Poster Session 8: Functional Urology
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MP-08.01
Clinical phenotyping does not identify those with Hunner's lesions from those without: A call for routine cystoscopy in evaluation of interstitial cystitis/bladder pain syndrome patients

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Introduction and Objectives: Patients diagnosed with interstitial cystitis/bladder pain syndrome (IC/BPS) represent a heterogeneous group of clinical phenotypes. The presence of Hunner's lesions presents an opportunity for objective classification into those with Hunner's lesion IC/BPS (classic IC) and those with non-Hunner's lesion BPS. While currently, a diagnosis of Hunner's lesion IC/BPS requires cystoscopy, limited data exist suggesting that these subtypes can be distinguished without endoscopic examination based on the degree of bladder-focused centricity and infrequent association with generalized pain conditions.

Methods: Patients from a prospective, single-centre database of IC/BPS patients who had documented cystoscopic findings were categorized as those with Hunner's lesion IC/BPS and non-Hunner's lesion BPS. Their demographics, pain and symptom scores, voiding symptoms, presence of IBS, and clinical UPOINT scoring were comparatively analyzed.

Results: A total of 469 patients were reviewed. Of those, 359 had documented local anesthetic cystoscopic findings; 44 (12.3%) with Hunner's lesion IC/BPS and 315 (87.7%) with non-Hunner's BPS. Patients with Hunner's lesions were older (p=0.004), had greater urinary frequency (p=0.013), more nocturia (p=0.0004), and higher ICSI scores (p=0.017). There was no difference in number of UPOINT phenotype domains reported, overall UPOINT scores or prevalence of IBS between the groups.

Conclusions: A subtype of IC with Hunner's lesions has worse bladder-centric symptoms, but did not have a distinct bladder-centric phenotype. Given the management implications of distinguishing classic IC from non-Hunner's lesion BPS, we recommend routine cystoscopy with local anesthesia for all patients with a suspected diagnosis of IC/BPS.

MP-08.02
Prescription of anticholinergic medication following treatment of localized prostate cancer

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Introduction and Objectives: Several small studies suggest prostate cancer treatment, including radical prostatectomy (RP) and radiation (XRT), may be associated with the development of overactive bladder (OAB). The rate of OAB following treatment for prostate cancer has not yet been investigated at the population level. The purpose of this study was to determine the proportion of men who are prescribed anticholinergic medications after being treated for prostate cancer with radiation compared to surgery, as a marker of estimating the proportion of men with OAB following treatment of prostate cancer.

Methods: We conducted a population-based, retrospective cohort study comparing men treated for localized prostate cancer with XRT to men treated with RP between 1997 and 2012 in Ontario, Canada. Hospital administrative data and data from the Ontario Cancer Registry (OCR) and the Ontario Drug Benefit (ODB) plan were used. The primary outcome was the prescription of an anticholinergic medication (Ach) after the completion of prostate cancer treatment defined as one new prescription and one refill within six months.

Results: We identified 7571 and 10 401 men treated with RP and XRT, respectively, who met the inclusion criteria. We found a higher rate of Ach prescriptions in men treated with RP compared to XRT (1.55 vs. 1.03 prescriptions per 1000-months). These rates were both significantly higher than the group of matched controls (0.26 prescriptions per 1000-months). A multivariable analysis revealed that men treated with RP were more likely to receive an Ach prescription than men treated with XRT (adjusted hazard ratio of 1.64, 95% CI 1.44-1.87; p<0.001). Other variables associated with Ach prescriptions included: age 70-74 vs. 66-69 (HR 1.22 95% CI 1.07-1.39; p=0.003), prior history of benign prostatic hyperplasia (HR 1.33 95% CI 1.13-1.56; p<0.001) and multiple comorbidities (HR 1.55 95% CI 1.30-1.84; p<0.001).

Conclusions: Our study found that men undergoing treatment for localized prostate cancer are at an increased risk of receiving an Ach prescription compared to men who are not treated for prostate cancer. Contrary to our hypothesis, we found an increase in the rate of Ach prescriptions following RP compared to XRT. Further research is required to determine the reason for this finding. Possibilities include surgery patients having followup done by a urologist who may be more inclined to prescribe an Ach. Alternatively, men with post-prostatectomy stress urinary incontinence (PPI) may be prescribed an Ach in attempt to minimize leakage while awaiting surgical treatment of PPI.

MP-08.03
Treatment efficacy in interstitial cystitis/bladder pain syndrome: Do patients' perceptions match clinical trial data?

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Introduction and Objectives: Evidence from clinical treatment trials in interstitial cystitis/bladder pain syndrome (IC/BPS) are employed to develop treatment guidelines. Do patients' perceptions of success or failure of those specific therapies match that of available clinical trial data?

Methods: 1628 adult females from 48 countries with a self-reported diagnosis of IC completed a web-based survey, examining their symptoms, investigations, and therapies. Patients described their perceived outcomes with the therapies they were exposed to. Previously published literature used to develop IC/BPS guidelines supported the clinical trial data outcomes. Patient-reported outcomes were compared to available clinical trial outcomes.

Results: In order of effectiveness reported in the literature, the best clinical therapies for IC/BPS should be cyclosporine A, amitriptyline, hyperbaric oxygen, PPS plus subcutaneous heparin, botulinum toxin A plus hydrodistension, L-arginine. The following were reported to be of marginal benefit: intravesical Bacillus Calmette–Guérin (BCG), intravesical chondroitin sulfate, and intravesical lidocaine plus sodium bicarbonate. Based on patient-perceived outcomes, the most effective treatments were opioids (405/621; 65.2%), phenazopyridine (390/638; 65.2%), and alkalizing agents (365/660; 55.3%). Intravesical therapies were associated with an overall improvement rate of 39.4% (237/601), but also a 28.3% worsen-

ing rate (170/601). Hydrodistension, electrocautery, and urethral dilation were associated with a 27.9% (218/780), 26.4% (32/121), and 22.5% (115/512), improved symptoms, respectively, but also reported worsening in 27.6% (215/780), 16.5% (20/121), and 22.3% (114/512), respectively.
Conclusions: Patient perceptions of which treatments provide the most success in ameliorating symptoms do not match well with the treatments evaluated or the benefits reported in the literature. Optimal therapy must include the best evidence from clinical research, but should also include real-life clinical practice implementation and effectiveness.

MP-08.04

Risk factors for urinary tract infection following mid-urethral sling surgery

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Introduction and Objectives: Urinary tract infections following mid-urethral sling (MUS) surgery are common. We sought to determine the incidence of and risk factors for urinary tract infection (UTI) following MUS surgery using a validated, multicentre database.
Methods: A contemporary cohort of patients was reviewed using the National Surgical Quality Improvement Program (NSQIP) database between the years 2006 and 2012. This database captures 30-day post-operative complication data for patients who undergo surgical procedures and uses the Centers for Disease Control (CDC) criteria for symptomatic UTI. The NSQIP database was queried for the procedural code for MUS. Exclusion criteria include male sex, concurrent procedure at time of MUS, American Society of Anesthesiologists (ASA) score ≥4, totally dependent functional status, emergent or non-elective surgery or any prior surgery within 30 days. Adjusted logistic regression analyses were performed to evaluate the effects of individual risk factors and models of interaction.
Results: 8497 females were included. The rate of UTI within 30 days of MUS was 2.95%. The median time to UTI was 13 days (interquartile range (IQR) 7-19). Demographic factors significantly associated with increased risk of UTI include advanced age (OR 1.63 95 % CI 1.19-2.24), ASA (OR 2.07 95 % CI 1.36-3.13) and body mass index (BMI) score (OR 1.79 95 % CI 1.20-2.68), as well as a history of peripheral vascular disease (OR 6.73 95 % CI 2.24-20.2) and steroid use (OR 2.09 95 % CI 1.01-4.32). Surgical factors include prolonged operating room (OR) time (OR 2.28 95 % CI 1.56-3.34), postoperative admission (OR 2.38 95 % CI 1.79-3.17), level of trainee (OR 0.51 95 % CI 0.29-0.91), and trainee involvement (OR 1.54 95 % CI 1.13-2.09). When compared to gynecologists, urologists had a reduced risk of postoperative UTI (OR 0.63 95 % CI 0.49-0.82).
Conclusions: The risk of UTI post-MUS surgery is lower than previously described. Novel demographic and surgical risk factors for postoperative UTI have been identified and merit further study.

MP-08.05

Improving access and reducing costs of care for overactive bladder through a multidisciplinary delivery model

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Introduction and Objectives: Overactive bladder (OAB) is a chronic condition requiring regular management and symptom assessment. Patients with lower urinary tract symptoms, such as OAB, are frequently referred to urology. The growing prevalence of OAB is overwhelming urology capacity, causing lengthy wait times and delaying timely access to care. To address this, the vesia OAB multidisciplinary delivery model was introduced in Calgary, Canada in 2010. The overall objectives of this study are to compare the effect of this delivery model on the 1) volume of care for OAB; 2) direct costs to the healthcare system; and 3) number of cystoscopies.
Methods: Two cohorts of OAB patients were defined for this study. The first represents all OAB patients treated by two urologists in the year prior to establishing the new clinic (2010). The second represents all OAB patients seen by the new clinic in the year after it was established (2012). Health records for both cohorts were linked to administrative data sources. Changes in the number patients treated and types of visits were measured. Costs were measured by the proportional number of visits to ambulatory clinics, emergency rooms, and discharges from hospital. The proportional number of patients treated with cystoscopies was also measured.
Results: There were a total of 173 visits in 2010 and 1495 visits in 2012. The average number of visits per patient increased 50% between 2010 and 2012, from 1.15 to 1.73. The proportional distribution of patients accessing ambulatory care services significantly (Pearson Chi-square=160.3; p<0.0001) decreased from 81% to 28% between 2010 and 2012, respectively. There was also a significant (Pearson Chi-square=145.5; p<0.0001) reduction in the proportional use of bladder-related emergency care, from 37% to 6% in 2010 and 2012, respectively. Significantly (Pearson Chi-square=6.0; p=0.014), fewer patients were also discharged from hospital, dropping from 6% in 2010 to 2% in 2012. The proportional number of cystoscopies fell from 53% in 2010 to 21% in 2012.
Conclusions: Developing a multidisciplinary care team for OAB, which includes family medicine doctors as front-line MDs, improves access to care, reduces healthcare costs, and reduces need for costly procedures, such as cystoscopy.

MP-08.06

Long-term treatment with onabotulinumtoxinA provides consistent and durable improvements in quality of life in patients with overactive bladder

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Introduction and Objectives: OnabotulinumtoxinA (onabotA) 100 U has been shown to provide consistent, long-term improvements in overactive bladder (OAB) symptoms in patients (pts) who were inadequately managed by anticholinergic medications. Here, we evaluated the effect of long-term treatment with onabotA on the quality of life (QOL) of OAB pts.
Methods: Pts who completed one of two phase 3 trials were eligible to enter a three-year extension study. Pts requested onabotA retreatment "as needed" for symptom control and had to fulfill prespecified criteria, so the total number of treatments differed for each patient. Results are reported for up to six treatments. Assessments included change from baseline in Incontinence-QOL (I-QOL) total score and proportions of pts who achieved/exceeded the minimally important difference (MID) in I-QOL score (+10 points) after each treatment. Consistency of response over repeat treatments was evaluated by determining whether pts achieved ≥MID after Treatment 1, and then analyzing the proportion who achieved ≥MID for all subsequent treatments.
Results: 829 pts enrolled in the study. Discontinuations due to lack of efficacy and adverse events were 5.7% and 5.1%. After onabotA Treatments 1-6, increases in I-QOL scores were consistently 2-3X MID (range 22.6-28.6) with most pts achieving ≥MID (range 65.2-76.1%). 72.9% of pts who achieved ≥MID after Treatment 1 maintained I-QOL improvements ≥MID in all subsequent treatments. Over one-third (38.3%) of pts who did not achieve ≥MID after Treatment 1 achieved improvements ≥MID in all subsequent treatments. No new safety signals were observed.
Conclusions: Durable and consistent improvements in QOL were observed with long-term onabotA treatment, with no new safety signals. Pts with clinically meaningful QOL improvements after Treatment 1 had similar improvements in subsequent treatments, while lack of response to Treatment 1 did not preclude positive response(s) in subsequent treatments.

MP-08.07

Randomized, controlled trial of laser vs. bipolar plasma vaporization treatment of benign prostatic hyperplasia

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Introducation and Objectives: It remains unknown how vaporization surgery for benign prostatic hyperplasia (BPH) fits into the Canadian medical system. Evolution of competing systems makes it difficult for centres to adopt a single transurethral vaporization system. We compare two technologies to help guide Canadian urologists and hospitals in selecting new prostate treatment technologies.

Methods: Patients meeting standardized BPH symptom criteria are randomized into a single, blinded, controlled trial comparing Biolitec EVOLE® laser vaporization to Olympus TURis plasma button vaporization. Primary outcome is cost-effectiveness, with secondary outcomes of clinical efficacy, resection time, surgical team satisfaction, and safety. 60 patients will be randomized to achieve analysis of primary outcome.

Results: 49 patients have been randomized and treated by December 31, 2015 with three-month followup available for 39. Mean age 71 (68.1-73.7) years, mean preoperative International Prostate Symptom Score (IPSS) 24/35 (22.2-26.8), with mean bother 4.7/6 (4.3-5.2). Mean six- and 12-week IPSS was 12 (9.5-14.8) and 10 (7.1-12.2), respectively. Mean surgeon satisfaction 22/25 (20.4-23.1). Mean nursing satisfaction 22/25 (21.3-23.6). Mean surgical time 28 min (24.3-32.8). Two patients were converted to transurethral resection of the prostate (TURP), four patients sought medical care for hematuria, three patients required dilation for urethral or bladder neck stricture, one developed deep vein thrombosis (DVT), one a urinary tract ingection, and one suffered a thermal bladder injury. All 60 patients have been screened and the last 11 will be randomized in January and February 2016, with completion of three-month followup by May 2016 and unblinded analysis completed by June 2016.

Conclusions: Analysis of blinded data with three-month followup data suggests that while these technologies may achieve a cost-savings and appear to provide significant amelioration of lower urinary tract symptoms (LUTS), there is a definite learning curve in terms of safety considerations. Analysis of the unblinded comparative data in early June will provide insight into the optimal adoption of vaporization technology in Canadian urological practice.

MP-08.08

Aging out: Experiences with transition to adult healthcare for spina bifida patients in British Columbia

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Introduction: Pediatric-to-adult transitional care is a pressing issue for children with congenital anomalies like spina bifida (SB). At BC Children's Hospital (BCCH), we follow 350 SB patients/year, but have no transitional care model. The goal of this study was to assess urological followup in adults living with SB.

Methods A 50-question online survey was distributed to graduates of the BCCH SB clinic. The survey incorporated questions on current health status and experience with transition. 40 urologists known to accept graduating SB patients were also surveyed regarding their urological followup, impressions of health outcomes, and transition readiness for SB patients.

Results: 59 SB patients and 15 urologists completed the surveys (response rates 16% and 40%, respectively). The majority of respondents were over age 30 (41%), wheelchair ambulators (66%), and resided in the Vancouver-Fraser area (71%). The most common health concerns were urinary incontinence (71%) and urinary tract infection (UTI, 65%). However, only 47% of respondents saw a urologist at least annually and 30% of those with a self-reported urological issue (incontinence, UTIs, or stones) were not followed by a urologist. Moreover, 32% of patients felt that not seeing a specialist has led to the development of complications, in particular, urological ones. Over half of participants (62%) were dissatisfied with the transition process, whereas only one urologist felt SB patients were not adequately prepared. SB patients listed transportation (44%) and difficulty finding qualified specialists (22%) as the greatest challenges to transition, while urologists cited lack of understanding of the adult healthcare system (57%), transportation (50%), and poor patient understanding of the complications of SB (36%).

Conclusion: There is an unmet need for urological followup in adults with SB. These vulnerable patients would benefit from a patient-centred multidisciplinary clinic that addresses barriers to care.

MP-08.09

The impact of urinary tract infections on individuals living with traumatic and non-traumatic spinal cord injury in Canada: Results from the Rick Hansen Spinal Cord Injury Registry Community followup

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Introduction and Objectives: Urinary tract infections (UTIs) are the most frequent urological complication following spinal cord injury (SCI), but the extent of neuro-trauma, socioeconomics, activity levels, quality of life (QoL), and secondary complications related to UTI frequency are unknown. Objectives: 1) delineate association of socioeconomic factors with likelihood of UTI; 2) assess UTI impact on activity level, satisfaction, and QoL; and 3) determine frequency of secondary complications to likelihood of UTI.

Methods: Rick Hansen Institute SCI Community Survey database of environmental factors, presence/absence of 30 comorbid conditions, Short Form-12 and QoL in 1137 traumatic and 432 non-traumatic injuries. UTI frequency stratification was none; once a year; few times a year; few times a month. Secondary complications were bowel incontinence, constipation, spasticity, and autonomic dysreflexia (AD). Statistics: t-test, cross-tabulations, Chi2 tested significance.

Results: 1124 (73.5%) reported developing at least one UTI within 12 months. Of those, 31% had 12 or fewer years of education, 72.8% had an annual income of ≤$50 000, and 26.3% were living in a rental home, assisted-living, or other long-term care. In 21%, UTI limited activity to a great extent or completely. QoL was reported as bad or very bad in 9%, fair in 27%, and good or very good in 64%. 53% had bowel incontinence, 81.7% constipation, 23.4% spasticity, and 56.3% AD. Individuals with >1 UTI were more dissatisfied with activity levels than individuals without ($p<0.05$). 38% of those with UTI > or = a few times a month had activity and QoL lower than those with less frequent UTI ($p<0.001$).

Conclusions: Socioeconomic factors and secondary complications are independently inter-related with the likelihood of contracting UTI. More frequent UTIs are associated with greater activity limitation, less satisfaction with activity, and lower QoL. Future work to develop a tool identifying those at greatest risk of UTI is warranted.

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MP-08.10

Altis® adjustable, single-incision sling for female stress urinary incontinence: Mid-term efficacy and satisfaction

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Introduction and Objectives: To evaluate mid-term safety and efficacy of the Altis® single-incision sling system for the treatment of female stress urinary incontinence (SUI). Altis has been proven safe and effective with a short-term follow-up of 12 months.

Methods: A prospective trial was performed in two centres for female patients with SUI who had failed conservative therapy. Patients were evaluated preoperatively and postoperatively at three and six months, then yearly. Followup consisted of a questionnaire and a gynecological exam, as well as objective and subjective measures. Objective outcomes

consisted of 24-hour pad weight test, daily pad use, and cough stress test. Subjective measures consisted of the Urogenital Distress Inventory-Short Form (UDI-6), Incontinence Impact Questionnaire-Short Form (IIQ-7), and Patient Global Impression of Improvement (PGI-I) questionnaires.
Results: Between 2009 and 2013, 94 patients received the Altis sling. Mean patient age was 60.3 years. Interim analysis of data was done in 2015. By this time, 18 patients were lost to followup, leaving 76 patients for assessment. Median followup for these 76 patients was 44 months. Median 24-hour pad weight test decreased from 20.4 g (13.5, 74.6 interquartile range (IQR)) at baseline to 0.0g (0.0, 5.0 IQR) at final followup ($p<0.0001$). Median daily pad use decreased from 2.5 (1.5, 3.5 IQR) to 0.0 (0.0, 1.0 IQR) ($p<0.0001$). Positive cough stress test was present in 100% of patients preoperatively and was reduced to 17%. Subjectively, median reduction in UDI-6 and IIQ-7 scores were 5.0 (2.5, 9.0 IQR) ($p<0.0001$) and 12.0 (6.0, 16.0 IQR) ($p<0.0001$), respectively. 92% (70 patients) indicated that their SUI was "very much better" or "much better" based on the PGI-I. No patient was worsened by the sling. No cases of mesh extrusion were reported. Three patients (4%) experienced transient urinary retention.
Conclusions: The Altis single-incision sling system is a safe and effective for treatment of SUI, with high patient subjective satisfaction.

MP-08.11

Intravesical onabotulinumtoxinA injection is safe and efficacious in elderly patients

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Introduction and Objectives: Injecting intravesical botulinumtoxinA (BTA) for refractory lower urinary tract conditions is a well-established treatment. While a large proportion of patients requiring such treatment are elderly, little data is published regarding its efficacy and safety in older patients. The objective of this study is to report our results of BTA injection in an elderly population of patients.
Methods: A retrospective chart review of patients injected between July 20, 2009 (when charts became available via electronic record) and October 30, 2013 was performed to identify patients receiving BTA in our practice who were 70 years or older at the time of injection.
Results: A total of 330 injections were performed on 110 unique patients with mean age of 80.7 years (75-93). Indications included neurogenic detrusor overactivity (NDO) (22%), idiopathic detrusor overactivity (IDO) (68%), and bladder pain syndrome (BPS) (5%). 5% of these patients presented with other or indeterminate etiology. 23 of the IDO patients in this sample presented with overactive bladder (OAB) after a previous procedure (TVT insertion, radiation or cryotherapy, prostate therapy or Bacillus Calmette–Guérin (BCG) therapy). In the NDO group, 42% were female, compared to 61% of the IDO and 100% of the BPS groups. The majority of patients (68%) were injected under local anesthesia only. The number of BTA treatments ranged from 1-19. 62% of patients received >1 injection while 36% received ≥3, and 14% received ≥6. 96 patients (87%) trialed at least one OAB medication before injection, while 27 patients (25%) had to restart OAB medication at some point during BTA treatment. Overall, 36% discontinued BTA due to death, lack of effect, or change in bladder management. 21% initiated clean intermittent catheter (CIC), while six (5%) performed CIC before BTA treatment, and seven (6%) had indwelling catheters. There were no serious adverse events.
Conclusions: Intravesical BTA is well-tolerated and safe, even in elderly patients. A moderate number of patients initiated CIC in our blended cohort. Persistence with treatment is high, at 64%, despite the challenging nature of this patient population.

MP-08.12

Assessment of energy density usage during 180 W lithium triborate laser photo-selective vaporization of the prostate for benign prostatic hyperplasia: Is there an optimal amount of energy density?

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Introduction and Objectives: The ideal amount of energy delivery during photoselective vaporization of the prostate (PVP) for optimal treatment of benign prostate hyperplasia (BPH) has not been established.[1] The aim of this study is to assess the effect of energy density (kJ/cc) applied on adenoma during treatment on functional outcomes, prostate-specific antigen (PSA) reduction, and complications.
Methods: After exclusions, a total of 440 patients who underwent Greenlight laser XPS 180 W LBO PVP for the treatment of BPH were retrospectively reviewed. Data was collected from seven different international centres (Canada, United States, United Kingdom, and France). Patients were stratified into four energy density groups (kJ/cc) according to intraoperative energy delivered and prostate volume as determined by preoperative transrectal ultrasound (TRUS): Group 1: <3 kJ/cc; Group 2: 3-5 kJ/cc; Group 3: 5-7 kJ/cc; and Group 4: >7kJ/cc. Energy density groups were chosen arbitrarily. PSA reduction and functional outcomes (International Prostate Symptom Score (IPSS), quality of life (QoL), post-void residual urine volume (PVR), Qmax) were compared at six, 12, and 24 months. Moreover, perioperative complications and retreatment rates were also compared between groups.
Results: PSA reduction at 24 months post-procedure was 51%, 61%, 79%, and 83% for an energy-density groups of <3, 3-5, 5-7, and >7 kJ/g, respectively ($p<0.01$). This held true after accounting for baseline confounders. Energy-density was not associated with increased complication rates, including hematuria, stricture formation, incontinence, refractory urinary retention, urinary tract infection, and conversion to transurethral resection of the prostate (TURP). Functional outcomes at two years of follow up were equivalent between groups ($p>0.05$ for all) and comparable re-treatment rates were observed ($p=0.36$).

Table 1. MP-08.12. PSA drop and functional outcomes after XPS180 LBO PVP for BPH at 24 months according to energy usage per cc of prostate

Variables at 24 months	<3 kJ/cc	3–5 kJ/cc	5–7 kJ/cc	≥7 kJ/cc	*p* value*
Median PSA drop (%)	51	61	78.8	83.1	**0.002**
Median IPSS drop (%)	81.8	80.5	81.7	79.1	0.73
Median QoL change (%)	83.3	80	83	75	0.73
Median Qmax change (%)	309.1	233.3	300	425	0.48
Median PVR drop (%)	96.2	95.1	95.5	94	0.86

IPSS: International Prostate Symptom Score; PSA: prostate-specific antigen; PVR: post-voiding residue; QoL: quality of life; Qmax: maximal urine flow.

Conclusions: Increased energy usage per cc of prostate is associated with a more significant PSA reduction (>50%) at six, 12, and 24 months, suggesting increased vaporization of adenoma tissue. However, this did not translate into differences in functional outcomes at two years of followup.

1. Hueber PA, Bienz MN, Valdivieso R, et al. Photoselective vaporization of the prostate for benign prostatic hyperplasia using the 180 Watt system: Multicentre study of the impact of prostate size on safety and outcomes. *J Urol* 2015;194:462-9. http://dx.doi.org/10.1016/j.juro.2015.03.113

MP-08.13

Effect of AQX-1125 on urinary bladder inflammation and pain induced by cyclophosphamide in rats, by targeting the SHIP1 pathway

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Introduction and Objectives: Interstitial cystitis/bladder pain syndrome (IC/BPS) is a chronic inflammatory syndrome characterized by pain, pressure, or discomfort in the bladder, and accompanied by urinary symptoms of frequency and urgency. AQX-1125, a novel SH2-containing inositol-5′-phosphatase 1 activator with broad anti-inflammatory properties, represents a potential once-daily, oral therapy for IC/BPS. In rats, a single injection of cyclophosphamide (CYP) induces a chemical cystitis with similar features of IC/BPS, including inflammation of the bladder, visceral pain, and an increase in urinary frequency. The aim of this study was to evaluate the effect of AQX-1125 (0.3, 3, and 30 mg/kg doses) on visceral pain, inflammation, and cystometric parameters in acute CYP-induced cystitis in rats.

Methods: Cystitis was induced in female Sprague Dawley rats by a single intraperitoneal injection (150 mg/kg) of CYP. AQX-1125 was administered once daily. Von Frey testing measured visceral pain at four hours post-challenge and bladders were excised to measure bladder wall thickness, cytokine levels, and to score the extent of edema and hemorrhage.

Results: AQX-1125 at 0.3, 3, and 30 mg/kg reduced visceral pain, assessed from von Frey 1-60 g, with maximal inhibitions occurring in the 1-6 g range (49%, 95%, and 92%, respectively, as compared to the CYP/vehicle group). The AQX-1125 reduction in visceral pain (von Frey 1-60 g), was the same at 3 and 30 mg/kg (31%), and was comparable to the reference standard ibuprofen (37% at 300 mg/kg). AQX-1125 at 3 mg/kg also significantly decreased the inflammatory parameters of bladder wall thickness and the edema score. At 30 mg/kg, AQX-1125 also showed a positive trend in decreasing the intercontraction interval.

Conclusions: The novel SHIP1 activator, AQX-1125, is able to decrease visceral pain and bladder inflammation in a rodent model of cystitis. This compelling data supports development of AQX-1125 as an oral, once-daily therapy for IC/BPS.

MP-08.14

Device survival following primary implantation of the AMS 800 artificial urinary sphincter for male stress urinary incontinence

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Introduction and Objectives: The AMS 800TM artificial urinary sphincter (AUS) remains the gold standard for the management of moderate to severe stress urinary incontinence in men. We reviewed the largest database to date to assess device survival following primary implantation.

Methods: Retrospective data was collected from the AMS 800TM patient information form (PIF) database. Since 1981, 77 512 PIFs for primary AUS implantation performed in the United States were completed. Following exclusion of procedures performed in children and females, and those labeled with an unknown surgical technique, 27 096 AUS cases were included in the analysis. Collected variables were patient age, surgical approach (perineal vs. penoscrotal), number of cuffs (single vs. tandem), and surgeon volume (low (<10 AUS/year) vs. high (≥10 AUS/year)). Measured outcomes included device explantation, device revision, component revision, and time to each event.

Results: Mean age was 68.6 years (standard deviation (SD) 8.9). AUS insertion was performed by high- and low- volume implanters in 4666 (17.4%) and 22 165 (82.6%) of cases, respectively. Approach was perineal in 18 373 cases (67.8%) and penoscrotal in 8723 cases (32.2%), and a tandem cuff was used in 2224 cases (8.2%). Overall, 5723 cases required either revision or explantation (21.1%). Mean time to device explantation was three years (SD 2.6), any revision 1.8 years (SD 1.9), cuff revision 2.6 years (SD 2.4), pump revision 2.9 years (SD 2.6), and pressure regulating balloon (PRB) revision 2.9 years (SD 2.6). Younger age and penoscrotal approach were associated with higher device explantation and revision rates, while use of a tandem cuff was associated with higher explantation rates. On multivariate analysis, younger age, penoscrotal approach, and use of a tandem cuff, but not surgeon volume, were significant predictors of device explantation and component revision.

Conclusions: These results provide a general overview on AUS device survival and may serve urologists when counselling patients. Younger age, penoscrotal approach, and use of tandem cuff seem to portend worse outcomes.

MP-08.15

Evaluation, management, and outcomes of female periurethral masses: A large Canadian series

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Introduction and Objectives: Female periurethral lesions are rare and there remains a paucity of literature addressing this subject. We describe our experience involving a large consecutive series of periurethral masses from a single, tertiary urological centre.

Methods: A prospective case series was maintained from clinical diagnosis to complete followup by a single surgeon. All cystic and solid masses were included. Simple urethral caruncles, urethral prolapse, and iatrogenic masses related to periurethral bulking agents were excluded. All patients underwent history, pelvic evaluation, and flexible cystourethroscopy. Additional imaging was performed on select patients.

Results: 81 women, mean age 40.5 years, were evaluated over a 13-year period (2002-2015). Of these, 64 presented with a palpable periurethral mass and six were referred as result of incidental findings. Complete followup was available for 62 patients following transvaginal excision; median followup 14.5 weeks. 16 patients (20.5%) had anterior vaginal wall cyst; 21 (26.9%) skene's gland cyst or abscess; 34 (43.6%) urethral diverticulum; seven (9.0%) benign solid lesion. There were no malignancies, however, two cases involved intestinal metaplasia. Of 58 patients who had preoperative imaging, this was accurate in 80.7% and deemed useful for surgical planning in 60.3% of cases. Magnetic resonance imaging (MRI) was useful in 68.6% of cases, with sensitivity 80.0%. Following surgical excision, 91.0% of patients identified a successful outcome. Two recurrences were encountered. Overall complication rate was 10.3%, and highest for cases involving complex urethral diverticulectomies (17.6%).

Conclusions: Transvaginal excision of female periurethral mass is highly successful, with low risk of recurrence. Urethral diverticulum was the most common finding in our series and was associated with the highest risk of surgical complications. MRI is a valuable tool in preoperative planning of such lesions and displays high sensitivity.

MP-08.16

Effect of onabotulinumtoxinA treatment for neurogenic detrusor overactivity on the prevention of autonomic dysreflexia following spinal cord injury

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Introduction and Objectives: Autonomic dysreflexia (AD) is a life-threatening episodic hypertensive crisis triggered most commonly by the bladder and neurogenic detrusor overactivity (NDO). Objectives: 1) to quantitatively investigate efficacy of 200 U of onabotulinumtoxinA on reducing severity and frequency of AD during urodynamics (UDS) and

24-hour ambulatory blood pressure monitoring (ABPM); and 2) to determine AD and bladder-related quality of life (QoL) changes.
Methods: Prospective, open-label study of 14 subjects (11 male, three female) with chronic (>1 year post-injury), traumatic spinal cord injury (SCI), age18-65 years, injured at T6 or higher. All completed UDS#1 pre-screening assessment with arterial blood pressure (BP) and heart rate (HR) monitoring. Subjects who experienced AD as per an increase in systolic BP ≥20 mmHg from baseline underwent 24-hour ABPM and completed two validated QoL questionnaires (IQoL and AD-focused QoL). OnabotulinumtoxinA injection 200 U was administered one week following. One-month post-onabotulinumtoxinA, UDS#2, 24-hour ABPM monitoring and validated QoL questionnaires were reassessed.
Results: During post-onabotulinumtoxinA UDS #2, there was a significant reduction in AD severity as per average systolic blood pressure (SBP) change (Δ) ($p \leq 0.001$) and maximum SBP ($p \leq 0.001$). During post-onabotulinumtoxinA 24-hour ABPM, there was significant reduction in bladder-related AD severity SBPΔ ($p=0.001$) and frequency ($p< 0.001$), as well as overall AD severity ($p=0.005$) and frequency ($p=0.001$). Significant improvements were found in AD-related QoL ($p=0.0015$) and bladder-related QoL ($p=0.0005$). AD was abolished in 8/14 (57%).
Conclusions: 200 U of intra-detrusor botulinum toxin significantly reduced AD severity based on both frequency and severity of bladder-related events on 24-hour diaries and based on validated QoL measures. OnabotulinumtoxinA may prove a viable treatment to reduce potentially life-threatening AD due to NDO in SCI.
Acknowledgement: Grant Rick Hansen Institute, Botox donated by Allergan.

UP-08.01
The use of urodynamics in followup of neurogenic bladders treated with onabotulinumtoxinA
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Introduction and Objectives: Patients with neurologic disorders may suffer from detrusor overactivity (NDO) or low bladder compliance, which can damage the upper urinary tract. Intradetrusor injections of onabotulinumtoxinA (BoNTA) have recently emerged as a treatment for NDO. Urodynamics (UDS) are currently used at initial diagnosis and at regular intervals during followup to ascertain that the intravesical pressure remains within safe limits. However, with regards to the discomfort and risks associated with UDS, our objective was to assess if UDS done at regular intervals in the followup of neurogenic bladders treated with BoNTA had an impact on management.
Methods: We analyzed retrospectively the medical records of adult patients with neurologic disorders treated with intradetrusor injections of BoNTA for either detrusor overactivity or low bladder compliance at the Institut de réadaptation en déficience physique du Québec (IRDPQ). In our centre, UDS were routinely done at baseline and then after every fifth set of injections.
Results: We identified 57 patients with a diagnosis of neurologic disorder. Each patient had between one and 19 sets of injections, with a mean number of 5, 61 injections, and 1-6 followup UDS representing a mean number of 2.09 UDS. Of the 119 followup UDS reviewed in our centre, urologists took the decision to interrupt treatment in five cases (4.2%), which was eventually resumed, while three patients (2.5%), due to persistence of symptoms or high intravesical pressure, had their management changed to bladder augmentation. Two regimens were suspended and one was ended due to patient's preference.
Conclusions: Our study showed that UDS at pre-set intervals for followup of patients receiving BoNTA injections were rarely associated with modifications in the treatment course. Therefore, UDS should only be performed in cases where there is a change in the patient's symptoms or if the urologist suspects that the treatment response is suboptimal.

UP-08.02
A clinical perspective on collecting patient-reported outcomes at the point-of-care for urinary incontinence
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Introduction and Objectives: Treating urinary incontinence (UI) is difficult due to the quality of life impact of the patient's symptoms, but also the side effects of treatment options themselves. Patient-reported outcomes (PROs) are a way to quantify this impact and incorporate it into clinical practice. The objective of this study is to qualitatively evaluate a novel way to collect, report, and disseminate UI PROs at the point-of-care.
Methods: Patients visiting a multidisciplinary urology clinic for UI completed PROs on a tablet while awaiting clinical assessment. Responses were scored and linked to the patients' previous scores. Physicians then reviewed these scores using an online "dashboard." After applying this in clinic, qualitative interviews with physicians were recorded, transcribed, and analyzed. Guiding the interviews was a five-dimension framework: 1) applying PROs at the point-of-care; 2) logistical impact of the dashboard; 3) influence of the dashboard on clinical decisions; 4) use of the dashboard in patient conversation; and 5) user experience with the dashboard.
Results: Six interviews were completed, from which four themes emerged. First, clinicians felt electronic PRO collection was superior to paper-based PRO collection in its ability to display results graphically, but noted that paper forms allow review of individual question responses. Second, they thought that patients would benefit from graphical displays that track progress over time, stimulating discussion between patient and clinician. Third, clinicians generally found the dashboard to be "straightforward" and "easy to use." Fourth, several areas needed improvement, such as: inclusion of individual question responses; ability to print and export from the dashboard; output that could be more easily understood by patients; and flags for the clinician if symptoms improve or worsen.
Conclusions: The results from this study could serve as a lesson to other clinics interested in systematically collecting PROs, with minimal impact on human resources.

UP-08.03 – WITHDRAWN

UP-08.04
Characterizing lower urinary tract symptoms in men with suspected prostate cancer
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Introduction and Objectives: Lower urinary tract symptoms (LUTS) are known symptoms of prostate cancer. These same symptoms are also possible side effects from prostate cancer treatments. Thus, in order to evaluate post-treatment outcomes, it is critical to know pre-treatment rates. The purpose of this study is to characterize LUTS in men with suspected prostate cancer, prior to treatment.
Methods: Data from the Alberta Prostate Cancer Research Initiative (APCaRI) clinical registry was extracted and de-identified for this study's analysis. The APCaRI registry includes data on its participants' pre-treatment use of medications and their self-reported symptom severity, including the Expanded Prostate Cancer Index Composite (EPIC-26) and the International Prostate Symptom Score (IPSS). The registry was searched for common medications used for benign prostate hyperplasia (BPH) and overactive bladder (OAB). Responses to the EPIC-26 were analyzed for its five domains. Responses to the IPSS were analyzed for its global score. Relevant items were extracted to characterize those men with LUTS.
Results: A total of 661 APCaRI participants were included in the analysis, with an average age of 62 years. Of those, 38 (5%) reported using BPH-related medications and none reported using OAB-related medications. Median score for the EPIC-26's urinary obstruction domain was 94, and 83 for the urinary incontinence domain. The median IPSS score was 6. At intake, three men had undergone transurethral resection of

the prostate (TURP). The least frequent reported symptom was straining, affecting 31% of men, and the most commonly reported symptom was nocturia, affecting 87%.
Conclusions: This study provides baseline data on LUTS in men with suspected prostate cancer. The results from this study will help future studies measure the incidence of LUTS as a result of prostate cancer treatment from a population perspective. Ongoing study will assess the effect of prostate cancer treatments on LUTS in this patient population.

UP-08.05

Treatment and management expectations of older adults with urinary incontinence

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Introduction and Objectives: For many older people, urinary incontinence (UI) is a chronic disease requiring long-term therapy for symptom relief. For some, any improvement, no matter how small, may constitute a cure, while other patients discount anything less than total symptom relief. We attempted to determine expectations from treatment and what treatments older patients found acceptable to treat their UI.
Methods: Consecutive outpatients over 65 years of age referred to a secondary-care continence clinic were assessed using a validated symptom, quality of life, and attitude questionnaire adapted from previous studies. Analysis examined relationships between quality of life, diagnosis, duration of condition, and acceptability.
Results: 121 patients (mean 77.5 years, range 65-95) participated. UI was the most bothersome symptom for the majority (42.7%), followed by urgency (21.9%), nocturia (19.8%), frequency (9.3%), and infection (6.3%). Almost half (49.6%) expected treatment to improve symptoms so that they no longer interfered with life. Short-term lifestyle modifications and procedures with no long-term risk were more popular than long-term lifestyle modifications. 85.5% identified short-term medication as the most acceptable treatment. Least popular was long-term catheterization, 6.2% acceptable, and major surgery (12.6%). Frequent nocturia, persistent stress incontinence, and frequent pad use were least desirable following treatment. There was no significant association between quality of life, acceptability of treatment types, acceptability of outcomes, or expectations of cure.
Conclusions: Conservative treatments were more acceptable than higher-risk, possibly more effective treatments. Older people may have a pessimistic view about their value in relation to efficacy, rehabilitation, and remaining life expectancy. There were no significant associations between quality of life and expectations of treatment, acceptability of treatments, and post-treatment symptoms.

UP-08.06

Reducing the risk: Evaluating the benefit of pre-procedural ultrasound scanning in our nurse-led outpatient suprapubic catheter service

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Introduction and Objectives: Suprapubic catheters (SPC) can provide a valuable alternative to urethral catheters in some patients, with lower associated infection rates[1,2] and no risk of urethral trauma or stricture formation.[2] SPCs are also less invasive for patients when performing a trial without catheter[3] and are better tolerated by patients.[4] However, risks associated with SPC insertion include bleeding, infection, recurrent urinary tract infections (UTIs), catheter blockage, and more seriously, the risk of bowel perforation.[4] We assessed complication rates both before and after the introduction of ultrasound scanning (USS) as an adjunct to SPC insertion (using a seldinger technique) in our outpatient clinic.
Methods: A dedicated SPC clinic was established in July 2008, undertaken by a formally structurally trained specialist nurse. In April 2013, training and experience was sufficient to enable pre-procedural USS on each patient attending for SPC insertion. Patients with overlying bowel were referred for open insertion under general anaesthetic due to significantly increased risk of bowel perforation.
Results: 322 SPCs were inserted in our clinic between July 2008 and April 2013, without the routine use of pre-procedural USS. 101 were inserted between May 2013 and June 2015 with USS guidance. After the introduction of USS, slightly more patients were referred for open insertion (without USS 7/322 (2.6%); with USS 12/101 (12%)). Following the introduction of USS, there were no recorded cases of bowel perforation associated with SPC insertion in our clinic (without USS 3/322, 0.9%; with USS 0/101, 0%).
Conclusions: In our clinic, use of USS to identify patients with bowel overlying the bladder prior to SPC insertion has eliminated the risk of associated bowel perforation. This is accompanied by an appropriate increase in referrals for open SPC insertion. Dedicated SPC clinics provide a safe and effective service for SPC insertion and can also provide excellent opportunities for training.

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UP-08.07

Comprehension and construct validity of the Visual Prostate Symptom Score by men with obstructive lower urinary tract symptoms in rural Uganda

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Introduction and Objectives: The Visual Prostate Symptom Score (VPSS) is a pictorial version of the International Prostate Symptoms Score (IPSS) to quantify frequency, nocturia, weak stream, and quality of life (QoL) regardless of education. Objectives: Develop VPSS construct and content validity by: 1) evaluating pictogram understanding; 2) pictogram description comparison to IPSS response; 3) obtaining patient input to enhance information capture; and 4) quantifying pictogram usefulness.
Methods: Men presenting with lower urinary tract symptoms (LUTS) to a rural Uganda medical clinic completed the VPSS and IPSS without and with assistance; described understanding of pictograms; rated each for usefulness on a visual analogue scale, and provided feedback for imagery. Statistical analysis: Student's t-test, Fisher's exact, Spearman's correlation.
Results: N=136 scores in men mean age 69 years (45-93); school grade 8-12 (9%), grade 5-7 (9%), grade 1-4 (62%), and no schooling (20%). IPSS was completed without assistance in n=2 vs. VPSS in 94% ($p \leq 0.05$). Comparing education: With no schooling IPSS required assistance in 100% vs. 6% with VPSS ($p \leq 0.05$); grade 1-4 100% vs. 14%; and higher grades 40% vs. 0%. 94%, independent of education, had inherent recognition of the weak stream pictogram, 75% for frequency & 42% for nocturia. Likert scale measures indicated the most helpful image was "weak stream," followed by frequency with nocturia and QoL being less clear. Subjects valued the weak stream and facial expressions after understanding that QoL related to overall LUTS impact. VPSS and IPSS QoL correlated in 60% before verbal explanation.
Conclusions: Construct validity for immediate recognition is greatest for the slow stream pictogram. Comprehension and reporting would benefit from urgency pictograms, increased image siz, and contrast detail for nocturia, and a diagrammatic link between the QoL scale and these other

constructs. VPSS development will add in the ability to measure men's health on a global scale.
Acknowledgement: Grand Challenges Canada

UP-08.08

180 W-LBO Greenlight XPS laser vaporization for benign prostatic hyperplasia: Evaluation of a single surgeon learning curve to attain expertise for durable and reproducible outcomes

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Introduction and Objectives: Although the learning curve to safely execute Greenlight photoselective vaporization of the prostate (PVP) for the treatment of benign prostatic hyperplasia (BPH) is considered short for a trained endourologist, the case volume needed to ensure reproducible and durable outcome regardless of prostate size has not been well-addressed. The aim of this study is evaluate intraoperative and postoperative parameters to assess our learning curve of reaching expertise.

Methods: A retrospective study was conducted on 328 patients who underwent PVP performed by a single experienced laser surgeon with the Greenlight laser XPS-180 W for BPH. The population was divided into chronologically consecutive equal groups of patients to assess the preoperative and perioperative parameters, all collected prospectively. The drop in prostate-specific antigen (PSA) at six months and the occurrence of complications categorized according to Clavien-Dindo were also collected.

Results: Energy delivered per prostate volume increased significantly with experience. The mean benchmark value of 4 kJ/g was attained after 165 patients. Mean PSA drop >50% at six-month was reached since the first group of patients and tended to increase with experience (Fig. 1). There were no significant differences between groups in intraoperative complications or in postoperative functional outcomes (International Prostate Symptom Score (IPSS), Qmax, post-void residual urine volume (PVR)); however, the number of Clavien-Dindo category I adverse events significantly decreased with gain of experience.

Conclusions: The amount of energy per prostate volume increases with experience while intraoperative safety is maintained. This more confident approach translates into increased removal of prostatic tissue and decreased number of Clavien-Dindo category I with similar functional outcomes. In our experience of pioneer work with PVP, the case volume needed to achieve benchmarks related to durable clinical outcomes (PSA reduction >50%, energy usage >4 kJ/cc) was over 100 cases.

UP-08.09

Development of a patient-centred impact inventory to deliver value to interstitial cystitis/bladder pain syndrome patients

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Introduction and Objectives: Disease-specific instruments were designed to assess symptoms in interstitial cystitis/bladder pain syndrome (IC/BPS) for inclusion and outcomes in clinical trials. We developed the IC/BPS Impact Inventory, a pilot patient directed, value-based instrument to fulfill an unmet need for a questionnaire that could reliably assesses an IC/BPS patient's disease course and efficacy of treatment in clinical practice.

Methods: In-depth interviews with healthcare team members (HCT) and patients, focus groups, and individual surveys were conducted in Kingston and Toronto to record and rank their treatment goals and values, which were pooled and analyzed for emergent domains and priority rankings. Purposive sampling methodology was used and sample size was determined once a consensus was reached by the focus group and individual surveys to create an initial draft of questions used for formal cognitive testing.

Results: 39 HCT members across Canada completed a non-validated survey, producing a ranked list of the most important values associated with providing care in IC/BPS. Multidisciplinary support, education, and diagnostic and treatment algorithms were highly valued. Current diagnostic and followup questionnaires were not valued as effective or useful in clinical practice. Patient focus groups were conducted at two universities (n=15 patients). All agreed that there was a lack of physician awareness, leading to frustration and delay in diagnosis. There was consensus that current questionnaires lacked emphasis on evaluating anxiety/stress level, quality of life impact, and ability to cope with disease flares. After an

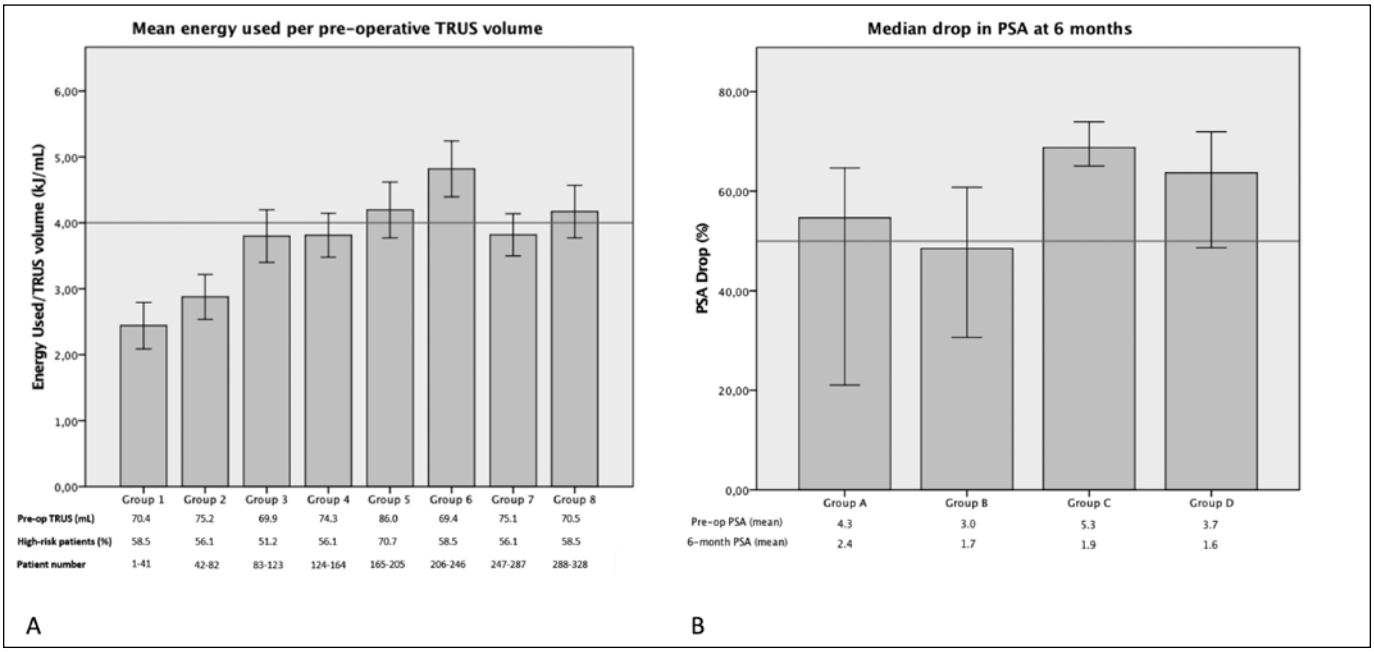

Fig. 1. UP-08.08. Laser energy use per prostate volume ***(A)*** and median PSA drop ***(B)***.

Table 5. UP-08.08. Detailed intra-operative and early postoperative adverse events

	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8	*p* value
Adverse intra-operative events									
Chest pain	0 (0%)	0 (0%)	0 (0%)	1 (2.4%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0.431
Transfusion	1 (2.4%)	0 (0%)	0 (0%)	0 (0%)	1 (2.4%)	0 (0%)	0 (0%)	0 (0%)	0.541
Urethral stenosis	0 (0%)	1 (2.4%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0.431
TURP conversion	1 (2.4%)	1 (2.4%)	0 (0%)	1 (2.4%)	1 (2.4%)	2 (4.9%)	3 (7.3%)	0 (0%)	0.512
Capsular perforation	0 (0%)	0 (0%)	1 (2.4%)	1 (2.4%)	0 (0%)	0 (0%)	1 (2.4%)	1 (2.4%)	0.779
False passage	0 (0%)	1 (2.4%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0.431
Total intra-operative	2 (4.9%)	2 (4.9%)	1 (2.4%)	3 (7.3%)	1 (2.4%)	2 (4.9%)	3 (7.3%)	1 (2.4%)	0.912
Adverse postoperative events (<30 days)									
Clavien-Dindo category I									
Incontinence	3 (7.3%)	3 (7.3%)	2 (4.9%)	0 (0%)	0 (0%)	0 (0%)	2 (4.9%)	0 (0%)	0.133
Hematuria	**8 (19.5%)**	**10 (24.4%)**	**3 (7.3%)**	**0 (0%)**	**0 (0%)**	**2 (4.9%)**	**1 (2.4%)**	**0 (0%)**	**<0.001**
LUTS	**7 (17.1%)**	**14 (34.1%)**	**7 (17.1%)**	**3 (7.3%)**	**0 (0%)**	**0 (0%)**	**1 (2.4%)**	**0 (0%)**	**<0.001**
Constipation	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0.431
Vomiting	0 (0%)	0 (0%)	1 (2.4%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0.431
Diminution of overall state of health	0 (0%)	0 (0%)	0 (0%)	1 (2.4%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0.431
Total for category I	**16 (39.0%)**	**21 (51.2%)**	**12 (29.3%)**	**4 (9.8%)**	**0 (0%)**	**2 (4.9%)**	**4 (9.8%)**	**0 (0%)**	**<0.001**
Clavien-Dindo category II									
Urosepsis	0 (0%)	0 (0%)	1 (2.4%)	0 (0%)	1 (2.4%)	0 (0%)	0 (0%)	0 (0%)	0.541
Erectile dysfunction	0 (0%)	1 (2.4%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0.431
Incontinence	**3 (7.3%)**	**0 (0%)**	**0 (0%)**	**0 (0%)**	**0 (0%)**	**0 (0%)**	**0 (0%)**	**0 (0%)**	**0.003**
Hematuria	2 (4.9%)	0 (0%)	4 (9.8%)	2 (4.9%)	2 (4.9%)	2 (4.9%)	3 (7.3%)	0 (0%)	0.413
LUTS	1 (2.4%)	2 (4.9%)	1 (2.4%)	1 (2.4%)	0 (0%)	0 (0%)	2 (4.9%)	1 (2.4%)	0.773
Retention	5 (12.2%)	3 (7.3%)	4 (9.8%)	4 (9.8%)	4 (9.8%)	3 (7.3%)	2 (4.9%)	0 (0%)	0.563
Urinary tract infection	3 (7.3%)	1 (2.4%)	0 (0%)	1 (2.4%)	0 (0%)	2 (4.9%)	3 (7.3%)	2 (4.9%)	0.442
Fever	2 (4.9%)	1 (2.4%)	1 (2.4%)	1 (2.4%)	0 (0%)	0 (0%)	1 (2.4%)	0 (0%)	0.696
Paraphymosis	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (2.4%)	0.431
Atrial fibrillation	0 (0%)	0 (0%)	1 (2.4%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0.431
Prostatitis	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (2.4%)	0 (0%)	0 (0%)	0.431
Osteitits pubis	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (2.4%)	0 (0%)	0 (0%)	0.431
Gout	0 (0%)	0 (0%)	1 (2.4%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0.431
Total for category II	**11 (26.8%)**	**7 (17.1%)**	**12 (29.3%)**	**7 (17.1%)**	**7 (17.1%)**	**6 (14.6%)**	**10 (24.4%)**	**4 (9.8%)**	0.329
Clavien-Dindo category IIIb									
Hematuria	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (2.4%)	0 (0%)	1 (2.4%)	0 (0%)	0.541
Post-fall fracture	0 (0%)	0 (0%)	0 (0%)	2 (4.9%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0.048*
BNC	0 (0%)	0 (0%)	1 (2.4%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0.431
False passage	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (2.4%)	0 (0%)	0 (0%)	0 (0%)	0.431
Total for category IIIb	0 (0%)	0 (0%)	1 (2.4%)	2 (4.9%)	2 (4.9%)	0 (0%)	1 (2.4%)	0 (0%)	0.386
Clavien-Dindo category IVa									
Acute renal failure	0 (0%)	0 (0%)	0 (0%)	1 (2.4%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0.431
Myocardial infarction	0 (0%)	0 (0%)	1 (2.4%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0.431
Total for category IVa	0 (0%)	0 (0%)	1 (2.4%)	1 (2.4%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0.541
Clavien-Dindo category V									
Death from heart failure	0 (0%)	1 (2.4%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0.431
Total for category V	0 (0%)	1 (2.4%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0.431
Return to hospital									
Emergency room visit	4 (9.8%)	2 (4.9%)	3 (7.3%)	4 (9.8%)	4 (9.8%)	3 (7.3%)	5 (12.2%)	2 (4.9%)	0.926
Re-admission	4 (9.8%)	0 (0%)	3 (7.3%)	2 (4.9%)	1 (2.4%)	2 (4.9%)	1 (2.4%)	1 (2.4%)	0.448

BNC: bladder neck contracture; LUTS: lower urinary tract symptoms; TURP: trans-urethral resection of the prostate
*On post-hoc analysis, no significant differences between the groups.

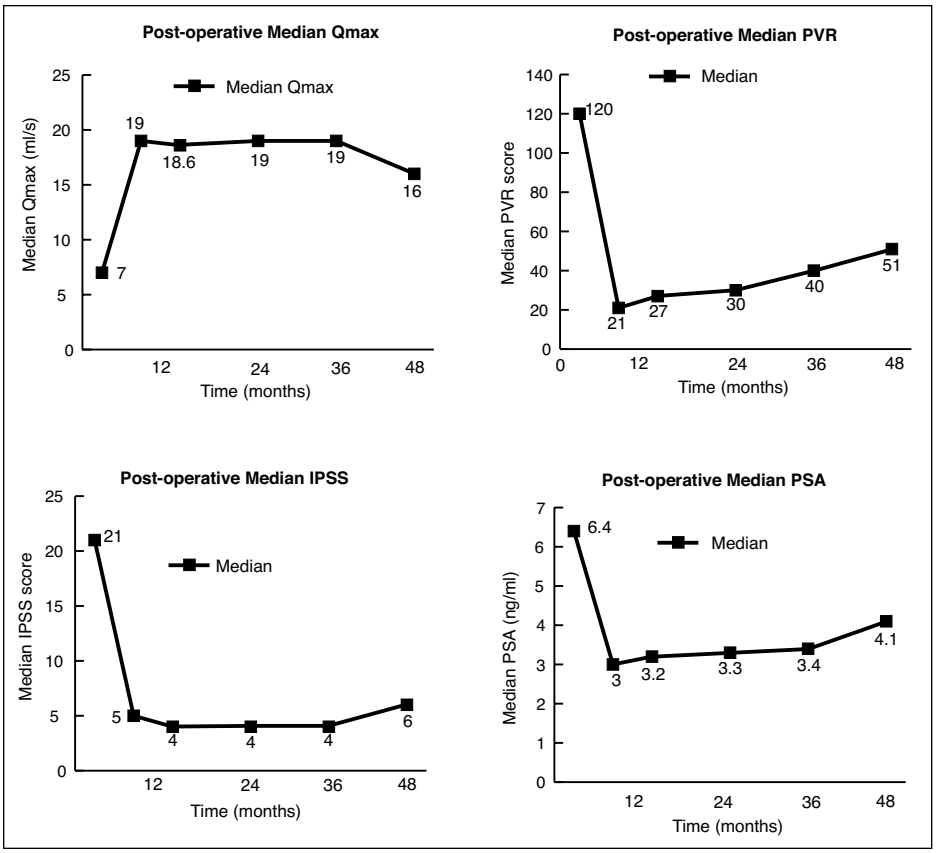

Fig. 1. UP-08.10.

Table 1. UP-08.10.

Retreatment at 36 months Patient characteristics	Retreated (n=17)	Non-retreated (n=143)	*p* value
Median age	73	71.5	0.8
Median preoperative PVR	275	120	0.02
Median preoperative TRUS	150	120	0.05
Median preoperative PSA	7.4	6	0.05
Energy delivered (kJ/cc)	2.4	3.4	0.3
Decrease PSA 6 months	34.3%	46.0%	0.3
Decrease PSA 12 months	29.0%	42.0%	0.02
Decrease PSA 24 months	21.0%	48.0%	0.01

iterative process of obtaining feedback from patients and expert review, 23 questions were selected for the IC/BPS Impact Inventory.
Conclusions: The IC/BPS Impact Inventory is a patient-focused questionnaire currently undergoing formal validation testing. This instrument will assesses what patients value in their disease course and assist urologists in evaluating level of disease impact and efficacy of current treatment.

UP-08.10

Multicentre, international experience of 180 W LBO laser photovaporization in men with large prostates (prostate volume >100cc): Long-term outcomes of 434 patients

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Introduction and Objectives: Prostate volume (PV) >100 cc remains challenging for endoscopic benign prostatic hyperplasia (BPH) management. Although photoselective vaporization of the prostate (PVP) using XPS-180 system is feasible for patients with large PV, long-term outcome data supporting its use is still lacking.[1] The aim was to evaluate the outcomes and durability at four years in a large, multicentre experience.
Methods: This is a retrospective study of 434 men with preoperative transrectal ultrasound (TRUS) PV >100 cc that were treated in eight centres in North America (Canada, U.S.) and Europe (France) with the Greenlight-XPS laser using PVP for the treatment lower urinary tract symptoms (LUTS) associated with BPH. To assess efficacy, International Prostate Symptom Score (IPSS), Qmax, prostate volume (PV), post-void residual (PVR), and prostate-specific antigen (PSA) were measured at six, 12, 36, and 48 months. Durability was evaluated using retreatment rate at 24, 36, and 48 months.
Results: Median prostate size and PSA were 121 cc (interquartile range (IQR) 108-150) and 6.3 ng/mL. 42.3% of men had an indwelling catheter at the time of surgery. Median operative time and energy applied were 60 minutes (IQR 40-74) and 424 kJ, with ≥2 fibers used in 40% of the cases. Median energy delivery was 3.4 kJ/cc per case. Median length of stay was 24 hours. IPSS, Qmax, and PVR were significantly improved at all endpoints, including at 48 months (Fig. 1). Surgical BPH retreatment was 5.3% at 24 months, which rose to 11.9% at 36 months. Interestingly, characteristics of retreated men include energy delivery that was 2.4 kJ (vs. 3.4kJ) and PSA reduction at 12 months of 29% (vs. 46%) (Table 1).
Conclusions: PVP treatment using Greenlight XPS-180 W can potentially provide durable improvements with regards to functional outcomes including IPSS at four years. However, retreatment rate rising after three years is a concern. This data highlights the need of using a standardized technique with an operative endpoint of an enucleation-like-defect (down to the surgical capsule). 12-month PSA reduction and rising PSA during followup may serve as surrogate markers for predicting durability.

1. Hueber PA, Bienz MN, Valdivieso R, et al. Photoselective vaporization of the prostate for benign prostatic hyperplasia using the 180 Watt system: Multicentre study of the impact of prostate size on safety and outcomes. *J Urol* 2015;194:462-9. http://dx.doi.org/10.1016/j.juro.2015.03.113

UP-08.11

The predictive value of dipstick urine analysis and urine flow cytometry for detecting bacteriuria prior to Greenlight laser vaporization of the prostate

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Introduction and Objectives: Urine cultures (UC) are recommended prior to transurethral prostate surgery, such as Greenlight laser vaporization of the prostate (GLV), to rule out bacteriuria. However, UC has a typical time delay of 24-48 hours between sample acquisition, pathogen identification, and delivery of antimicrobial susceptibility testing results. The aim of our study was to determine the diagnostic accuracy of dipstick testing and urine flow cytometry to predict bacteriuria in patients undergoing GLV of the prostate.

Methods: Retrospective analysis of 567 urine samples from 458 patients who underwent GLV with the 180-W XPS laser for benign prostatic obstruction between April 2010 and August 2015. In patients with an indwelling transurethral catheter, urine specimens were obtained after catheter removal via a freshly placed catheter. Specimens were sent for conventional UC, urine flow cytometry (UFC), and automated dipstick analysis (DA). Sensitivity and specificity of UFC and DA in predicting bacteriuria were compared to UC.

Results: Overall, UC culture, UFC, and DA were positive in 22%, 52%, and 53% of the cases, respectively. Samples obtained via midstream urine culture (MSSU) were positive in 12%, 28%, and 33%, respectively, compared to 35%, 84%, and 81% of specimens obtained from patients with indwelling catheter. In MSSU cases, the sensitivity and specificity of UFC (86% and 80%) were significantly ($p<0.05$) higher compared to DA (84% and 74%). In specimens obtained from patients with indwelling catheter, the sensitivity and specificity of UFC (98% and 24%) and automated DA (95% and 27%) were comparable and showed no statistically significant difference.

Conclusions: Urine flow cytometry may be recommended to rule out bacteriuria in patients prior to GLV without indwelling catheter. Due to high sensitivity and high specificity, obtaining a urine culture may be regarded as unnecessary in patients with negative urine samples. In patients with indwelling transurethral catheters, urologists should ensure that the results of urine cultures are available prior to GLV.