP) approach.

Methods: From January 2017 to December 2018, thirty patients with low-to intermediate-risk prostate cancer were enrolled in the ASER arm. Forty patients (twenty each by TEP and transperitoneal (TP) approach) who opted for conventional inpatient surgery were recruited as a matched-pair group for comparison of peri- and post-operative outcomes with the ASER group. The objective discharge criteria were based on the post-anesthesia discharge scoring system (PADSS).

Results: There were no statistically significant differences between the ASER and inpatient groups in patient's factors (age, Charlson co-morbidity, BMI), disease factors (cT-stage, Gleason grade), and peri-operative parameters. All ASER (30/30) and inpatient-TEP (20/20) patients met the PADSS discharge criteria within 24-hours postoperatively. The mean hospitalization stays were: ASER 20.6 hours, inpatient-TEP 47.8 hours, inpatient-TP 65.6 hours. Almost all (97%, 29 of 30) ASER patients were discharged within 24-hours of admission. The main reason for prolonged hospitalization for the inpatient-TEP group was social while for the inpatient-TP group was post-operative ileus.

Conclusions: This study is the first prospective evaluation of ambulatory TEP-RARP which shows that the short-stay approach is safe, feasible and results in cost-saving with just overnight hospital-stay while achieving high patient satisfaction. TEP approach is critical to the success of the ASER protocol as it minimizes post-operative ileus.

C-10170

Real Time Experience of Neoadjuvant Chemotherapy (Gemcitabine + Cisplatin) in Muscle Invasive Urinary Bladder Cancer

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Introduction and Objectives: Muscle invasive bladder cancer (MIBC) is rapidly progressive disease with early metastases. Guidelines recommend neoadjuvant chemotherapy with radical cystectomy with urinary diversion to reduce micro-metastases, downgrade tumor burden and increase overall survival. We did a prospective study to evaluate real time trend of neoadjuvant chemotherapy in MIBC in terms of radiological and pathological response, tolerability of regimen and drop-out rates.

Methods: This was a prospective observational study, included patients with MIBC aged 18 years, resectable disease at diagnosis, transitional cell carcinoma. We administered 4 cycles of neo-adjuvant chemotherapy (Gemcitabine + Cisplatin) followed by radical cystectomy with urinary diversion. Primary endpoint of the study includes radiological and pathological response. Secondary endpoints include tolerability of the combination using CTCAE criteria, drop-out rates of patients from the regimen in real world scenario.

Results: We included 26 patients in our study. Mean age of patients was 53.1 + 11.79 years. There was radiological downgrading (complete + partial) in 47.8%, stable in 47.8% of patients. There was complete pathological response (T0) in 22.2%, pathological downgrading (T0,Ta,T1) in 44.4%. There was very few side effects mostly low grade in patients. There was a drop-out rate of 65% in patients.

Conclusions: Although the response rate of neoadjuvant chemotherapy was found to be satisfactory, the drop-out rate from the study was very high. We need to do this study at a larger scale to extrapolate our results.

C-10174

The Perils of Penile Enhancement - A Case of Fulminant Penile Infection

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Introduction and Objectives: Penile enhancement with injectable agents is a rising trend and yet has little scientific attention. We report a case of multi-organ failure from an infection in setting of penile fillers.

Methods: 31-year-old man presented two days after unprotected sexual intercourse with progressive pain and swelling of the penile shaft. Two months prior, the patient underwent subcutaneous hyaluronic filler injections for penile enlargement. Risk factors included self-administration of Prednisone 50 mg and regular testosterone injections, multiple sexual partners, heavy alcohol consumption, and previous tubularised hypospadias repair. Physical examination (HR 127, BP 90/50, temperature 40°C) revealed gross oedema and erythema stopping at base of penis with small abrasion near glans.

Results: Overnight patient was transferred to ICU due to hypotension and anuria. Repeat examination showed blistering of the penis over filler injection sites. Operative penile exploration revealed multiple pus stained fluid-filled fillers, which grew streptococcus pyogenes. He improved with intravenous antibiotics and was stepped down from ICU on day 4 and discharged on day 8 to complete total of 3 weeks of antibiotics. One month post admission there was significant superficial skin loss to both ventral and lateral aspect of the penis, corresponding to the location of blistering, with healthy granulation tissue at the base. Three months post presentation he reports normal sexual and urinary function.

Conclusions: The severity of the case is due to combination of behavioural factors, presence of foreign material and previous penile surgery. The case highlights the importance of evaluating social risk-factors and need for further research into complications of penile augmentation.

C-10178

Cross Table Bulls Eye Puncture Technique in Supine Percutaneous Nephrolithotomy Helps in Identification of Posterior Calyx for Puncture

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Introduction and Objectives: Based on anatomical studies by Sampaio et al, the ideal calyceal access is via the posterior calyx. Supine percutaneous nephrolithotomy (PCNL) presents challenges in terms of puncture technique, due to the limited window for puncture and lateral approach. Using the x-ray triangulation technique for puncture adds a concern that the anterior calyx is erroneously targeted. In this paper, we demonstrate that the cross-table bulls-eye puncture technique allows easy differentiation of the anterior and posterior calyces, with a more intuitive and reliable puncture of the planned calyx.

Methods: At our institution, patients undergo supine PCNL which is performed with the patient slightly rotated with gel pads applied underneath the ipsilateral rib cage and pelvis. After retrograde placement of ureteric catheter, calyceal puncture is done using cross-table bulls eye technique with the aid of C-arm fluoroscopy, usually without breath hold. Subsequent guide wire and dilatation proceeds as usual, with the C-arm in the normal, anteroposterior position.

Results: For most urologists, the bullseye technique is more intuitive and easier to learn than the triangulation technique. Ultrasound guided puncture remains challenging to most urologists. Distinguishing anterior from the posterior calyx can also be challenging in prone position. Supine approach allows a lateral horizontal view of the pelvicalyceal system during cross-table fluoroscopy. This creates a wider angle between anterior and posterior calyces. Gel pads also allow slight rotation of the kidney, which would further assist in differentiating the anterior and posterior calyx. X-ray images will be presented to illustrate accurate targeting of the planned posterior calyx, puncture and subsequent wiring, dilatation and sheath placement.

Conclusions: From our experience with supine PCNL, we found that the posterior calyx could be easily differentiated from the anterior calyx during cross-table fluoroscopy, allowing easy and favourable puncture of the posterior calyx. This allowed optimal access to the renal collecting system resulting in less bleeding and better visualization and as a result more reliable stone fragmentation and clearance.

C-10177

Primary RIRS in Supine Position for a Patient with Limited Mobility (PRISM): A Case Report

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Introduction and Objectives: Retrograde intrarenal surgery (RIRS) has now been established as a recommended option for treatment of renal calculi upto 2 cm. The safety and efficacy of this procedure has been well documented and is traditionally performed with patient in lithotomy position. We report our experience and outcomes of PRISM.

Methods: An 82y male with a recent history of right subtrochanteric fracture on conservative management and a stiff left lower leg due to contracture from previous stroke, presented with recurrent UTI and sepsis due to a 1.6 cm left renal stone on CT scan. A rigid cystoscopy, RPG, left RIRS and ureteric stenting with UAS and Lithovue was performed in a complete supine, split leg "French" position.

Results: No difficulty was encountered during each of the steps of RIRS. Maneuvering of the flexible ureteroscope was carried out effortlessly and was similar to a traditional RIRS. There were no issues with vision and drainage via UAS. Stone fragmentation was effectively achieved post op CT KUB showed clinically insignificant residual fragments needing no intervention. Post op recovery was uneventful and DJ stent was removed on POD 6.

Conclusions: This single case had a primary retrograde flexible ureteroscopy in complete supine position safely with the same effective outcomes. With this case we have proceeded to do more than 10 more cases and find this to be an easier alternative. Its attractiveness in elderly/ patients with flexion deformity/limb contracture or as part of combined bilaterally single side percutaneous procedure make it a feasible treatment option in the modern era of practice.

C-10179

Review of Bacillus Calmette-Guerin Tolerability and Complications of Intravesical Therapy for NMIBC Over a 4 Year Period

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Introduction and Objectives: Intravesical bacillus Calmette-Guerin (BCG) has proven efficacy for prevention of recurrence and progression of NMIBC. There is limited data on its practical tolerability in an Australian patient cohort. We aim to assess the tolerability of BCG treatment and describe common complications experienced by patients treated at an experienced high volume centre in metropolitan Melbourne.

Methods: From a prospectively collected database, we retrospectively analysed 114 patients treated with intravesical BCG during a 4 year period, with a minimum follow up of 12 months after the last instillation. Patients received induction and/or maintenance BCG regimens. Data collected included patient demographics, history of immunosuppression, history of prior treated TB, BCG regimen and number of instillations, as well as complications encountered.

Results: 114 patients were identified. In total, 10 patients (8.8% of the cohort) were unable to complete their planned BCG treatment due to intolerance of side effects. The most common complications reported were LUTS (73.7%), haematuria (50.0%), fatigue (37.7%), suprapubic discomfort (36.0%), and recurrent UTI (21.1%). Systemic low-grade fevers were reported in up to 19.3%, with one patient (0.9%) experiencing BCG sepsis, which was successfully treated. Other complications less commonly reported in our population included penile pain/genital irritation, myalgias, nausea, flu like symptoms, rash, urinary retention, prostatitis and orchitis/epididymitis.

Conclusions: 91.2% of patients tolerated their BCG treatment – 84.8% induction and 96.3% induction and maintenance. In 2.6%, treatment were discontinued at the patients' request. The rates of tolerability in our institution is higher when compared to international literature.

C-10180

Optimising Clinical Decision Making in Trial of Void Patients
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Introduction and Objectives: Acute urinary retention (AUR) is a distressing and common urological presentation. Most cases occur in males and are linked to benign prostate hyperplasia (BPH). Risk factors for AUR necessitating definitive surgery has been identified as: increased age, severe lower urinary tract symptoms, high postvoid residual, enlarged prostate and elevated serum prostate surface antigen (PSA). We aim to define and determine predictors for trial of void (TOV) failure, such that futile TOV attempts may be avoided and patients expedited towards early definitive care.

Methods: All patients who underwent a TOV at our public hospital between April 2017 and September 2017 were included in our analysis. Univariate analysis was performed to determine predictors for TOV failure.

Results: 210 TOV episodes involving 169 patients were identified. Median age was 71. The male to female ratio was 94:6%. Painless retention ($p = 0.041$), retention volume > 700 ml ($p = 0.043$), and history of urethral stricture disease ($p = 0.038$) were found to be risk factors for failing TOV. Alpha-blocker use in men, prostate size, history of neurological disease, history of diabetes mellitus, history of urinary tract infection and history of opioid use, were not independent predictors for failing TOV in our cohort.

Conclusions: The success rate of TOV was 57.3%, largely comparable with international literature. Three main predictors of failure were identified in our cohort: painless urinary retention, retention volume > 700 ml and history of urethral stricture disease. This has assisted us in formulating TOV guidelines such that patients who are determined at high risk of TOV failure may be expedited towards early definitive care.

C-10184

The Interesting Case and Management of the 'Screwed Bladder'
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Introduction and Objectives: We present a unique case of an iatrogenic extraperitoneal bladder rupture secondary to a loose pelvic fixation screw post internal fixation and anterior pelvic plating. He required repeated bladder repairs and eventually underwent a pedicled right vastus lateralis flap reconstruction of the bladder.

Methods: The patient was involved in a road traffic accident and suffered a pelvic open book fracture. Initial trauma CT revealed no bladder injury. He underwent an internal fixation with anterior pelvic plating by Orthopedics. Post-operatively, he had a high pelvic drain output that tested high for creatinine. A CT cystogram revealed an extraperitoneal anterior bladder perforation. He underwent an open bladder repair but needed a 2 further bladder repairs due to the internal pelvic plate screw.

Results: He eventually underwent a pedicled right vastus lateralis flap reconstruction of anterior bladder wall injury. The pelvic plate was removed by Orthopedics, who agreed to stabilise the pelvic fracture with external fixation in view of repeated bladder trauma from the plate. Intra-operatively, the surrounding bladder tissue was scarred; devoid of good muscular layer over the bladder dome. The primary repair was performed by Urology with vicryl 2/0 incorporating a periosteal flap. Plastic Surgery then performed a right vastus medialis flap (10 cm x 8 cm). Post-operative cystogram at 14 days revealed no contrast extravasation.

Conclusions: A high index of suspicion for bladder injury post internal fixation of a pelvic fracture is required for early intervention and to prevent subsequent morbidity. The importance of a multi-disciplinary approach to clinical management cannot be underestimated.

C-10182

Percutaneous Renal Tumour Biopsy: a 10-Year Review of Complications and Outcomes at Royal Perth Hospital
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Introduction and Objectives: Percutaneous biopsy is an accepted diagnostic adjunct for patients with renal tumours that are suspicious for localised renal cancer. It is performed regularly at our institution, and we aim to review the outcomes associated with renal tumour biopsy at Royal Perth Hospital (RPH) over the past 10 years.

Methods: A retrospective review was conducted on all image-guided renal biopsies performed between January 2009 to June 2019 by the Radiology Department at RPH. Data was collected on patient demographic, indication for renal biopsy, complication, hospital re-admission, biopsy finding, subsequent surgery or intervention, and final histopathology if surgery was performed. Patients who underwent renal biopsy for worsening renal function or possible transplant rejection were excluded from analysis.

Results: 604 renal biopsies were performed over the last 10 years, with 308 (51%) for investigation of a renal mass. 1 patient (0.32%) developed a large retroperitoneal haematoma, and 1 patient (0.32%) developed life-threatening bleeding requiring emergency nephrectomy. Benign tumours were diagnosed in 59 of 308 renal biopsies (19.2%) and malignant tumours were diagnosed in 219 of 308 renal biopsies (71.1%). Normal renal parenchyma was detected in 18 of 308 biopsies (5.8%) and non-diagnostic biopsies occurred in 13 cases (4.2%). Concordance of tumour type between biopsy and surgical specimen was observed in 99 of 111 cases (89.1%). Relationship between concordance and number of biopsy cores and histopathology type was considered.

Conclusions: Percutaneous renal tumour biopsy is associated with a low complication rate and a high positive predictive value at our institution.

C-10187

Outcome of Percutaneous Tibial Nerve Stimulation (PTNS) in Overactive Bladder (OAB) : A Prospective Study
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Introduction and Objectives: PTNS has been shown to be efficacious in treating overactive bladder (OAB), and is indicated in patients who fail conservative and medical therapy. It remains unclear if the efficacy differs between patients with and without detrusor overactivity (DO) on urodynamics study (UDS). We aim to investigate the outcome of PTNS in OAB patients with and without DO on UDS.

Methods: Patients with OAB failing medical therapy were prospectively enrolled, with baseline UDS, bladder diary and validated overactive bladder questionnaire (OAB-q) taken before treatment and at week 13, after 12 weekly sessions of PTNS. The patients are dichotomised into 2 groups based on UDS findings: DO and non-DO groups. OAB-q scores were split into 2 domains: symptoms bother (SB) and health related quality of life (HRQL) scores.

Results: A total of 14 patients completed treatment, of which $n = 10$ have (DO) and $n = 4$ do not have DO. In the DO group, there were mean improvements from baseline OAB-q-SB 10 and OAB-q-HRQL 18.5, frequency 1.65 and nocturia 0.73. In the non-DO group, there was no mean improvement from baseline OAB-q-SB at 0, with mean improvements in OAB-q-HRQL at 23, frequency at 3.83 and nocturia 1.08. GRA scores were similar in both groups (2-4), corresponding with no change to minimal improvements in terms of perceived degree of change in bladder symptoms and general health.

Conclusions: The objective measurements suggest minimally better response in non-DO group, with better reported improved symptoms in the DO group. Correspondingly, the patients perceived only minimal improvements in bladder symptoms or general health.

C-10188

Surgical Outcomes of Renal Cancer with Level III-IV Vena Cava Thrombosis with or without Pulmonary Embolism: A Single Centre Experience

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Introduction and Objectives: Approximately 10% of all patients with renal cell carcinoma (RCC) have tumour thrombus in the inferior vena cava (IVC). Aggressive surgical resection is currently recommended for patients with non-metastatic disease. We present our early experience of radical nephrectomy and IVC thrombectomy performed at our centre.

Methods: From 2017 to 2019, a cohort of 6 patients underwent open radical nephrectomy and IVC thrombectomy at our centre. The data of these patients were retrospectively reviewed. The level of thrombus was classified according to the Mayo Clinic classification. All patients with level IV thrombus underwent thrombectomy with cardiopulmonary bypass. Surgical complications were classified according to the Clavien-Dindo classification system.

Results: Mean age of our patient were 49-years-old (33-63). The average tumour size was 11.1 cm (6-15.5). 3 patients had level III thrombus while the other 3 patients had level IV thrombus which extended into the heart. 2 of the patients with level IV thrombus also had nodal and distant metastasis. Mean operative time was 10 hours (8-12). Perioperative mortality was 33.3% (2/6, both patients had level III non-metastatic disease). Surgical complications among the surviving patients were minor (Clavien I-II). Histopathological examination of all tumours reported clear cell RCC except for one case with Ewing sarcoma. The 2 patients with metastatic disease survived for 3 months and 7 months after surgery. The 2 surviving patients with non-metastatic disease are currently doing well (after post-operative follow up for 24 months and 5 months respectively).

Conclusions: For patients with non-metastatic disease, radical nephrectomy with IVC thrombectomy offers survival benefits.

C-10190

Is There a Role for Minimally Invasive Pyeloplasty in Children Less Than 20 kg?

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Introduction and Objectives: To assess if there is a difference in outcomes between open, laparoscopic and robotic pyeloplasty in children under 20 kg.

Methods: A retrospective analysis of all pyeloplasties done for children of weight under 20 kg was carried out. Indwelling stents were the standard of care. However, in smaller children, a ureteric catheter was placed as splint. Patient demographics, duration of surgery, length of hospital stay, postoperative complications and re-intervention rates were collected. Success was defined as resolution of symptoms or absence of hydronephrosis during the follow-up

Results: A total of 157 pyeloplasties was performed in children with a weight less than 20 kg between 2006 and 2018. Half of them were open pyeloplasty (OP, n = 78) procedures while laparoscopic pyeloplasty (LP, n = 52) and robotic pyeloplasty (RP, n = 27) made up the other half. Over the mean follow-up of 16.3 months, the success rates were comparable (98.7% vs. 96.2% vs. 96.3%) in the OP, LP and RP groups respectively. Mean operative time was significantly longer by 35 mins in both LP and RP groups when comparing with OP. Hospitalisation was significantly shorter in the minimally invasive groups (4 days) compared to the OP group (7days). Postoperative complications were not significantly different.

Conclusions: In our series, LP and RP had equivalent outcomes to OP with a shorter hospital stay. The minimally invasive approach in children less than 20 kg of weight should be reserved to centres with expertise as the benefit is currently small. Open pyeloplasty remains the gold standard in these small children.

C-10189

Clinical Outcome of Localised Prostate Cancer Treated with Low-Dose-Rate Brachytherapy

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Introduction and Objectives: Low-dose-rate brachytherapy (LDR-BT) is an established treatment for low- to intermediate-risk localised prostate cancer. In the Southeast Asian region, LDR-BT represents a safe and valuable option for patients whose access to alternative modalities is limited.

Methods: We retrospectively identified 105 patients with low- to intermediate-risk localised prostate cancer treated with LDR-BT using 125-Iodine implanted seeds between July 2006 and March 2017 with at least a 2-year follow-up. Biochemical recurrence was defined by the American Society for Radiation Oncology Phoenix Criteria.

Results: Our cohort comprised of 105 men with a median age of 65 (40-81) years and follow-up of 8.3 (2.2-13.2) years. Very low-, Low-, intermediate favourable- and intermediate unfavourable-risk disease represented 2.9%, 58.1%, 29.5%, and 9.5%, respectively (NCCN risk stratification). Forty-four (41.9%) patients received androgen-deprivation therapy before LDR-BT for prostate volume reduction. At the time of analysis, 97 (92.3%) patients were alive. One patient developed local recurrence after 6 years. Seven (6.7%) patients developed biochemical recurrence, 2 (1.9%) died from metastatic disease. Four (3.8%) patients had haematuria required hospitalisation. Six (5.7%) patients developed urethral stricture, half required surgical intervention. Six (5.7%) patients reported urinary incontinence. Nocturia ≥ 2 times per night were reported by 24.8% of patients. Eleven (10.5%) patients experienced new onset of erectile dysfunction, 4 (3.8%) maintained on phosphodiesterase inhibitors.

Conclusions: Our results suggest that LDR-BT provides excellent oncological and functional outcomes and it should be considered for a selected group of patients in our region.

C-10191

Allograft Nephrectomy - A Retrospective Review of Indications and Surgical Outcomes: Single Institution, 18 Years Experience

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Introduction and Objectives: Allograft nephrectomy (AN) is associated with significant morbidity and mortality. This study was conducted to review the indication and surgical outcomes of AN performed at Singapore General Hospital.

Methods: Medical records of patients who underwent AN at our institution, between January 2000 and December 2018, were retrospectively reviewed, regardless of the institution where the initial transplantations were performed. Patients were classified into 3 groups according to the timing of AN from their transplant: very early (within 30 days), early (within 1-12 months) and late (after 12 months). Descriptive statistics was used for this study. Statistical analysis performed using Fisher's exact test and ANOVA test for categorical and continuous variables respectively.

Results: 92 cases were identified within the study period. 2 cases were excluded due to incomplete data. The incidence of AN was 9.3%. Overall, the common indications for AN were graft infections (33%), persistent gross haematuria (24%) and renal infarcts (15%). Post-operative mortality rate was 4.4% (4/90) and major morbidity rate was 22.2% (20/90). The most common minor and major complications were blood transfusion and surgical site infection respectively. There was higher rate of perioperative blood transfusion in the late AN group ($p = 0.025$) and in patients who had subcapsular nephrectomy (as compared to extracapsular). Patients who underwent late AN had shorter survival after surgery as compared to the other two groups ($p < 0.001$).

Conclusions: Majority of AN were performed late at our institution. Patients who underwent late AN had higher risk of complications and shorter survival after surgery.

C-10192

Designing a Novel Single-Use Urethral Plug for Men with Post Radical Prostatectomy Incontinence

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Introduction and Objectives: About 15% of men who underwent radical prostatectomy have stress urinary incontinence. (1) There are a variety of continence products available in the market, including absorbent pads, urinary sheaths, body worn urinals (BWU) and penile compression clamps (PCCs). PCCs compress the urethra to prevent leak, and are significantly more secure in preventing leakage compared to other devices. (1, 2) However, they can be uncomfortable and may result in penile trauma with prolonged use. (3, 4) The aim of this study was to design an alternative continence product effective at reducing leakage yet circumvents the problem of penile discomfort and injury with its usage.

Methods: We designed an alternative continence product in the form of a urethral plug. A prototype was printed using 3D technology and its efficacy was tested on a model.

Results: The product was designed to include a tapering end to be inserted into the distal end of the urethra, with an external component intended to keep the plug secure in its place. The product is designed in 2 different sizes. The plug is placed into the urethra to provide a seal and removed each time urination is necessary.

Conclusions: Further studies are required to select suitable materials to be used for these urethral plugs, and to evaluate its comfort and usability before it can be recommended as an effective alternative to PCCs.

C-10196

Knowledge and Attitude Towards Urology Among Medical Graduates of the British and the Indian Medical Education Systems: Need for Urology Rotation

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Introduction and Objectives: The increased need for urological skills especially amongst the geriatric population has not been rightly fulfilled by the immediate caregivers who are in most cases, the foundation doctors or equivalent. With the recognition of this concern globally, this study aimed to assess the view of foundation doctors and newly qualified trainees from two different healthcare systems in managing urological emergencies routine inpatient tasks.

Methods: Questionnaire based data was collected anonymously from interns across all specialties during the study period of 4 months in 2019 from three universities in the United Kingdom (Birmingham, Swansea and Southampton) and one university in India (Rajiv Gandhi University of Health and Sciences). Information included perceived confidence in managing specific urological emergencies and routine inpatient tasks. Results were analyzed using descriptive statistics.

Results: In total, 110 and 35 responses were collected from the three UK universities and one Indian university respectively. Of which, 51% and 60% of the trainees in the UK were not confident managing urology emergencies and undertaking independent decisions in inpatient tasks respectively, in contrast to 45% and 35% in Indian counterpart. Overall, 80% of the trainees felt that they had inadequate clinical exposure to urology and only 3% considered a career in this specialty.

Conclusions: Our study highlights the deficit of formal urological training as a direct cause to impeded confidence in managing urology related emergencies and consequent non consideration of urological career across healthcare systems. Thus, inclusion of urology rotation in the undergraduate education is warranted in view of prudent service provision and patient safety.

C-10195

Severe Arterial Haemorrhage Secondary to Extracorporeal Shockwave Lithotripsy - An Under Appreciated Life Threatening Complication?

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Introduction and Objectives: Extracorporeal shockwave lithotripsy (ESWL) is a mainstay in the treatment of nephrolithiasis. Renal hematomas are a known complication, but are largely clinically insignificant and amenable to conservative management. Active arterial haemorrhage is extremely rare, with only isolated cases in the literature. This case report describes the first such reported case in Asia, which required arterial embolization to address an alarming drop in haemoglobin, highlighting possible contributing factors and arterial haemorrhage as an important complication following ESWL.

Methods: A single patient treated for a 1.3 cm left renal lower pole stone with 2 sessions of ESWL was followed over a 3 month period.

Results: A healthy 44-year-old Chinese male with an asymptomatic incidentally diagnosed 1.3 cm left kidney lower pole stone was treated with 2 sessions of ESWL (3000 shocks at 3.0kV up to 100J). He returned the morning after his second session with left flank pain. Computed tomography (CT) of the abdomen and pelvis showed active extravasation at the left renal lower pole resulting in a large retroperitoneal hematoma extending into the pelvis. Haemoglobin dropped from 15.9 to 11.4 g/dL within 12 hours of admission, and he became progressively more drowsy, tachycardic and hypotensive. He was resuscitated with fluids and blood products and underwent angioembolization to the offending lower pole segmental artery with three 120 mm interlocking coils. Subsequent supportive management facilitated subsequent uneventful recovery and discharge.

Conclusions: This case adds to the small body of literature on arterial haemorrhage as a complication of ESWL, highlighting the importance of early recognition and treatment.

C-10197

VALOUR: Evaluation of a Novel Visual Analogue Uroflowmetry Score (VAUS) to Support Shared Decision-Making for Men with Lower Urinary Tract Symptoms and their Primary Care Physicians

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Introduction and Objectives: Lower urinary tract symptoms (LUTS) in elderly men are common medical problems but are often underdiagnosed in primary care. Timely identification and quick severity assessment are essential for its optimal management. We postulated that a pictorial tool would facilitate LUTS identification, support decision-making in its management, and aid in right-siting of patient care.

Methods: A cross-sectional survey was conducted on 320 men aged 50 years and above attending a public primary care clinic for general consultations. LUTS status was assessed using IPSS and QOL scores. 60 men from this group with moderate-to-severe LUTS (IPSS \geq 8 and/or QOL \leq 3) then underwent a pilot unblinded, randomized controlled trial. 30 randomly selected men had VAUS (intervention) and another 30 men did not. The intervention group used VAUS to discuss their symptoms with their primary care physicians while the control did not. Physicians were blinded to IPSS scores in both groups. The outcome measures were referral rate to the urologists; quality of the SDM process, and rates of AUR based on electronic medical records six months after study enrolment.

Results: Mean age was 67 years (50-89). 89% were Chinese, 3.4% were Malay, and 7.2% were of Indian ethnicity. Most patients (90%) had at least primary school education. 32.6% had moderate to severe LUTS. Referral rates to specialist care, SDM and rates of AUR were similar between the group receiving VAUS (intervention) and not (control group).

Conclusions: LUTS from BPH is prevalent in Singapore. IPSS and VAUS are useful for management of LUTS for these men.

C-10198

Drinking Mineral Water for Prevention of Calcium Oxalate Stones - A Prospective Randomized Controlled Study in An Asian Cohort

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Introduction and Objectives: We compared the effect of taking bicarbonate rich mineral water with tap water in patients with known CaOx stones.

Methods: This was a prospective RCT comparing the effects of a bicarbonate rich mineral water versus tap water on urine biochemistry in patients with proven CaOx stones. The mineral water group were instructed to consume at least 1.25L of mineral water per day at meal times, supplemented by other fluid intake up to 2.5L/day. Control group consumed tap water up to 2.5L/day. 24h urine analyses were performed at baseline, 1, 4, and 8 weeks after starting protocol.

Results: 58 patients were recruited for the study (27 randomized to the mineral water group and 24 to the tap water group). 7 patients dropped out. Baseline data and 24h urine analyses were comparable between the 2 groups. Over the course of 8 weeks, compared to patients drinking tap water, those drinking mineral water had overall higher urinary levels of Mg (difference = 1.869 mmol/day, 95% CI = (1.360, 2.378)), Cit (difference = 0.588 mmol/day, 95% CI = (0.168, 1.007)), sodium (difference = 36.477 mmol/day, 95% CI = (16.9, 56.055)), calcium (difference = 1.080 mmol/day, 95% CI = (0.317, 1.842)) and pH (difference = 0.509, 95% CI = (0.317, 0.701)). There were no statistical difference in urinary Ox and Tiselius index between the 2 groups.

Conclusions: Drinking bicarbonate rich mineral water in CaOx stone formers increased urinary Mg, Cit, sodium and calcium; and alkalinized the urine compared to patients drinking tap water. There were no significant differences in urinary Ox or Tiselius index. Consumption of bicarbonate rich mineral water may have benefits in urinary stone prevention.

C-10201

Mammary Type Myofibroblastoma in Concurrent Bladder Tumour

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Introduction and Objectives: Mammary-type myofibroblastoma (MTMF) is a rare benign mesenchymal neoplasm histologically identical to myofibroblastoma of the breast. We present a case of a 67-year-old male with MTMF with concurrent bladder carcinoma.

Methods: A 67-year-old male presented to our department with painless gross haematuria. CT-urogram revealed a bladder tumour and incidental left inguinoscrotal lesion. MRI pelvis was performed to further delineate it and imaging characteristics were worrisome for liposarcoma. The mass was excised and histology findings was that of MTMF.

Results: There have only been 153 cases of MTMFs reported thus far, and they are most commonly found in the inguinal region, with a predilection for middle-aged males. Most present with a slow growing painless mass, and surgical resection is curative. There is no significant risk of recurrence or metastases even with positive margins. There are no imaging characteristics specific to MTMFs, making it difficult to distinguish them solely on imaging. Atypical lipomatous tumour/ well-differentiated liposarcoma (ALT/WDT) can appear as a predominantly fatty mass with areas of non-fatty tissue that enhances following contrast administration, which is similar to our case of MTMF. Although rare, inguinal metastasis from bladder carcinoma could have been a possible differential as well. This poses a diagnostic conundrum which may result in a change in treatment approaches. Biopsy may be considered in the management of these patients to avoid aggressive resection given MTMFs' benign nature.

Conclusions: MTMF is rare but should be considered as a differential even in the context of co-existing tumour, as recognition can avoid excessively aggressive management.

C-10200

Impact of 5-Alpha Reductase Inhibitors on Prostate Health Index

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Introduction and Objectives: 5-alpha reductase inhibitors (5-ARIs) will decrease prostate serum antigen (PSA) levels by roughly 50% within 6 months. Studies suggest smaller reductions are associated with prostate cancer (PCa). The Prostate Health Index (PHI) has been shown to be useful in predicting PCa at initial biopsy. While PHI-testing is not recommended for patients on 5-ARIs, we aim to explore the effect on PHI and whether it may be used as a tool for PCa detection in the subset of patients on these medications.

Methods: We retrospectively reviewed patients who had PHI tested between 2017 and 2019. Patient on 5-ARIs were identified and the diagnostic performance of PHI was assessed.

Results: We identified 16 patients with a mean age and PSA of 69.8 years and 9.0 ng/mL respectively. N = 1 had biopsy-proven (Gleason3+3) PCa with a PHI of 24. N = 3 had PHI tested before and after 5-ARI. At a mean of 12 months, both PSA and PHI were reduced (mean PSA: 6.75 ng/mL (pre) vs. 3.8 ng/mL (post), mean PHI: 27 (pre) vs. 17 (post)), p > 0.05. Overall a mean PSA reduction of 60.4% (p < 0.05) occurred after 22 months (mean) of 5-ARIs. This was associated with low (n = 10) to moderate (n = 6) risk PHI only. This was supported by MRI (PIRADS ≤ 3) in n = 7 and n = 8 with negative biopsies.

Conclusions: Our data is limited as none of our patients had high risk PCa. While we cannot conclude that PHI can predict PCa despite 5-ARI, we can see it remains low to moderate in the context of 5-ARI associated PSA reductions typical of benign pathology. This may be extrapolated to consider that PCa is unlikely if PHI less than 40 (despite 5-ARI).

C-10202

Laparoscopic Adjustment and Insertion of Peritoneal Dialysis Catheters: A Single Institution Experience

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Introduction and Objectives: Peritoneal dialysis (PD) as a means of renal replacement therapy is cost-effective, and has inherent advantages over haemodialysis. At our institution, peritoneoscopic insertion of PD catheters is routinely done by interventional nephrologists since 2012. Patients with non-functioning PD catheters or previous abdominal surgery are referred to urologists for laparoscopic adjustment or insertion.

Methods: We retrospectively identified all laparoscopic adjustment and insertion of PD catheters between 2008 and 2019. Diagnostic laparoscopy was performed to identify the reason for malfunction. Using 2 working 5-mm ports, we routinely performed the following: (a) omentopexy with haemolock clips to avoid future omental wrapping; (b) clearance of any intraluminal blockages to ensure patency; and (c) suture fixation of the PD catheter to prevent catheter migration. Perioperative outcomes and PD catheter survival rates were evaluated.

Results: A total of 76 laparoscopic cases were identified - 26 (34.2%) were insertions, and 50 (65.8%) were adjustments. With a median follow-up period of 344.5 days (inter-quartile range [IQR] 160.5 to 671.5), the 1-month and 3-month PD catheter survival rates were 97.4% (n = 74) and 84.2% (n = 64) respectively. Overall, the median PD catheter survival duration was 344.5 days (IQR 160.5 to 671.5). Median operative time was 96.5 minutes (IQR 76 to 113.5). Mean length of stay was 1.57 days (± 1.27).

Conclusions: Laparoscopic adjustment and insertion of peritoneal dialysis catheters had good short- and long-term functional outcomes with low perioperative morbidity. It is an excellent option to improve patients' quality of life by delaying or avoiding the use of haemodialysis.

C-10203

Can We Omit Systematic Biopsies in Patients Undergoing MRI-Fusion Targeted Prostate Biopsies?

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Introduction and Objectives: Magnetic resonance imaging (MRI)-targeted prostate biopsy is the recommended investigation in patients with a suspicious lesion found on MRI prostate. The role of concurrent systematic biopsies in addition to targeted biopsies is currently unclear.

Methods: We queried our prospectively maintained MRI fusion-targeted biopsy database at our institution, identifying all patients who underwent biopsy from May 2016 to Dec 2019. Inclusion criteria for our study were patients with at least one Prostate Imaging Reporting and Data System (PI-RADS) ≥ 3 lesion, and who underwent targeted and/or systematic biopsies. We defined clinically significant prostate cancer (csPCa) as any Gleason grade group ≥ 2 cancer.

Results: Among the total of 500 patients, 190 (30%) were biopsy-naïve, 237 (47.4%) had previous negative systematic biopsy, and 73 (14.6%) had previous biopsy-proven D'Amico low-risk prostate cancer on active surveillance. Rates of csPCa detection were 53.2%, 24.1% and 39.7% respectively. Expectedly, there was a higher rate of detecting csPCa with higher PIRADS score. Of the 189 patients diagnosed with csPCa, 32 (16.9%) would have been missed if only targeted prostate biopsy had been performed (i.e. they were detected on systematic biopsy only). The rate of csPCa detection on systematic biopsy was 3.2% (n = 1) and 0% among patients with previous 2 and 3 negative biopsies prior, respectively.

Conclusions: We found that concurrent systematic together with MRI-fusion targeted biopsy was of value only in patients who were biopsy-naïve or had 1 prior negative systematic biopsy.

C-10205

MRI Fusion Targeted Confirmatory Prostate Biopsy Improves the Selection of Men with Prostate Cancer for Active Surveillance

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Introduction and Objectives: Men on active surveillance for low-risk prostate cancer are recommended to undergo confirmatory biopsy within a year of diagnosis. The only randomised trial (ASIST trial) in this population failed to show an improvement in upgrading rates with targeted biopsy compared to systematic biopsy at the first confirmatory biopsy. We aim to evaluate our series of men on active surveillance who underwent concurrent systematic and MRI fusion targeted confirmatory biopsy.

Methods: From our prospectively maintained MRI fusion targeted biopsy database at our institution, we identified patients on active surveillance who underwent biopsy from May 2016 to Dec 2019. Inclusion criteria for our study were patients with at least one Prostate Imaging Reporting and Data System (PI-RADS) ≥ 3 lesion, and who underwent targeted and systematic biopsies. Upgrading was defined as any newly detected clinically significant prostate cancer (csPCa) of Gleason grade group ≥ 2 .

Results: A total of 61 patients were identified, with a median age of 71 years (interquartile range [IQR] 67-75), median prostate-specific antigen of 7.26 ng/ml (IQR 5-10) and median Prostate Health Index (PHI) level of 34.5 (IQR 18-44). Upgrading to csPCa was found in 41% (n = 25) of patients. Targeted biopsies upgraded 9 (14.8%) patients who did not have csPCa with systematic confirmatory biopsy alone.

Conclusions: MRI fusion targeted confirmatory biopsy upgrades a significant proportion of men with previous low-risk prostate cancer and improves the selection of patients suitable for active surveillance.

C-10204

Utility of MRI Fusion Targeted Prostate Biopsy in Biopsy-Naïve Men in Singapore

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Introduction and Objectives: Current guidelines recommend performing upfront magnetic resonance imaging (MRI) prostate in biopsy-naïve men. A systematic and targeted biopsy is commonly offered to those with a suspicious lesion graded by the Prostate Imaging Reporting and Data System (PI-RADS) as ≥ 3 . We aim to evaluate our series of biopsy-naïve men who underwent concurrent systematic and targeted biopsy.

Methods: From our prospectively-maintained MRI-fusion biopsy database, we identified all biopsy-naïve patients who underwent systematic and/or fusion targeted biopsies from May 2016 to Dec 2019. We defined clinically significant prostate cancer (csPCa) as any Gleason grade group ≥ 2 cancer.

Results: The 190 patients had a median age of 69 years (interquartile range [IQR] 65-74), with a median prostate-specific antigen of 9.0 ng/ml (IQR 6.2-13.5) and median Prostate Health Index (PHI) level of 35 (IQR 26-44). PCa and csPCa detection rates were 62.1% (n = 118) and 52.6% (n = 100) respectively. More csPCa was found in those with higher PIRADS score [84.4% (PI-RADS-5), 49.4% (PI-RADS-4) and 26% (PI-RADS-3)]. One csPCa (0.5%) was missed by targeted biopsy but found on systematic biopsy alone. 16 csPCa (8.4%) were found on targeted biopsy but not on systematic biopsy. Multivariable regression found PSA density ≥ 0.10 (OR 6.76, p < 0.001), PHI ≥ 27 (OR 3.02, p = 0.03), higher PIRADS (vs. PI-RADS-3: OR 4.21 for PI-RADS-4; OR 11.4 for PI-RADS-5, both p < 0.001) and target lesion volume-to-prostate volume ratio ≥ 0.10 (OR 6.11, p = 0.007) were significantly associated with csPCa detection on targeted biopsy.

Conclusions: Biopsy-naïve men who have a suspicious lesion on MRI benefited from MRI-fusion targeted and systematic biopsy for the detection of csPCa.

C-10207

A Rare Case of Zinner Syndrome

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Introduction and Objectives: Zinner syndrome is a rare condition comprising a triad of unilateral renal agenesis, ipsilateral seminal vesicle obstruction and ipsilateral ejaculatory duct obstruction. It was first described in 1914 and to date, about 200 cases have been reported in literature. Most of them remain asymptomatic and typically present during the second to fourth decade of life, the age when they become sexually active.

Methods: We report a 24-year old male who was diagnosed with Zinner syndrome in our hospital.

Results: The patient is a 24-year old single male who was referred for investigation of urinary tract infection. Bedside ultrasound of the kidneys and bladder showed a large, tubular cystic mass posterior to the bladder; the left kidney was absent. A computed tomography urogram showed agenesis of left kidney and a large left seminal vesicle cyst, confirming the diagnosis of Zinner syndrome. Semen analysis showed hypospermia and teratozoospermia. He remains asymptomatic and is still on active follow-up for future symptom development and/or potential fertility issues.

Conclusions: A high index of suspicion for Zinner syndrome should be present for young males presenting with urinary tract infection, infertility, or non-specific pelvic symptoms with concomitant renal agenesis. Cross-sectional imaging should be performed to confirm the diagnosis. Asymptomatic patients can be managed conservatively with follow-up and treatment for associated fertility issues; whereas definitive treatment will be required for those who are symptomatic.

C-10208

Urolift in National University Hospital, Singapore – An Initial Experience
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Introductions and Objectives: The Urolift® system has been shown to constitute a good therapeutic alternative for patients with symptomatic benign prostatic hyperplasia (BPH). We present our initial experience with this procedure in National University Hospital, Singapore.

Methods: 9 patients with BPH underwent Urolift procedure in our institution between September 2019 and January 2020. Preoperative parameters included prostate volume, evaluation of intravesical prostatic protrusion, uroflowmetry and completion of validated questionnaires including international prostate symptom score (IPSS) and international index of erectile function (IIEF). The number of staples used intraoperatively, length of stay and presence of complications were recorded. We analyzed uroflowmetry, IPSS and IIEF scores at 3 months post-procedure with pre-operative values.

Results: The average age of our patients was 68 years. The mean prostate volume was 36.8 cc (range: 21.5-59 cc). All patients underwent general anaesthesia and the mean operative time recorded was 15.6 minutes. The median number of staples inserted were 4. 89% of patients went home on post-operative day 0 or 1. There was 1 patient re-admitted on post-operative day (POD-3) for gross hematuria with clot retention. There were no other reported complications. At the 3 month follow up, there was improvement of both mean IPSS score (19.0 to 9.1) and quality of life score (4.2 to 2.1). Mean max flow rate improved from 11.05 ml/s to 14.02 ml/s. There was no significant change in the IIEF score.

Conclusions: Our initial experience with Urolift show promising results with significant symptomatic relief from bothersome urinary symptoms with preservation of sexual function. Longer term results are required.

T-10078

The Sonic Hedgehog Link; Histopathology and Protein Analysis of Stented and Unstented Paired Porcine Ureter
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Introduction and Objectives: Pre-stenting of the ureter causes passive ureteric dilatation and better access to the urinary system during subsequent procedures. However, the pathophysiology of ureteral stenting disrupting peristalsis is currently unknown. In this study, we aim to elucidate the mechanistic pathway that leads to the involvement of multiple tissue layers in ureteric dilatation.

Methods: Three pigs were stented unilaterally for 14 days and sacrificed. Both stented and non-stented ureters were harvested and the degree of luminal dilatation was noted. Histological analysis was performed and the protein expression of transcription factor Gli-1 was assessed via immunohistochemistry.

Results: Luminal dilatation occurred in both stented and non-stented ureters in Figs 1 and 2. Pig 3 showed luminal dilatation of the stented ureter with no significant histological changes on the contralateral non-stented ureter. Significantly, the muscularis propria layer of all 3 pigs in both stented and non-stented ureters showed smooth muscle thinning and hyperplasia with increased luminal diameter. Gli-1 protein was expressed in the smooth muscle cells of the muscularis propria in all three pigs. The intensity of staining increased with increasing luminal diameter. These findings were similar in both the stented and non-stented ureters.

Conclusions: Ureteral stenting results in dilatation of both stented and contralateral non-stented ureters with histological changes across all layers of the ureter, suggesting a systemic response was induced by the indwelling stents. This study is the first to show that increased luminal dilatation was proportionally correlated to increased Gli-1 protein expression

C-10209

Microcystic Stromal Tumour of Testes – An Extremely Rare Entity of Testicular Tumours and Its Impact on Subfertility
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Introduction and Objectives: Microcystic stromal tumour (MCST) is a rare subset of stromal tumours which can be found in the ovaries. To date, there has only been a single case of testicular MCST published internationally. We present a case of MCST found in the testes with features of subfertility.

Methods: Mr T is a 36-year-old man who presented with painless left testicular swelling. Ultrasound scrotum showed a left 4.8 cm well defined, solid intra-testicular mass of mixed echogenicity and disorganized vascularity. He had raised lactate dehydrogenase (LDH) of 612 units/L but alpha-fetoprotein (AFP) and beta human chorionic gonadotropin (bHCG) were otherwise normal. He was counseled for sperm banking and semen analysis revealed oligospermia with a sperm concentration of 4.7 million sperms/mL. Mr T underwent left radical orchidectomy. Histopathology showed a 3.7cm stromal tumour with benign features which stained positive for Vimentin, CD10, beta-catenin, cyclin D1 as well as weakly for WT-1, consistent with a microcystic stromal tumour. Interestingly, there was no normal spermatozoa throughout the testis, even in areas without compressive atrophy. Mr T recovered uneventfully.

Conclusions: MCST is an extremely rare entity that is rarely found in the testes. We present the first case of testicular MCST with subfertility in a male. We postulate that there is an association between subfertility and MCST, although more studies will be needed to verify this.

T-10102

Genomic Interrogation of Collecting Duct Carcinoma and Potential Targeted Therapies
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Introduction and Objectives: Collecting duct carcinoma (CDC) is a rare and aggressive form of renal tumour associated with progressive metastatic disease at diagnosis and thought to be resistant to chemotherapy. There are only a handful of case reports of genomic interrogations performed due to its rarity. We assess whole exome sequencing (WES) results of a sample obtained from a 30-year-old patient with metastatic CDC and compare this with the limited literature.

Methods: A 30-year-old patient with a 3 cm hilar tumour was treated with nephrectomy, and subsequent RPLND to remove two metastatic deposits. Soon, the patient developed widespread metastatic disease requiring immunotherapy. A sample collected from the primary tumour was used to perform WES.

Results: AXL1 and NF2 somatic mutations were identified with variant allele frequencies of 29.3% and 48.4% respectively. CNV loss in CYP2D6 and SMARCB1 were identified. Top canonical pathways generated from these four genes included DNA damage response, AMPK signaling and glucocorticoid receptor signaling. These genes are linked through molecular pathways associated with TP53. Findings are similar to the limited published data where chromatin remodeling genes are more likely to be mutated in CDC. Somatic mutations in TP53, NF2, AXL3 and CNV loss of CDKN2A/p16 have most typically been published in association with CDC.

Conclusions: CDC is a rare renal tumour with limited genomic characterization. Results suggest that there are multiple pathways that may be associated with CDC mechanism. A variety of agents that may be effective in CDC include mTOR/TK inhibitors, EZH2 inhibitors, retinoic acid receptor agonists, quinidine, and aldose reductase inhibitors.

T-10183

Evaluation of UBC® Rapid Assay in Detecting Asian Bladder Cancer

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Introduction and Objectives: Bladder cancer is (BC) one of the costliest malignancies to treat. A good biomarker/assay of BC could improve clinic outcome and reduce financial burden. UBC® Rapid is a point-of-care ELISA test measuring cytokeratin fragments 8 and 18 in urine. Studies have shown a reasonable accuracy of UBC® Rapid in detecting BC. There are evidences suggesting different ethnic groups have different genetic variants of keratin 8 and 18. To date, however, UBC® Rapid has not been evaluated in Asian BC patients. Also very few papers have compared UBC® Rapid with urine cytology. Thus we aimed to evaluate UBC® Rapid in detecting Asian BC, in parallel with urine cytology.

Methods: 83 patients were recruited at NUH Singapore, comprising 42 patients with BC, 13 patients with bladder benign lesions and 28 patients with normal cystoscopy and urinary upper tract imaging. All the BC and benign lesions were confirmed by histology. Voided urine was collected before urinary instrumentation. Fresh urine was used for UBC® Rapid assay. The results were compared with urine cytology.

Results: The sensitivity, specificity, positive predictive value (PPV) and negative predictive value (NPV) of UBC® Rapid in detecting BC are 53.6%, 90.4%, 88% and 65.5% respectively. The sensitivity, specificity, PPV and NPV of urine cytology in detecting BC are 42.8%, 97.6%, 94.7% and NPV of 63% respectively in our cohort.

Conclusions: UBC® Rapid has higher sensitivity with relatively lower specificity in detecting BC compared to urine cytology. UBC® Rapid may partially replace urine cytology for BC surveillance to reduce the cost of BC treatment.

V-10029

'Needle in the Haystack': Combination MRI-Fusion and Saturation Biopsy-Guided Focal Cryotherapy for Prostate Cancer

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Introduction and Objectives: Focal cryoablation has emerged as a promising alternative to conventional radical prostatectomy and radiotherapy for localized prostate cancer, with preservation of sexual function and continence. Preluding effective cryoablation lies in accurate tumour localization and estimation of volume. We describe the complementary role of MRI-fusion targeted and saturation biopsy in enhancing precision of tumour localization for effective cryoablation.

Methods: We present a patient with intermediate-risk prostate cancer. Preoperative PSA was 8.4. MRI prostate revealed two PIRADS 4 lesions. MRI-fusion ultrasound guided transperineal targeted biopsy revealed Gleason Grade Group (GGG) 1 (3+3) disease in one lesion. Saturation biopsy complemented targeted biopsy in establishing the extent of index lesion. More importantly, two additional lesions were identified; one GGG 1 in the contralateral hemiprostate and another GGG 2 (3+4) in ipsilateral hemiprostate, which upstages the cancer profile. Conventional brachytherapy template guided focal cryoablation was modified to a freehand technique, which allowed better prostate tissues ablation and preservation of neurovascular bundle. Hydrodissection of Denonvilliers fascia and insertion of urethral warming catheter minimized cold injury to rectum and urethra. Two freeze-thaw cycles were performed. Real time correlation with MRI-fusion and saturation biopsy template ensured accurate cryo probes placement.

Results: Operating time was 75 minutes with no complications. Patient was discharged without need for indwelling catheter. PSA decreased to 1.2 (1st month) and 0.9 (3rd month). Quality-of-life survey demonstrated remarkable patient satisfaction with complete continence and preservation of sexual function.

Conclusions: MRI-fusion, coupled with saturation biopsy, enhances tumour localization and volume estimation. This technique improves mapping precision for effective cyroablation.

V-10028

Endoscopic-Assisted Transvesical Laparoscopy: A New Paradigm in Minimally-Invasive Bladder Surgery

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Introduction and Objectives: Transurethral endoscopic surgery is limited by its incompatibility in bladder-defect repair that requires suturing. Technical reports of transvesical laparoscopy, employing the conventional three-port triangulation technique, resulted in multiple sizeable defects that predisposed to prolonged urinary extravasation. We present the first two-5mm-port transvesical technique together with a transurethral resectoscope in performing resection of various bladder pathologies.

Methods: A step-by-step of the technique is described: (i) Cystoscopy to identify the position of the bladder pathology in relation to the ureteric orifice. (ii) Insertion of two suprapubic transvesical 5mm self-retentive working ports under direct vision. (iii) Creation of pneumovesicum by exchanging irrigation fluid for CO2 (iv) Bladder pathology is resected by a combination of transvesical laparoscopic and transurethral resectoscopic manoeuvres. (v) Transurethral access provides illumination, visualisation, sutures and specimen passage. (vi) Repair of bladder defect via laparoscopic continuous suturing.

Results: Three patients had undergone the described surgery for: (i) diverticulectomy; (ii) excision biopsy of trigonal nodule; and (iii) wide excision of urachal nodule. Mean operating time was 150 minutes (range 110/180) with minimal blood loss. Mean hospital stay was 2 days (range 13). All patients had urinary catheterisation for 7 days postoperatively with cystograms showing no urinary extravasation prior to removal. No complications were reported.

Conclusions: This is the first description of a 2-port transvesical laparoscopic technique for minimally-invasive bladder surgery, fully utilising the transurethral resectoscope as a natural-orifice access to provide illumination, visualisation, assistance, sutures passage and retrieval of specimen. It represents a safe, innovative and intuitive approach to resection of bladder pathology.

V-10048

Transperineal Aspiration of Prostatic Utricle Cyst

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Introduction and Objectives: Prostatic utricle cysts are a known cause of subfertility. Studies show that aspiration or transurethral deroofting of these cysts can improve semen volume and semen analysis parameters. Traditionally aspirations of utricle cysts are performed via the transrectal route, however the advent of transperineal prostate biopsy has provided the method and equipment to perform such a procedure via the transperineal route. We present a case of transperineal aspiration of a prostatic utricle cyst.

Methods Mr LHL is a 33-year-old male, who presented with haemospermia. He was otherwise asymptomatic, with no symptoms of urinary tract infection. He had normal sexual function, with good erections and normal libido. Likewise, his physical examination was unremarkable, including a normal digital rectal examination. MRI pelvis showed a large 2 x 3 cm midline prostatic cyst, as well as a semen analysis with very low volume and no motility.

Results He underwent a transperineal aspiration of his prostatic utricle cyst under local anaesthetic. A transrectal ultrasound was performed to identify the cyst. Subsequently, local anaesthetic was infiltrated to the perineum and the cyst was targeted and aspirated with a large bore (18G) needle via the transperineal needle guide until completely collapsed. He had no adverse events following the procedure.

Conclusions: To our knowledge, this is the first demonstration of transperineal aspiration of a prostatic utricle cyst under local anaesthetic. Transperineal aspiration of prostatic utricle cyst is feasible and further studies should be conducted to determine its advantages over traditional transrectal aspiration.

V-10077

Sandwiched Posterior-Anterior Reconstructed Tissue-Glued Anastomosis (SPARTAN) in RARP: A Consistently Reproducible Urethro-Vesical Anastomosis for Early Catheter Removal and Continence Recovery

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Introduction and Objectives: Restoration of supporting structures around the urethral rhabdosphincter is key to preservation of continence mechanism post-RARP. This video aims to: (1) present the step-by-step SPARTAN technique, a novel easy-to-perform, simplified total anatomical reconstructed UV anastomotic technique incorporating the application of fibrin sealant for added water-tightness; (2) report the short- to intermediate-term outcomes on early day-4 catheter removal and continence recovery.

Methods: This video presents a single-surgeon 20-patient RARP series performed with a standardized SPARTAN UV anastomotic technique. Post-operative outcomes measured were the success rate of early catheter removal and continence outcome. The step-by-step SPARTAN technique is outlined sequentially as follows: (1) modified Rocco's Stitch for posterior musculofascial plate reconstruction; (2) the same modified Rocco's Stitch is used to incorporate the 6 O'clock UV anastomosis; (3) completion of anastomosis by Velthoven technique; (4) application of peri-anastomotic fibrin sealant; and (5) anterior reconstruction.

Results: The patient cohort consists of 85% (17/20 patients) low- or intermediate-risk cases by D'Amico classification, and 85% had nerve-sparing RARP. About two-third (75%) of these patients had recovered continence by day-30 post-catheter removal as defined by the usage of one or no safety-liner per-day. Two patients had immediate continence recovery. Ten patients had cystogram at day-4 with none showed any sign of urinary leakage and all but one had successful trial removal of catheter.

Conclusions: SPARTAN is a consistently reproducible, tension-free, water-tight UV anastomotic technique in RARP that allows for early catheter removal and continence recovery.

V-10146

Laparoscopic Pyelolithotomy: Its Role and Our Experience

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Introduction and Objectives: We present our preliminary experience with laparoscopic pyelolithotomy for the treatment of multiple stones within a malrotated kidney.

Methods: Laparoscopic pyelolithotomy was chosen to avoid the potential risks of pleural and lung injury associated with a supra-12th rib puncture in percutaneous nephrolithotomy (PCNL).

Results: Total operative time was 209 minutes. Recovery was uneventful and the patient was confirmed as stone-free on post-operative imaging. Removal of the drain and indwelling catheter was performed on day 1 and day 7 respectively. The patient was medically fit for discharge on post-operative day 2. Outpatient retrieval of the ureteric stent was performed at 6 weeks.

Conclusions: Laparoscopic pyelolithotomy is a safe treatment modality with good stone-free rates for patients with large stones within malrotated and high-positioning kidneys, especially where conventional percutaneous methods are associated with difficulty or risky access.

V-10091

Robot Assisted Ileal Replacement of Ureter

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Introduction and Objectives: Ileal replacement of ureter for multiple ureteric stricture can be done via open/laparoscopic techniques. We herein present a case of robotic ileal replacement of ureter

Methods: We present a case of a 31-year-old female with history of left flank pain, intermittent type. She had a h/o GUTB for which she took ATT for 6 months. On evaluation, she was found to have moderate to severe left global gross HDN with thinning of cortex at upper pole, irregular thick wall throughout its length with areas of narrowing and dilatations in left ureter till VUJ s/o inflammatory pathology. Patient underwent Lt PCN insertion f/b robotic ileal replacement of ureter.

Results: Patient planned for robotic ileal replacement of ureter. Robotic assisted ileal replacement of ureter done as shown in video. Histopathology report showed granulomatous inflammation. Patient recovered well in post op period. Drain removed on POD3. DJ stent removed after 4 weeks. She was started on ATT.

Conclusions: Robot assisted ileal replacement of ureter is a procedure which can help in quick recovery, can be done via a small incision approach, decreased morbidity.

V-10155

Laparoscopic Partial Nephrectomy in a Patient with "Toxic" Fat and No Intra-Operative Ultrasound

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Introduction and Objectives: Nephron-sparing surgery is the treatment of choice in renal tumors less than 4 cm. In certain cases, "toxic" perirenal fat is encountered which is thick and adherent to the renal capsule. Identification of the tumor is difficult without intra-operative ultrasound. We aim to demonstrate how to proceed with laparoscopic partial nephrectomy even when dealing with a lot of adherent peri-nephric fat and absence of ultrasound.

Methods: A 64-year-old male with incidental finding of a 3.3 x 2.9 x 3.7 cm enhancing left renal mass underwent laparoscopic partial nephrectomy

Results: The total operative time was 3 hours and 22 mins and warm ischemia time was 19 mins. The estimated blood loss was minimal. The patient was discharged stable on the third hospital day. Upon follow up, histopath revealed renal cell carcinoma, with negative margins of resection.

Conclusions: Laparoscopic partial nephrectomy can be done without intra-operative ultrasound in select cases with "toxic" fat. Careful correlation of CT scan images and intra-operative anatomy is a must. Finding an area of normal kidney first is key to avoid disrupting the tumor or the renal capsule.

V-10160**Posterior Radial Nephrotomy in Laparoscopic Partial Nephrectomy for Intra-Hilar Renal Tumours**

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Introduction and Objectives: Centrally located endophytic renal hilar tumors pose a technical challenge to the surgeons especially through a minimally invasive approach. Hereby, we narrate a new technique of radial nephrotomy for laparoscopic enucleation of such tumors, applying an age old surgical principle of radial nephrotomy in the intersegmental plane to remove renal stone.

Methods: A 55-year-old female, chronic kidney disease-stage 1, presented with left flank pain since 6 months. On evaluation, ultrasound and MRI showed 3 cm, endophytic, left intra-hilar renal tumour. After transperitoneal access, kidney was mobilized and flipped to expose the posterior aspect. Dissection of renal sinus was done in the Gilvernet's plane. Intraoperative ultrasound was done to locate the tumor and the adjacent vasculature. The incision was given in the arbitrary plane between posterior and inferior arterial segments. Renal artery was clamped, radial nephrotomy was made at this plane, tumor was exposed, dissected around the pseudocapsule, enucleated in-toto. Haemostatic figure of eight sutures were taken over small vessels supplying the tumour. Nephrotomy closure was performed by sliding renorrhaphy technique using 1-0 V-Loc. Haemostasis was confirmed after declamping the renal artery and nephropexy performed.

Results: There was minimal blood loss with warm ischemia time of 18 minutes. Intra and peri-operative periods were uneventful. Histopathology suggestive of renal hamartoma with clear margins.

Conclusions: Dissecting the renal sinus in the Gilvernet's plane followed by posterior radial nephrotomy in the plane between the posterior and inferior renal arterial segments facilitated the exposure of intra-hilar space and enucleation of the renal tumour.

V-10166**Video-Endoscopic Inguinal Lymph Node Dissection by Lateral Approach**

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Introduction and Objectives: Inguinal lymphadenectomy is a morbid procedure associated with significant risks of flap necrosis, wound dehiscence, infection, lymphedema, lymphorrhoea, etc. Although the majority of the complications are self-limiting, flap necrosis and wound dehiscence often require re-do surgery and flap coverage. Video-endoscopic inguinal lymph (VEIL) node dissection is a minimally invasive alternative to open inguinal node dissection and has been found to provide similar oncological outcomes with significantly fewer wound complications. The conventional approach of VEIL either by the laparoscopic or robotic platform has been along the long axis of the thigh and the saphenous vein.

Methods: We describe a lateral approach for VEIL which is more ergonomic, hastens the identification of the saphenous vein and has similar outcomes as conventional VEIL.

Results: The technique was used in 15 patients of carcinoma penis with clinically negative groins, over the span of 15 months. None of the patients had any wound-related complications. All the patients could be discharged by the second postoperative day. The mean duration for drain removal was 7 days post-surgery.

Conclusions: VEIL by lateral approach is a safe alternative to conventional VEIL.

V-10165**Supine Micro Endoscopic Combined Intra Renal Surgery (mECIRS) with "All Seeing Needle" for Percutaneous Nephrolithotomy (PCNL): The Singapore Experience**

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Introduction and Objectives: Micro PNL helps reduce morbidity, hasten recovery. We Aim to evaluate efficacy and outcomes of Supine mECIRS in French position, combining Micro PCNL and RIRS with High power laser on renal calculus management.

Methods: Prospective single centre study between November 2019 and January 2020 with all symptomatic patients of any age, stone size, habitus included 6 patients underwent Micro PCNL with 4fr "all seeing optical needle" (Polydiagnost, Germany) and RIRS with Lithovue, Boston Scientific +11/13 access sheath.

Results: Total number of patients – 6, male 2 (33.3%) female 4 (66.7%), > 70 yrs age 2 (33.3%), anticoagulation 3 (50%), lower limb flexion deformity 2 (33.3%), complex renal anatomy 4 (66.7%), previous PCNL 1 (16.6%). Stone characteristics – stone > 2 cm 4 (66.7%), multiple stones 3 (50%), partial staghorn 2 (33.3%), diverticular stones 3 (50%). Intra-op findings – supine with split leg 4 (66.7%), supine only 2 (33.3%), avg op time 57.6 min, PCN in 1 try 6 (100%), pre op stenting 3 (50%), post op stenting 5 (83.3%), nephrostomy 0. Post op hospital stay – < 48 hrs 5 (83.3%), avg pain score 6/10, fever < 38° C 2 (33.3%), stone free Rate 100%.

Conclusions: Albeit small, it is the first series in the world for supine mECIRS with all seeing needle in French position with 100% success and nil significant morbidity. Sepsis was mitigated by use of access sheath allowing good drainage subserving as conduit for stone extraction and maintaining good vision thereby allowing complete stone clearance in all. Larger series will establish its supremacy as the procedure of choice for renal stone management.

V-10167**The Benefit of Robotic Surgery in Post-Radio Recurrent Invasive Bladder Cancer**

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Introduction and Objectives: Recurrence of invasive bladder cancer after radiation therapy poses a surgical challenge with significant morbidity described for salvage cystectomy cases. We present the first regional series of robotic assisted salvage radical cystectomy (RSRC) with detailed description of the key steps, in addition to perioperative and oncological outcomes.

Methods: With IRB approval, 4 patients who underwent RSRC were identified from a prospective database. The key steps of RSRC presented in the video include posterior dissection aided by magnification and 3D vision of the robotic system, completion of cystectomy, adequate lymphadenectomy and intracorporeal ileal conduit reconstruction.

Results: The median age was 63 years and all ECOG status 1 or better. The pre-operative clinical staging were cT3N0M0 in all cases. The median console operative time was 450 mins, estimated blood loss 200 ml, length of stay 5 days, duration of ileus 3 days, and there were no transfusions. There was 1 patient with prolonged ileus (7 days) but there were no other Clavien-Dindo III and above complications. There were no rectal or vascular injuries. The pathological stages include pT4 (n = 2), pT3 (n = 1) and pT2 (n = 1). The median node count was 25, and n = 1 patient was node positive. At a median follow-up of 18 months, 2 patients developed systemic recurrence

Conclusions: We present the first regional case series of RSRC demonstrating that it is safe and oncologically feasible. The robotic vision aids meticulous dissection in an irradiated surgical field, and minimal invasive surgery aids good peri-operative outcomes.

V-10171

Robotic Excision of Vaginal Pouch in Ovotesticular Disorder of Sexual Development

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Introduction and Objectives: Ovotesticular disorder of sexual development (DSD) is the rarest of DSDs with an incidence of 1:20000. Management of vaginal pouch in such cases is reserved for symptomatic cases such as urinary tract infections (UTIs), dysuria, pseudo-incontinence, and stone formation. Laparoscopy is considered the gold standard treatment. Robotic excision of a vaginal pouch in ovotesticular DSD has rarely been described in the literature. We report a rare case of robotic excision of a symptomatic large vaginal pouch in a 19-year-old boy with ovotesticular DSD.

Methods: A 19-year-old boy with ovotesticular DSD (46XX) post hypospadias repair presented with complaints of recurrent UTIs, ballooning of urethra during micturition and post-void dribbling. Ultrasound, voiding cystourethrogram (VCUG) and magnetic resonance imaging established the diagnosis of vaginal pouch. Endoevaluation showed a vaginal pouch with rudimentary uterus opening into the posterior urethra. The DaVinci Xi Robotic Surgical System was used and the vaginal pouch was excised. The patient was discharged uneventfully on postoperative day one.

Results: Follow up VCUG at 6 weeks did not show any evidence of residual pouch. Post void dribble has resolved and no episode of UTI in the follow-up period of 18 months has been reported.

Conclusions: We were able to excise a large vaginal pouch without any unwanted intraoperative event owing to the high magnification, 3-D visualization, and ergonomics available in robot-assisted procedures. Robot assisted laparoscopy should be considered as a valid alternative to laparoscopy for the primary treatment of large vaginal pouch.

V-10199

#TRESIT: Initial Experience with Transperineal Prostate Biopsy Under Local Anaesthesia in an Outpatient Setting

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Introduction and Objectives: There is evidence that compared to the traditional transrectal biopsy (TRUS), transperineal prostate biopsy (TPBx) significantly reduces the risk of infections. Our centre started the local anaesthetic (LA) TPBx service in September 2019. This video describes our technique and initial outcomes.

Methods: We prospectively collected the data of men who underwent TPBx since the start of our service. All procedures were performed under LA in an outpatient setting utilising the PrecisionPoint device. Patients received only one dose of oral cefuroxime prior to the TPBx.

Results: Between 19 September 2019 and 10 January 2020, 26 men underwent TPBx. Of the 26 biopsies, 22 (84.6%) were performed in biopsy-naïve men, two (7.7%) had previous negative TRUS biopsy but rising serum PSA, and two (7.7%) were confirmatory biopsies as part of active surveillance for low-risk prostate cancer. Cognitive-targeted biopsies were performed in five men with suspicious lesions on magnetic resonance imaging (one had a PI-RADS5 lesion, three had PI-RADS4 lesions, and one had a PI-RADS3 lesion), in addition to systematic biopsies. Median number of cores taken during systematic biopsies was 21 (range:12-24). Overall, 13 men (50%) were detected with prostate cancer, of which eight (30.8%) had clinically significant prostate cancer (Gleason grade group 2 or higher). Two men developed post-biopsy complications, both of which were acute urinary retention requiring temporary urethral catheter insertion. No patient had infectious complications after TPBx.

Conclusions: TPBx under LA can be performed safely in an outpatient setting with good cancer detection rates. In view of this, we are moving away from TRUS biopsy in our centre.

V-10185

An Alternative Approach to Management of Ejaculatory Duct Stones

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Introduction and Objectives: Haematospermia is a common condition that can invoke a lot of anxiety in patients. Calculus obstruction of the ejaculatory duct is an unusual cause of haematospermia. We report a case of Haematospermia due to ejaculatory duct stones (EDS) diagnosed on imaging, and a subsequent successful and novel endoscopic approach to managing it.

Methods: A 43-year-old male presented with intermittent haematospermia over 3 years. Initial investigations including a serum prostate specific antigen, urine and semen culture and prostate ultrasonography were normal. A MRI prostate however reported calcifications within the ejaculatory duct. The patient was counselled and planned for an endoscopic removal of the suspected EDS.

Results: Using a 7.5Fr Ultra-Mini Nephroscope, the ejaculatory duct was accessed alongside a safety guidewire. After direct visual confirmation of the EDS, they were fragmented using laser lithotripsy and removed using a Zero Tip nitinol basket. The patient recovered well postoperatively with no complaints and remained asymptomatic.

Conclusions: To date, other options have been described in literature such as transurethral resection of the ejaculatory duct (TURED), endoscopic laser-assisted resection of the ducts and antegrade seminal vesical lavage. However, we present an alternative approach, which has the benefit of the EDS being fragmented and removed under direct vision without the complications of bladder neck and external sphincter injury often associated with TURED. Using an Ultra-Mini Nephroscope is a promising option for management of such cases.

V-10206

Glansectomy and Split-Thickness Skin Graft Reconstruction for Penile Cancer

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Introduction and Objectives: Penile cancer is a rare malignancy that is confined to the glans in majority of the cases. The aim of the video is to show the efficacy and safety of glansectomy and split-thickness skin graft reconstruction. Though not widely performed, it is one of the recommended options in low grade (G1,2) T1 disease

Methods: Our patient is a 42-year-old Chinese gentleman with no significant past medical history. He presents to Khoo Teck Puat Hospital Urology Clinic with a growth on the glans penis for 2 months duration and was diagnosed with low grade penile squamous cell carcinoma on dorsal slit and incision biopsy. Pre-operative MRI did not reveal any involvement of corporal cavernosum. A decision was then made to proceed with glansectomy and split thickness skin graft reconstruction.

Results: In this video, we show how glansectomy and split thickness skin graft was performed in our patient. Final histology revealed: pT2G1 squamous cell carcinoma, no lymphovascular invasion or perineural invasion; margins 3mm from proximal margins His pre-operative penile stretch length was 9 cm and post-operative stretch penile length was 7 cm indicating a 2 cm loss of length after surgery

Conclusions: Glansectomy with split thickness skin graft can achieve good oncologic and functional outcomes, and can be considered in appropriate patients