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JACK WYATT UROLOGY RESIDENTS' RESEARCH DAY

May 1, 2015

Syllabus

Western

Dr. John Kenneth Wyatt

John Kenneth Wyatt was born in Detroit, Michigan and grew up in London, Ontario where he attended the University of Western Ontario, graduating in Medicine in 1954. While an undergraduate at Western, Jack excelled in many sports and was captain of the Western Mustangs football team.

Dr. Wyatt completed his General Surgery and Urology training in London and joined the small Urology faculty here in 1960. He published one of the first papers on the beneficial effects of chemotherapy for testis cancer. Dr. Wyatt steadily built the UWO Urology Program, serving as the Program Director and Division Chair for 15 years. He was best known for his clinical acumen and his caring attitude towards his patients as well as his residents. An excellent clinical teacher, Dr. Wyatt was well-known for his common touch and sense of humor, whether he was lecturing to medical students, doing bedside or operating room teaching, or chatting with the janitor. Dr. Wyatt was an active contributor to the Royal College and the Canadian Urological Association, serving as CUA President in 1984.

Dr. Wyatt passed away December 6, 2004. We continue to honor his memory through our Annual Residents' Research Day.

Western University
Jack Wyatt Urology Residents' Research Day 2015

RESIDENTS:

PGY5
Marie Dion
Kim-Chi Tran
Peter Wang

PGY4
Adiel Mamut
Stephanie Tatzel
Siobhan Telfer

PGY3
Jeffrey Campbell
Victor McPherson
Golnaz Naderkhani

PGY2
Garson Chan
Melissa Huynh
David Mikhail

PGY1
Justin Kwong
Nahid Punjani
Wen Yan Xie

FELLOWS

Hana'a Al-Hothi—Reconstruction

Husain Alenezi—EndoUrology
Thomas Tailly—EndoUrology
Philippe Violette—EndoUrology

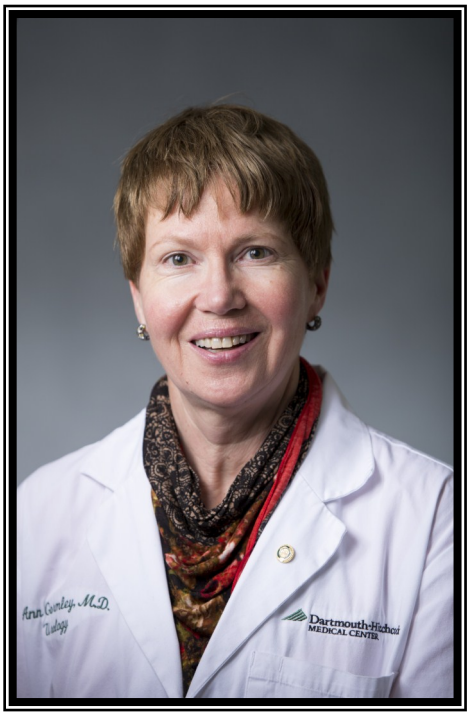
Ghaleb Anas Aboalsamh—Transplant

Michele Billia—Uro-Oncology
Clarisse Mazolla—Uro-Oncology
Khurram Siddiqui—Uro-Oncology

GUEST PROFESSOR 2015

E. Ann Gormley

M.D.



Dr. Gormley is currently Professor of Surgery (Urology) and the Program Director of the Urology Residency Program at Dartmouth-Hitchcock Medical Center in Lebanon, New Hampshire.

Dr. Gormley received a BA in English and her medical degree at the University of Saskatchewan. While completing her residency in Urology at the University of Alberta, she earned an MSc in Experimental Surgery. She then completed a fellowship in Female Urology with Dr. E.J. McGuire at the University of Michigan and the University of Texas.

Dr. Gormley was a member of the AUA/ABU Exam Committee from 2003-2006 and the Editor of the Exam Committee from 2009-2012. She was a member of the AUA Core Curriculum Committee and is currently a member of the AUA Medical Students Committee. Dr. Gormley has served on the AUA Stress Incontinence Guidelines Committee and has Chaired the AUA Overactive Guidelines Panel as well as the 2014 revision. She serves on the Editorial Board of the AUA Update Series. Dr. Gormley is Past President for the New England Section of the AUA.

Dr. Gormley's interests are in female urology, voiding dysfunction and resident education. She was Chair of the Steering Committee for the NIDDK's Urinary Incontinence Network and is Past President of the Society for Urodynamics and Female Urology (SUFU). Dr. Gormley is Past President of the Society of Urology Chairmen and Program Directors (SUCPD). She has served as a board examiner for the American Board of Urology since 2009. Dr. Gormley serves on the Residency Review Committee for Urology. She will be awarded the ACGME "Courage to Teach Award" in Feb 2015. She is a peer reviewer for *Neurourology and Urodynamics, International Urogynecology* and the *Journal of Pelvic Surgery*. She is an Assistant Editor for the *Journal of Urology*.

Western University
Jack Wyatt Urology Residents' Research Day 2015

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JK Wyatt Urology Residents' Research Day

Friday, May 1, 2015
London Convention Centre, 300 York St., London, ON

AGENDA

7:00 – 7:45	Registration and Continental Breakfast	
7:45 – 8:00	Welcome and Introductions: Dr. H. Razvi	
SESSION I		**Moderator: Dr. Blayne Welk**
8:00 – 8:15	A.Mamut:	Holmium:Yag Laser Ablation for Management of Lower Urinary Trace Surgical Mesh or Suture Erosion Following Continence Surgery
8:15 – 8:30	J.Kwong:	Optimal Management of Distal Ureteric Stricture Following Renal Transplantation: A Systematic Review
8:30 – 8:45	P.Wang:	Intra-Operative 3D Ultrasonography to Improve Success of Endoscopic Correction of Vesicoureteric Reflux
8:45 – 9:00	H.Al-Hothi:	A Population Based Assessment of the Risk Factors for Mesh Removal or Revision After Female Incontinence Procedures
9:00 – 9:15	S.Tatzel:	To Sling or Not to Sling - Does an Autologous Posterior Sling Improve Early Continence Post Robotic Prostatectomy?
9:15 – 9:45	**Dr. Paul Martin:** ***Trials and Tribulations of a Community Urology Practice***	
9:45-10:15	Refreshment/Health Break	
SESSION II		**Moderator: Dr. Jonathan Izawa**
10:15 – 10:30	M.Dion:	Ultrasensitive PSA in Post-Prostatectomy Surveillance
10:30 – 10:45	G.Chan:	To Develop a Web-Based Platform with Integrated Electronic-Library and Support System to Ameliorate Survivorship Experience for Patients with Prostate Cancer
10:45 – 11:15	Debate:	KC Tran vs S Telfer "*PSA Screening Debate: Making Sense of the Story"*
11:15 – 11:30	K.Siddiqui	Comparative Morbidity of Ablative Energy Based Salvage Treatments for Radio-Recurrent Prostate Cancer
11:30 – 12:30	**Guest Professor: Dr. Ann Gormley -** ***"The Failed Mid-Urethral Sling: What Should We Do Next?"***	
12:30-1:30	LUNCH	

SESSION III **Moderator: Dr. Patrick Luke**

1:30 – 2:00	**Dr. Tom Deklaj:**	***Establishing a Robotic Program in a Community Hospital***
2:00 – 2:15	D.OlveraPosada	Risk Factors for Postoperative Complications after Percutaneous Nephrolithotripsy (PCNL) in a Tertiary Referral Centre
2:15 – 2:30	G.Naderkhani:	Antibiotic Induced Nephrolithiasis
2:30 – 2:45	H.Alenezi:	Invitro Assessment of the Potential Effect of Renal Cysts on Shock Wave Lithotripsy Fragmentation Efficiency
2:45 – 3:00	T.Tailly:	A Multi-Centre Evaluation and Comparison of Stone Scoring Systems in Predicting Outcomes After Percutaneous Nephrolithotomy
3:00 – 3:30	Refreshment/Health Break	

SESSION IV **Moderator: Dr. Nicholas Power**

3:30 – 4:15	**Guest Professor: Dr. Ann Gormley -**	***"Evaluation and Management of Patients with LUTS/OAB"***
4:15 – 4:30	J.Campbell:	Early Clamp Release During Laparoscopic Partial Nephrectomy: Implications for Preservation of Renal Function
4:30 – 4:45	V.McPherson:	Outcomes of Chemoradiotherapy for Advanced Bladder Cancer in the Elderly
4:45 – 5:00	N.Punjani:	Validation of a Prediction Model for the Use of Post-Chemotherapy Retroperitoneal Lymph Node Dissection in Patients with Metastatic Nonseminomatous Germ Cell Cancers
5:00 – 5:15	C.Mazzola:	Is PCA3 a Good Prognosticator of Prostate Cancer on Radical Cystoprostatectomy Specimens?
5:15 – 5:30	D.Mikhail:	Review of the Results of IVF Cycles at the Fertility Clinic (LHSC) Using Surgically Retrieved Sperm: A Comparison of Local Approaches
5:30 pm	Wrap Up and Evaluations	

6:30 pm Resident and Faculty Dinner (by invitation)

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*Note: Guidelines = 15 minute presentations = 10 minute presentation, 5 minute Q & A
30 minute presentations = 20 minute presentation, 10 minute Q & A
45 minute presentations = 30 minute presentation, 15 minute Q & A

This event is an Accredited Group Learning Activity (Section 1) as defined by the Maintenance of Certification program of The Royal College of Physicians and Surgeons of Canada and approved by Continuing Professional Development, Schulich School of Medicine & Dentistry, Western University (7.75 hours). Each participant should claim only those hours of credit that he/she actually spent participating in the educational program.

This year's program is intended to provide participants with:

- *An introduction to the trials of starting a community Urology practice*
- *Establishing a robotic program in a community hospital*
- *Updates on failed urethral slings and manage of LUTS/OAB*
- *Results of clinical and basic science research projects of the resident staff from Western University in the following subspecialty areas:*
  - *Oncology*
  - *Andrology*
  - *Endourology*
  - *Urinary voiding dysfunction*
  - *Transplantation*

This program was supported in part by an educational grant from the following: (list organization name(s): Abbott, Abbvie, Actavis, Allergan, Amgen, American Medical Systems Canada, Astellas Pharma Canada, AstraZeneca Canada, Bard Canada Inc., Boston Scientific, Clarion Medical Technologiies, Coloplast, Cook Canada, Ferring Pharmaceuticals, Janssen-Ortho, Merck Canada Inc., Olympus, Paladin Labs, Pfizer Canada Inc., Pendopharm (Pharmascience), Red Leaf Medical, Sanofi Oncology, Karl Storz Endoscopy Canada Ltd, Ultramed Inc.

HOLMIUM:YAG LASER ABLATION FOR MANAGEMENT OF LOWER URINARY TRACT SURGICAL MESH OR SUTURE EROSION FOLLOWING CONTINENCE SURGERY

A Mamut, B Welk

Introduction:
Erosion of surgical mesh or suture material is a potential complication of surgical intervention for stress incontinence. Traditionally this has been managed in symptomatic patients with either urethrolysis and mesh incision for urethral erosion or a transabdominal approach for bladder erosions. Endoscopic ablation of eroded mesh or suture material offers a less invasive management option for these patients. We present a retrospective review of our experience at a tertiary care center.

Methods:
A retrospective chart review was carried out to identify all female patients with a history of prior continence surgery who underwent transurethral laser ablation by a single surgeon (BW) between November 2011 and December 2014. Clinical and surgical records were reviewed to extract procedural and outcomes data.

Results:
Fifteen patients with a history of continence surgery who later underwent transurethral laser ablation of eroded mesh or suture material were identified. Nine had a previous synthetic midurethral sling. Four patients had a history of transabdominal procedures with either a Burch or Marshall-Marchetti-Kranz. Two patients had a combination of a midurethral sling and or more transabdominal procedures. Primary presenting symptoms included storage lower urinary tracts symptoms (LUTS) in 4 patients, pelvic pain in 5, incontinence in 3 and recurrent bladder calculi or urinary tract infections (UTI) in 3.

Nine patients had complete resolution or significant improvement of their presenting symptoms after a single laser ablation. Four patients required repeat laser ablation before complete resolution of their symptoms. One patient required trans vaginal mesh excision during the same anaesthetic. Three patients required further continence procedures or residual stress incontinence. Two patients did not have resolution or improvement of their symptoms.

Conclusion:
Holmium:YAG laser ablation is an effective minimally invasive option for management of surgical mesh or suture erosion in selected patients. Repeat treatment may be necessary but is well tolerated.

OPTIMAL MANAGEMENT OF DISTAL URETERIC STRICTURE FOLLOWING RENAL TRANSPLANTATION: A SYSTEMATIC REVIEW

J Kwong, D Schiefer, G Anas, J Archambault, P Luke, A Sener

Introduction and Objective:
Ureteric stricture is the most common complication following renal transplantation, with an incidence of 3%. Of all ureteric strictures, 73% occur at the distal end. Treatments include a variety of open surgical and endourological techniques but there is no consensus on optimal management. Our objective was to define optimal management of distal ureteric strictures following renal transplantation. We conducted a systematic review to examine the success rates and complications of specific primary and secondary treatments (following failure of primary treatment) of distal ureteric strictures following renal transplantation.

Methods:
We systematically searched PubMed and included all studies reporting treatment of distal ureteric strictures following renal transplantation. Exclusion criteria were studies with insufficient information and non-human and non-English studies. Of 755 articles reviewed, 34 were included. Data from 385 patients was summarized using descriptive statistics.

Results:
303 patients underwent primary treatment and 82 patients underwent secondary treatment of post-transplant distal ureteric stricture. Of those who underwent primary treatment, the open approach had a 85.4% success rate while the endourological approach had a 64.3% success rate. Of those who underwent secondary treatment, the open approach had a 93.1% success rate while the endourological approach had a 75.5% success rate. The most common primary open treatment was ureteral reimplantation which had a 81.8% success rate (n=33). The most common primary endourological treatment was dilation which had a 58.6% success rate (n=133). Fifteen complications were identified of which 14 followed endourological treatment and 1 followed open treatment.

Conclusions:
This is the first systematic review to examine the success rates and complications of specific treatments for distal ureteric strictures in the renal transplant population. Our review indicates that open management has higher success rates and fewer complications than endourological management as a primary and secondary treatment for post-transplant distal ureteric strictures. However, the greater success of open treatment must be weighed against the benefits of the minimally invasive endourologic approach. In addition, as no guidelines exist, we outline workup recommendations and a treatment decision tree for renal transplant patients with distal ureteric stricture.

INTRA-OPERATIVE 3D ULTRASONOGRAPHY TO IMPROVE SUCCESS RATES FOR ENDOSCOPIC CORRECTION OF VESICOURETERIC REFLUX

P ZT Wang, C Romagnoli, A Fenster, S Dave

Introduction:

Vesicoureteral reflux (VUR) is a common condition with potentially serious consequences such as recurrent pyelonephritis, renal scarring, hypertension and renal insufficiency. Children with low-grade reflux (Grade 1 - 3) associated with renal scarring or break-through UTI are candidates for endoscopic management with dextranomer/hyaluronic acid (Deflux^{TM}). The success of endoscopic management is dependent on subjective factors like the quality of the created mound and volume of injection. This study investigates the impact of utilizing intra-operative trans-rectal 3D ultrasonography (3D US) to maintain success rates for VUR correction while attempting to reduce Deflux volume.

Methods:

Ethics approval was obtained. A pilot study was conducted from March 2009 until February 2010 with 10 patient to standardize the interpretation of the intra-operative 3D US. Subsequent to the pilot study, 17 consecutive patients were enrolled in this study. Each patient underwent endoscopic Deflux injection utilizing a HIT technique. The procedure was performed with the minimal volume required to achieve a "good" mound as per the surgeon. Trans-rectal 3D US was performed prior to, and after the initial Deflux injection. A radiologist assessed the 3D US images and either concurred with the surgeon or recommended further injection if the mound was unfavorable. Patients were then assessed postoperatively with a VCUG at 3 months. Success was defined as complete resolution of reflux. The preoperative demographics, VUR grade, injected volume and success rate were compared between the "pilot" and "study" group. The radiologist was blinded to the injection in the "study" group. Statistical analysis was performed with SPSS. Continuous variables were compared using the Mann-Whitney U test, and categorical variables were compared using Chi Square test. Statistical significance was set at <0.05.

Results:

Preoperative demographic variables were similar between the two groups. The mean age was 7.3±3.6 and 7.1±3.5 years old in the "pilot" and "study" group respectively ($p=0.89$). The mean VUR grade was 2.8 in both groups ($p=0.93$). The success rate of the "study" group was 76.4% compared to 70% in the "pilot" group ($p=0.71$), both of which are comparable with those found in literature (1). The volume utilized per ureter in the "study" group was significantly lower than the "pilot" group (0.8 cc versus 1.3 cc, $p=0.01$). The difference of 0.5 cc per ureter between the groups translates to a saving of $500 per ureter. In the "study" group, two patients required additional injections as recommended by the blinded radiologist, leading to eventual successful VUR resolution in both. There were no postoperative UJV obstructions noted.

Conclusion:

Trans-rectal 3D US may serve as an adjunct to improve success rates and lower injected volume for endoscopic VUR treatment by allowing the surgeon to visualize a good mound using an objective radio-logical image. This study prompts a need for further research into this technology, as well as a formal cost-analysis to assess its true potential.

A POPULATION BASED ASSESSMENT OF THE RISK FACTORS FOR MESH REMOVAL OR REVISION AFTER FEMALE INCONTINENCE PROCEDURES

B Welk, **H Al-Hothi,** J Winick-Ng

Objective:
The public is increasingly aware of incontinence mesh complications. Our objective was to determine the incidence and risk factors associated with surgical revision or removal of incontinence mesh.

Methods:
We conducted a retrospective, population-based study using administrative data. Our study population consisted of all women who underwent a stress incontinence procedure with mesh between 2002-2012 in Ontario, Canada. Patients who had mesh based prolapse repairs at any point were excluded. Our primary outcome was a composite of any surgical invention resulting in operative manipulation of the mesh (division, removal). Our primary exposure was surgeon volume; high volume surgeons were defined as the top 25th percentile of mesh implanters in a given year. Secondary exposures were multiple incontinence mesh procedures, and the presence of potential risk factors for mesh complications (pelvic radiation, fistula, urethral diverticulum, urethral injury). Other covariates included age, obesity, diabetes, health care utilization, comorbidity, socioeconomic status, surgical specialty and simultaneous surgical procedures. Primary analysis was an adjusted Cox proportional hazards model.

Results:
We identified 59,887 women with a median age of 52 (IQR 45-63) years. Median followup was 4.4 (IQR 2.4-6.9) years. A hysterectomy was done simultaneously in 13% of cases and non-mesh based prolapse repairs in 30% of cases. Within our cohort, 0.1% had risk factors for mesh complications, and 2.3% had multiple mesh slings placed. Our primary outcome was identified in 1307 patients (2.18%), and our overall event rate was 4.62/1000 person-years of followup. The cumulative incidence of mesh removal or revision increased from 1.2% after 1 year of followup to 2.5% after 10 years of followup. In our adjusted Cox regression analysis, high volume surgeons were significantly less likely to have patients with mesh removal or revision (HR 0.74, $p<0.0001$), and patients with multiple slings placed had a much higher rate of revision or removal (HR 6.57, $p<0.0001$). The presence of potential risk factors for mesh complications was not a significant risk factor (HR 0.55, $p=0.5552$).

Conclusions:
The risk of surgical revision or removal of incontinence mesh is relatively rare, but does increase with time to 2.5% after 10 years of followup. Patients of high volume surgeons are significantly less likely to experience this complication, and women who have undergone multiple sling placements are at much higher risk of experiencing these complications.

"TO SLING OR NOT TO SLING" - DOES AN AUTOLOGOUS POSTERIOR SLING IMPROVE EARLY CONTINENCE POST ROBOTIC PROSTATECTOMY?

S Tatzel, L Nott, D OlveraPosada, S E. Pautler

Background:
Prostate cancer remains the most common cancer among Canadian men. Widespread screening has altered patient demographics with men presenting at younger age, with better preoperative continence, sexual function and life expectancy. Studies have demonstrated favourable complication rates with robot-assisted laparoscopic radical prostatectomy, including continence recovery. However, men continue to have early urinary incontinence which remains one of the more bothersome complications. Patient expectations and surgical techniques therefore have continued to evolve with the aim of improving early urinary continence.

Objective:
To determine if the addition of an autologous posterior sling improves early urinary continence post robot assisted laparoscopic radical prostatectomy (RARP).

Methods:
Data from seventy-nine patients who underwent standard RARP between February 2013 and 2014 was collected prospectively and analyzed retrospectively. All patients included in the analysis provided written informed consent. Procedures were performed by a single surgeon (SP) in London, Ontario, Canada in a tertiary academic centre. The second group had the modified technique with the addition of an autologous posterior sling, which represented the surgeon's change in practice to improve continence. Otherwise all surgical techniques were the same between groups and all patients received the same pre-operative workup and post-operative standardized physiotherapy. Urinary outcomes were based on patient self-reporting and were assessed with the self-administered UCLA Continence Questionnaire at baseline, 3 and 6 month intervals. The statistical significance of intergroup difference were analyzed using the Student's t-test.

Results:
There were no significant differences between the two groups in the patients' characteristics, and in perioperative and oncological outcomes. There was one patient who had a bladder neck contracture requiring electroincision in the posterior sling group. At 3 months, 51.5% of patients in standard technique group and 38.7% in the posterior sling group had full continence defined by the absence of pad use per day. 45.5% of patients in the standard group and 45.2% in the sling group only used 1 safety pad per day ($p=0.073$). At 6 months, 73.5% and 46.2% in the standard and posterior sling group respectively were continent. Finally, 26.5% in the standard technique group and 42.3% in the posterior sling group used only one safety pad ($p=0.041$).

Conclusion:
The addition of an autologous posterior sling is a simple and feasible procedure. Early data may suggest that group with the standard technique had higher earlier urinary continence rates. However, taking into consideration the limitations of self-reported patient outcomes, six month data not being available for all patients and the learning curve for this technique modification, larger studies are required to support, or refute the addition of an autologous posterior sling.

USE OF ULTRASENSITIVE PSA IN POST-PROSTATECTOMY SURVEILLANCE

M Dion, S Pautler

Introduction:
Ultrasensitive PSA testing for surveillance after radical prostatectomy has the potential to detect biochemical recurrence at an earlier stage. This could allow for earlier application of salvage radiotherapy which may be more beneficial at an earlier time point. Conversely, in the setting of laboratory inaccuracy or benign PSA-producing tissue it may lead to patient distress, increased surveillance cost and overtreatment of men with radiotherapy to no benefit. The purpose of our study is to assess the impact ultrasensitive PSA testing has had in a large cohort of patients after robot assisted radical prostatectomy (RARP).

Methods:
553 consecutive patients underwent RARP prostatectomy from April 2005 to October 2014. After obtaining institutional ethics board approval (#4212) pre-operative cancer and patient characteristics, intraoperative metrics, and post-operative outcomes were collected in a prospectively maintained database. 505 patients with available PSA data were included in the retrospective analysis. Post-operatively 11 patients who underwent adjuvant radiotherapy based on pathologic specimens and 1 patient who required androgen deprivation therapy were excluded from further analysis (n=12, 2.4%). The remaining 493 patients followed the usual surveillance protocol of serial PSA measurements which were analyzed further. The predictive ability of tumor characteristics was compared to the predictive value of an ultrasensitive PSA.

Results:
The use of ultrasensitive PSA testing (defined as PSA detection thresholds of 0.04, 0.02, and 0.010 ng/mL) was very common. In 2014, 75% of tests were using a detection threshold of 0.04 ng/mL or lower. 30 patients (6.1%) had a rise in PSA above 0.2 ng/mL during the follow-up period. 20 of these patients went on to salvage radiation (66.7%). For patients using a routine PSA threshold of 0.10 ng/mL 20 patients had PSA elevations to 0.2 ng/mL. In this group 55.6% of men with a detectable PSA went on to have a PSA of 0.2 with an average lead time of 7.2 ± 5.8 months. Using ultrasensitive PSA tests of thresholds 0.04 ng/mL or less 10 patients had PSA elevations to 0.2 ng/mL. In this ultrasensitive group 46 men had detectable PSA values but only 15.2% of these had a PSA rise to 0.2 ng/mL with a mean lead time 12.0 ± 9.0 months. Compared to the routine PSA test patients with a positive ultrasensitive PSA test were significantly less likely to proceed to a PSA > 0.2 ng/mL (relative risk 0.34, $p = 0.017$). Ultrasensitive PSA tests result in more patients having a detectable PSA (12.7 versus 6.8%, $p = 0.075$) although this difference was not statistically significant.

Conclusions:
In patients having a detectable ultrasensitive PSA result less than 20% had a rise in PSA to 0.2 ng/mL and this was significantly lower than those using the routine PSA test threshold (55.6%). Ultrasensitive PSA tests lead to increased frequency of monitoring with little improvement of lead time detection of biochemical recurrence and may contribute to surveillance cost and patient anxiety.

TO DEVELOP A WEB-BASED PLATFORM WITH INTEGRATED ELECTRONIC-LIBRARY AND SUPPORT SYSTEM TO AMELIORATE SURVIVORSHIP EXPERIENCE FOR PATIENTS WITH PROSTATE CANCER

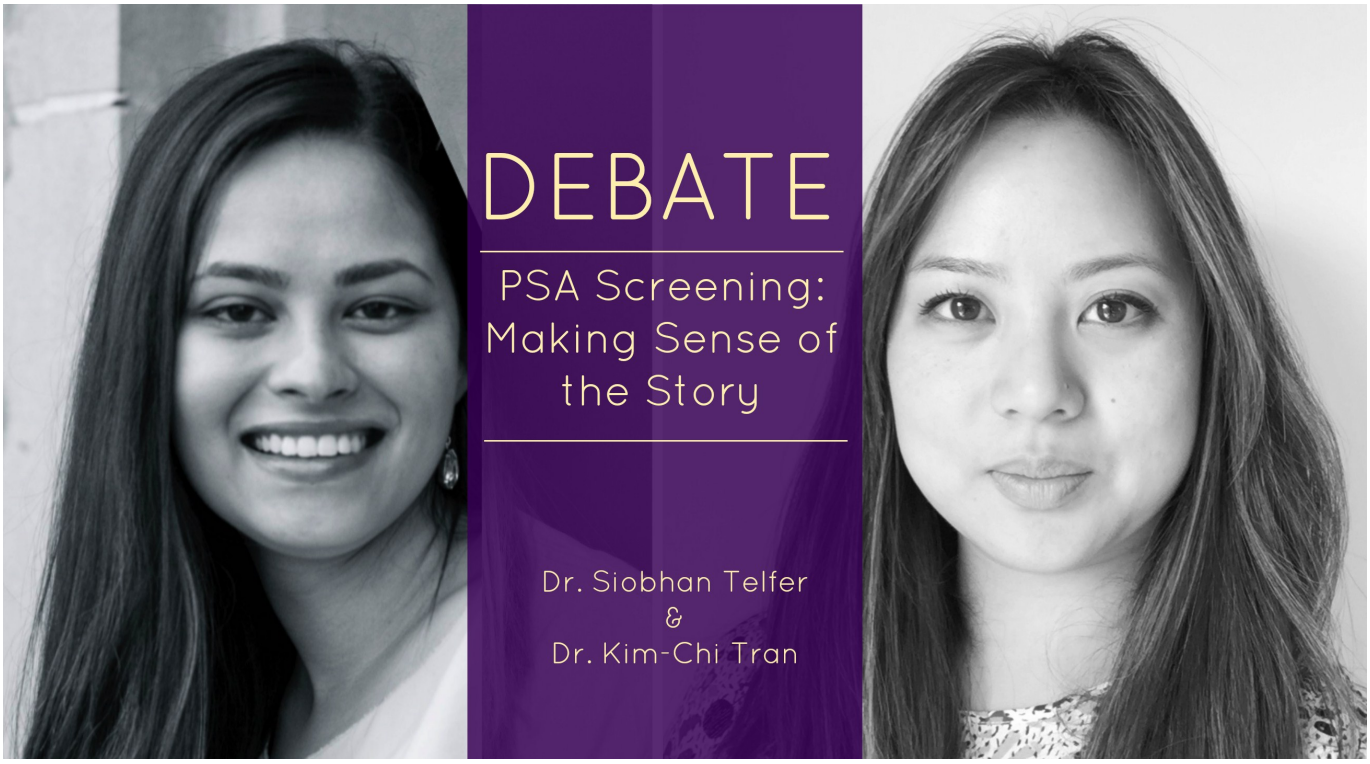
K Siddiqui, **G Chan,** E Wambolt, K Tangen-Steffins, J Goulart, N Leong, H Leong, J Chin

Background:
Prostate cancer (PCa) survivors face multiple challenges in their cancer journey. Both survivors and their families require a reliable and centralized resource. A Pan-Canadian web-based platform has been developed to ameliorate the survivorship experience. This initiative is developing a comprehensive patient-centered online web-portal that will cover a full spectrum of needs. One facet of this platform intervention involves management of urinary and bowel toxicity of treatment.

Methodology:
With support of Movember and (PCC), this resource is being developed by a multi-disciplinary team of urologists, radiation oncologists, gastroenterologists, researchers, nurses and survivors at pilot sites in London, ON and Victoria, BC. This specific resource addresses potential urinary and bowel side effects experienced after Radical Prostatectomy (RP), External Beam Radiation Therapy (EBRT), Brachytherapy (BT) or combined EBRT + BT. This includes a didactic electronic library and symptom assessment tool. It is integrated with tracking tools developed in consultancy with NEXJ (web system designer) with capacity to assess transfer of knowledge, impact of intervention on quality of life and healthcare utilization. The content was created using a combination of licensed commercial products and de novo materials, constructed using current literature of leading researchers, reviewed panel of experts, and patient advocates. A sequential prospective cohort study will evaluate the impact of the resource. In the first year, a baseline cohort of 80 patients per site will be accrued to receive standard of care following curative intent treatment and in the second year, 80 patients per site will be accrued, to receive the intervention with the symptom assessment tool. We will compare patient satisfaction, knowledge, self-efficacy, Health Related Quality of Life (HRQoL), healthcare resource utilization and urinary/ bowel function in men with access to the library versus those with standard of care. To assess the impact of intervention Expanded Prostate Cancer Index Composite for Clinical Practice (EPIC-CP), Cancer Behavior Inventory (CBI-B), EQ-5D-5L and International Prostate Symptom Score (I-PSS) are used. For baseline knowledge assessment we developed treatment questionnaires. To assess healthcare utilization and impact we have developed structured patient interviews.

Results:
We reviewed literature resources and identified several deficiencies in content and relevance. For the video library we identified over 25 videos mainly developed by MD Conversation. They were rated independently by two urologists and only 6 (< 25%) were deemed suitable for inclusion after modification. Additional material included pamphlets developed by CUA. Further videos were then modified or created to complement the existing library. Initial accrual of the first cohort of patients has begun for both sites. As well for effective integration of the intervention into clinical practice we have organized group discussions with care providers. This forum will be conducted with the KE-DS methodology in order to identify challenges to ensure wider dissemination.

Conclusion:
Survivorship is a vital component of PCa care. Significant gaps exist in supportive services and knowledge. This program will provide a unique and centralized resource for PCa survivors. We envision that this initiative will increase access to a scientifically-sound library of information with a goal of improving the quality of care for PCa patients across Canada. Significant initial resource investment is required for customization of this platform, but hopefully it will provide a sustainable, cost-efficient, and accessible health service.



PSA SCREENING DEBATE: MAKING SENSE OF THE STORY

Pro Argument: **Dr. Siobhan Telfer** | Mentor: Dr. Stephen Pautler
Con Argument: **Dr. Kim-Chi Tran** | Mentor: Dr. Joseph Chin

In May of 2012, and in the fall of 2014, the US Preventive Services Task Force and the Canadian Task Force on Preventative Health Care released similar recommendations against the routine PSA screening of men. Given that these recommendations have the capacity to strongly influence practice, we aim to shed light on this controversial topic.

Through a debate format, this session will review basic information regarding the background of PSA and what constitutes a suitable screening tool. In addition we will discuss the results of landmark clinical trials such as the European Randomized Study of Screening for Prostate Cancer the Prostate, Lung, Colorectal and Ovarian Screening Trial, and the Göteborg Prostate Cancer Screening Trial. We also aim to discuss the ways in which prostate cancer screening is approached in not only Canada and the United States, but also abroad.

COMPARATIVE MORBIDITY OF ABLATIVE ENERGY BASED SALVAGE TREATMENTS FOR RADIO-RECURRENT PROSTATE CANCER

KM Siddiqui, M Billia, CR Mazzola, JL Chin

Introduction:
Treatment of radio-recurrent prostate cancer (RRPC) poses a unique challenge. Energy based salvage treatment options like High intensity focused ultrasound (HIFU) and Cryotherapy (CRYO) are allow prostate ablation with minimal side effects. We report our experience comparing the morbidity of both salvage treatment options performed by a single surgeon over a 17 year period.

Methods:
283 patients from 1995 to 2014 underwent either salvage CRYO (n=187, from1995 to 2004) or salvage HIFU (n=96, from 2004 to 2014). Since 2004 we have changed our practice and only offer HIFU as salvage modality. We divided our patients into three groups and including only patients with at least one year follow up. Complications reported after 90 days of treatment were compared. Group I had first 65 patients treated with CRYO between 1995 and 1998, Group II was composed of last 65 patients treated with CRYO from 2002 to 2004 and Group III contained 65 patients who underwent HIFU from 2004 to 2012. This group-wise comparison was designed to elucidate the impact of learning curve and technologic transit without inter-operator and inter-institutional variability.

Results:
There was a higher pre-salvage PSA in Group I (p=<0.001, one way ANOVA test). Details of other complications are summarized in Table. HIFU was associated with either equivalent or lower complication rates across all categories as compared to CRYO. Overall Improvement in complication rates were seen between our early experience with CRYO and our late experience (88 vs. 56). However this did not reach statistically significance (p=0.469). The across the board improvement in complication rates with ongoing experience in the use of CRYO likely indicates a learning curve with this procedure although larger numbers from multiple institutions are probably required to demonstrate this. No difference in Recto-urethral fistula was seen amongst the three groups with rates of 1.5% - 3% (p=0.817).

Conclusion:
HIFU shows promise as a further advance in the management of radio recurrent prostate cancer. It is associated with a low rate of fistula formation and significantly lower rates of incontinence and retention as compared to CRYO. Treatment for radio-recurrent prostate cancer should be stratified on the basis of co-morbid status, disease characteristics and patient preference.

RISK FACTORS FOR POSTOPERATIVE COMPLICATIONS AFTER PERCUTANEOUS NEPHROLITHOTOMY (PCNL) IN A TERTIARY REFERRAL CENTRE

D Olvera-Posada, T Tailly, H Alenezi, PD Violette, L Nott, JD Denstedt, H Razvi

Introduction:
Percutaneous nephrolithotomy (PCNL) is considered the gold standard treatment for large kidney stones. Stone-free rates and complications are the most important outcomes. Recently, a modification of the Clavien classification was defined for PCNL. The objective of this study was to describe and evaluate the major complications (Clavien ≥ 3a) related to PCNL and to identify risk factors of morbidity according to this scoring system. We also wished to evaluate which perioperative factors are associated with each type of complication.

Methods:
A retrospective analysis was performed using data from patients who underwent PCNL from 1990 to December 2013. Patients with incomplete surgical information were excluded. Descriptive statistics were used to analyze patients' characteristics, medical comorbidities and perioperative features. Complications were categorized according the Clavien Score for PCNL. Mann-Whitney and χ^2 tests were used as appropriate. Logistic regression analysis was performed to look for prognostic factors associated with major complications. ROC (Receiver Operating Characteristic) curve analysis was used to find the best cut-off point to analyze the impact of age on major complications. All p values were from 2-tailed tests and $p < 0.05$ was considered statistically significant.

Results:
A total of 2380 PCNL surgeries were performed, with 2318 included in the final analysis. Mean age of the population was 53.7 years. Staghorn stones were noted in 14.8% of the cases. Multiple tracts and upper pole access were used in 8% and 13.15% of the cases respectively. Stone-free rate at hospital discharge was 81.6%. Overall complication rate was 18.3%. Two deaths occurred during our study period. Patients with any postoperative complications were statistical significantly older, with more comorbidities, were more likely to have staghorn calculi and had longer operative time and hospital stay. Age of 55 years and older, and upper pole access were independent predictors for major complications after multivariate regression analysis. Other factors such as history of urinary tract infections, body mass index, stone composition, previous PCNL performed at our centre, and use of multiple tracts were not associated with a major complication.

Conclusions:
At our centre, PCNL is an excellent option for complex kidney stone management with a low overall complication rate. Older age and upper pole access are significantly associated with an increased risk of a major complication and should be considered during preoperative counseling and postoperative care.

ANTIBIOTIC INDUCED NEPHROLITHIASIS

G Naderkhani, N Smith

Background:
Urinary tract infections are common in patients with nephrolithiasis and stones of various mix and pure composition have been reported with infection. Epidemiological studies have recently documented a significant decrease in the number of "infection stones" with a concurrent increase in overall prevalence of other stone compositions in at-risk population. Improved infection management strategies and more liberal use of antimicrobial agents have been partly credited for the decline in number of infection stones. Given the reciprocal rise in overall stone prevalence and limitations of routine laboratory techniques for accurate identification of unusual and complex urinary stones, it is necessary to further investigate the possibility of antibiotic induced nephrolithiasis.

Methods:
A standardized FT-IR library of antibiotics and metabolites was constructed, using 16 most commonly used antibiotics from all major classes. Mixtures taken for the preparation of antibiotic and KBr were scanned in the mid-IR region from 4000–400 cm-1 at 4 cm-1 with Perkin-Elmer RX1 infrared spectroscope. IR spectra of all documented metabolites and xenometabolites for the above antibiotics were obtained from *NIST Standard Reference Database Number 69.* Using EFTIR software 0-100% linear ranges of all 106 antibiotics and metabolites were prepared for all stone mixture with 10% increase in range. Final library qualitative and quantitative accuracy was confirmed against Bio-Rad database confirming accuracy within 5%. FT-IR spectroscopy reports of 885 urinary calculi were analyzed using this library for presence and percent composition of antibiotic and/or metabolites included in the reference library.

Results:
Among the 885 FT-IR reports analyzed, 21(2.4%) specimens were partly composed of an antibiotic with or without additional metabolites and 51(5.8%) were identified as having one or more antibiotic metabolite(s). Of the 21 identified antibiotics, there were 8 β-lactams (3 amoxicillin, 1 cephalexin, 2 penicillin, 2 cefuroxime), 2 macrolides (1 clarithromycin, and 1 erythromycin), 5 fluoroquinolones (all ciprofloxacin), one aminoglycosides (neomycin), one sulfonamide (sulfamethoxazole), one tetracycline, one nitrofurantoin and two chloramphenicol. 13/21 reported antibiotics were present at concentrations less than 10%, six present at 10-25%, and two over 50% concentration of the total sample. Most classes of antibiotics had very distinct pattern of cohabitation with only specific stone compositions in similar concentrations. Ciprofloxacin was only present in struvites at 25% in nearly all positive samples and β -lactams were consistently discovered in stones composed of mixed whewellite, weddellite and apatite.

Conclusion:
Preliminary results from analysis of urinary calculi with a specifically designed FT-IR library, for detention of antibiotics, identified a much higher prevalence of urinary calculi partially composed of antibiotics and metabolites than previously documented. The preferential grouping of various antibiotics/metabolites with particular urinary calculi compositions is highly suggestive of changes in antibiotic solubility precipitated by changes in urinary pH. Additional information obtained from routine analysis of urinary calculi for antibiotics and/or metabolites can equip clinician with the experience and knowledge to avoid offending antibiotics in a population already at risk for nephrolithiasis.

INVITRO ASSESSMENT OF THE POTENTIAL EFFECT OF RENAL CYSTS ON SHOCK WAVE LITHOTRIPSY FRAGMENTATION EFFICIENCY

H Alenezi, Olvera-Posada D, Cadieux PA, Denstedt JD, Razvi H

Objective:
To assess the potential effect of simple renal cysts (SRC) on stone fragmentation during shock wave lithotripsy (SWL) in an in vitro model.

Materials and Methods:
The in vitro model was constructed using 10% Ordnance Gelatin (OG). Models were created to mimic 4 clinical scenarios: model A. With an air-filled cavity (suboptimal for stone fragmentation); model B. Without a cavity (normal anatomy); model C. With a 3 cm serum filled cavity (to represent a small SRC); model D. With a 4 cm serum filled cavity (to represent a larger SRC). SWL was applied to 24 standardized phantom stones (weight of 2 ± 0.1 g) in each model using a standardized protocol. Stone fragments were retrieved then dried over-night at room air temperature. Fragmentation Coefficient (FC) was calculated for each stone, for fragments <4mm and <2mm.

Results:
The OG in vitro model was robust enough for the proposed research. There was no fragmentation evident in model A as expected. The mean FC was 29.7 (±20.5) and 39.7 (±23.7) for <4mm fragments (p=0.069) and 7.6 (±4.1) and 10.6(±6.7) for <2mm fragments (p=0.047), for non-cystic and cystic models respectively. The mean FC was 29.7 (±20.5), 38.8 (±26.2) and 40.7 (±21.3) for <4mm fragments (p=0.213) and 7.6 (±4.1), 11.1 (±8) and 10.2 (±5.3) for <2mm fragments (p=0.138), for models B, C and D respectively.

Conclusion:
Our in vitro experiment confirms better stone fragmentation associated with SWL in presence of adjacent SRC.

MULTI-CENTRE EVALUATION AND COMPARISON OF STONE SCORING SYTEMS IN PREDICTING OUTCOMES AFTER PERCUTANEOUS NEPHROLITHOTOMY

T Tailly, Z Okhunov, B Nadeau, M Huynh, K Labadie, A Akhavein, D Olvera-Posada, H Alenezi, P Violette, J Amann, V Bird, J Landman, A Smith, J Denstedt, H Razvi

Introduction:
Several scoring systems have recently emerged to predict stone-free status (SFS) and complications after percutaneous nephrolithotomy (PCNL). By comparing the most commonly used scoring systems, we aimed to identify the most clinically useful of the three.

Methods:
We performed a retrospective review of patients who have had a PCNL at four academic institutions between 2006 and 2013. Primary outcome was SFS and secondary outcomes were operative time (OT), complications and length of stay (LOS). We performed X^2, T-test, logistic, linear and Poisson regressions as well as receiver operating characteristics (ROC) curve with area under the curve (AUC) calculation.

Results:
We identified 586 patients eligible for analysis. Of these, 67.4% were stone free. All scoring systems were predictive of SFS on binary logistic regression (OR 1.59, 95%CI: 1.33 – 1.90, P<0.001; OR 1.40, 95%CI 1.27 – 1.54, P<0.001 and 0R 0.991, 95%CI 0.987 – 0.994, P<0.001 for Guy's, S.T.O.N.E. and CROES) and have similar predictive accuracy with AUC's of 0.629, 0.671 and 0.646 respectively. On multivariate linear regression, S.T.O.N.E. and CROES score were independent predictors of longer OT (coefficient (ß)= 13.738, 95%CI: 10.926 – 16.544, P<0.001 and ß= -0.171, 95%CI: -0.279 – -0.062, P=0.002 respectively). None of the scores were independent predictors of post-operative complications or a longer LOS. Risk group stratification and Poisson regression showed the S.T.O.N.E. score to have the most distinct risk groups.

Conclusions:
The three evaluated scoring systems have similar predictive accuracy of SFS. S.T.O.N.E. and CROES have additional value in predicting operative time. The S.T.O.N.E score allows for the most distinct risk group stratification. We propose to systematically include this score when reporting on PCNL research. Prospective validation is awaited for all of the scoring systems.

EARLY CLAMP RELEASE DURING LAPAROSCOPIC PARTIAL NEPHRECTOMY: IMPLICATIONS FOR PRESERVATION OF RENAL FUNCTION

J Campbell, P Luke

Introduction:
Partial nephrectomy is the gold standard for management of small renal tumors. Intra-operative warm ischemic time (WIT) is a known, reversible risk factor for short and long-term renal dysfunction. We describe a new technique for laparoscopic partial nephrectomy to reduce WIT and assess impact upon renal function and bleeding.

Methods:
We retrospectively assessed patients who underwent either robot-assisted, hand-assisted, or traditional laparoscopic partial nephrectomy from May 2012 to March 2015 at our center, by a single surgeon. We compared the standard procedure to our modified early clamp release (ECR) technique. We evaluated WIT, estimated blood loss (EBL), change in estimated glomerular filtration rate (eGFR) and change in differential function as demonstrated by nuclear renograms. Follow-up lab work and renograms were done at 6-12 weeks post-operatively and compared to baseline in 56 patients (28 ECR: 28 control). Patients with solitary kidneys, missing data and those undergoing open, and clamp-free partial nephrectomy procedures were excluded from analysis. All patients had both artery and vein clamped without the use of ice slush.

Results:
The ECR group and control groups were similar in age, sex, and tumor size. There was no difference in ratio of robotic: pure laparoscopic: hand assisted cases in between groups. Although patient weight was higher in the ECR group (96.7 vs. 80.8 kg; $p<0.05$), WIT was significantly lower in ECR group compared to control (18.4min vs. 30.5min; $P < 0.05$). There was no significant difference in EBL in the two groups (310ml vs. 292ml; p = NS). Although there was no significant difference in change from baseline eGFR in the early post-operative period (day 3) or in follow-up (6-12 weeks), the control group had a significantly greater loss of differential renal function from baseline compared to the ECR group (8% versus 3% change; $P < 0.05$).

Conclusions:
The ECR technique offers a safe, reproducible alternative that reduces WIT during laparoscopic partial nephrectomy. This is accompanied by reduction in overall ipsilateral renal dysfunction, without increasing bleeding risk. Lack of eGFR change at 6-12 weeks may imply lack of sensitivity of the assay, small patient numbers in the study, or limited clinical impact of the technique.

OUTCOMES OF CHEMORADIOTHERAPY FOR ADVANCED BLADDER CANCER IN THE ELDERLY

V McPherson, N Power

Literature Review:
Approximately 7,800 people are diagnosed with and 2,500 people die from bladder cancer in Canada each year. The gold standard therapy for muscle invasive and recurrent high grade UC is radical cystectomy with lymphadenectomy, which has an approximate 5 year OS of 57% and a CSS of 67% in a contemporary Canadian series. However, radical cystectomy bears significant morbidity, with an overall perioperative complication rate of 28-49%, a grade 3-5 complication rate of approximately 13%, and a perioperative mortality rate of 2.5-5.2%. Additionally, the perioperative mortality rate rises substantially in patients that are in their 80s - one study shows a mortality rate increase from 1.1% in patients in their 60s to 11.1% in their 80s, while another indentifies an increase from 2.2% to 6.8% in octogenarians.

Trimodality therapy (TMT) is an alternative to surgery that is able to provide a chance of cure, and is constituted by transurethral resection followed by combination chemoradiotherapy, with the intention to have the patient undergo salvage cystectomy for local treatment failure. A recent Canadian study reviewed their centers experience with TMT in the elderly. This study included 24 patients with a median age of 79 and clinical T2-T3 N0M0 disease. A CR of 83% was achieved, while 3 patients underwent salvage cystectomy. They found a 3 year OS of 61% and a cancer specific survival of 75%, which is comparable survival to cystectomy.

TURBT with combination chemoradiotherapy without the fallback option of salvage cystectomy is a treatment option that has been provided to patients who are not surgical candidates at the LRCP for nearly a decade. This treatment paradigm has been offered in lieu of cystectomy as a means of halting disease progression and thus reducing morbidity, with the possibility but not the direct intent to cure. This study seeks to evaluate the outcomes of octogenarians treated with this regimen at LHSC.

Objectives and Underlying Hypothesis:
To review our center's experience with combination chemoradiotherapy as a curative strategy for muscle invasive bladder cancer in octogenarians that are deemed to not be candidates for radical cystectomy. Analysis will focus on complete response rate, overall survival, disease specific survival, and analysis of toxicity profiles.

Study Design:
We will discuss the results of a retrospective chart review evaluating the outcomes of octogenarians who have been treated for muscle invasive bladder cancer using a combination of TURBT and chemoradiotherapy at the London Regional Cancer Center (LRCP). Patients who underwent salvage cystectomy and those with metastases at the time of therapy will be excluded. Overall survival (OS) and Cancer Specific Survival (CSS) will be analyzed using Kaplan-Meier survival curves. In addition, cox regression analysis will be completed to identify the multivariate Hazard ratios for these outcomes related to the presence of nodal disease and major comorbidities, including cardiovascular disease, pulmonary disease, and diabetes.

VALIDATION OF A PREDICTION MODEL FOR THE USE OF POSTCHEMOTHERAPY RETROPERITONEAL LYMPH NODE DISSECTION IN PATIENTS WITH METASTATIC NONSEMINOMATOUS GERM CELL CANCERS

N Punjani, N Power, J Vanhie, E Winquist

Introduction and Objectives:
Men treated with chemotherapy for metastatic germ cell cancers (GCC) often have residual masses (PCRMs). These contain persistent GCC and/or teratoma in over 50% of patients (pts) with nonseminoma (mNSGCC). Retroperitioneal lymph node dissection (RPLND) identifies persistent GCC and cures teratoma, however, there is controversy about selection criteria for surgery. Ideally data from large datasets would be most informative. Vergouwe et al (2007) have validated a predictive model based on over 1000 pts, and we evaluated its utility in pts treated at our centre.

Methods:
mNSGCC pts treated with RPLND for PCRMs were identified from an electronic database. The 2007 publication contained typographical errors, so the prediction formula published in Vergouwe 2003 was utilized with coefficients from the 2007 publication. Six clinical variables were included in the prediction model, and the probability of benign tissue at RPLND was generated and compared with actual pathological results for each pt. "Benign tissue only" was a positive test outcome in pts with a predicted probability of "benign tissue only" of $\geq$70%.

Results:
52 mNSGCC pts treated with RPLND for PCRMs between January 1980 and November 2014 were identified. Median age was 32 years (range 17-52). IGCCC prognostic stages were: good 46.2%, intermediate 32.7%, and poor 21.2%. Chemotherapy consisted of BEP in all but 3 pts. Surgery usually consisted of full bilateral RPLND +/- nerve sparing. Pathology showed residual GCC or teratoma elements in 31 pts (59.6%), and benign findings in 21 pts (40.6%). Positive & negative predictive values and accuracy of the predictive model were 100%, 69%, and 73%; respectively.

Conclusions:
Benign tissue only was found in 100% of pts in whom this was predicted. This study involved a limited number of pts, but confirms the findings of Vergouwe et al. Routine use of this prediction rule in clinical practice should be considered for mNSGCC pts with PCRMs.

IS PCA3 A GOOD PROGNOSTICATOR OF PROSTATE CANCER ON RADICAL CYSTOSPROSTATECTOMY SPECIMENS?

M Billia, V Yutkin, K Siddiqui, **C Mazzola**, JL Chin, NE Power, JI Izawa

Purpose:
To assess whether Prostate Cancer Antigen 3 is a good predictor of prostate cancer (PCa) in a consecutive series of unselected men with negative DRE, PSA<10 ng/ml undergoing radical cystoprostatectomy (RC) for urothelial carcinoma of the bladder.

Material and Methods:
The PCA3 urine test (PROGENSA®, Gen-Probe Incorporated, San Diego, CA) was performed prior to surgery and whole mount sections of the prostate were analyzed. The primary endpoint was to assess the performance of the PCA3 test for detection of PCa at two cut-off levels (25 vs. 35). The secondary endpoint was the analysis of the relationship between PCA3 score and Gleason score.

Results:
Histological PCa was detected in 66.6% of cases. PCa incidence was 51.2% and 44.5% of patients with PCA3 cut-off scores of 25 and 35, respectively. The overall performance of the PCA3 test was better for a threshold of 35, providing 75% specificity and 83.3% positive predictive values. No statistically significant correlation between PCA3 score and Gleason score was observed (p=0.3).

Conclusions:
The PCA3 test underestimated the incidence of PCa on whole mount sections of the prostate. Clinicians should cautiously consider how to counsel patients on whether or not to receive a prostate biopsy solely on the results of the PCA3 test. The 2 combination of PCA3 test, likely as a continuous variable with other clinical parameters, should be preferred for optimal clinical decision -making.

REVIEW OF THE RESULTS OF IVF CYCLES AT THE FERTILITY CLINIC (LHSC) USING SURGICALLY RETRIEVED SPERM: A COMPARISON OF LOCAL APPROACHES

F Tekpetey, M Rebel, **D Mikhail**, G Brock

Introduction:
Advances in sperm retrieval and preparation techniques over the past decade have afforded fertility potential to men who previously were infertile due to azoospermia. In this review we evaluated the various surgical approaches for sperm retrieval and preparation, and their impact on IVF cycle success rates and to facilitate a full clinical discussion with patients considering their options.

Methods:
A 5-year chart review (2009-2014) was undertaken to evaluate results of IVF cycles using micro-surgical sperm extraction via PESA (Percutaneous Epididymal Sperm Aspiration) and TESE (Testicular Sperm Extraction), evaluating both fresh and frozen sample preparations. Data was collected from a single center and all extractions were performed by a single surgeon for infertile couples referred to The Fertility Clinic in London, Ontario.

Results:
Total of 102 IVF cycles were reviewed (29 with Fresh TESE; 23 with Frozen TESE; 27 with Fresh PESA; 23 with Frozen PESA). Average female age, average stimulation days, oocytes retrieved and oocyte fertilization rate (65.6% vs. 69.9%) were similar between the TESE and PESA groups. The proportion of transferrable embryos were higher in the PESA vs. TESE (79.7% vs. 67.3%) group. Clinical pregnancy rates (defined as fetal heart on 60-day ultrasound) were similar between fresh and frozen TESE (34.8% vs. 31.6%), as well as fresh and frozen PESA (45.5% vs. 42.1%). There was an overall notable difference in clinical pregnancy rates when comparing PESA and TESE (44% vs 33%). Further statistical analysis will be presented.

Conclusions:
Success was seen with all techniques. A wide range of clinical pregnancies was observed owing to patient factors and underlying sperm quality. Our results show that although there is some success advantage to PESA over TESE, cycles with fresh and frozen samples show similar results in each group. We show roughly 46% clinical pregnancy success with Fresh PESA, comparable to world-class centers. This report should enable treating physicians to counsel patients on the likelihood of cycle success with the various approaches to sperm retrieval.

PAST RESIDENTS' DAY GUEST PROFESSORS: 1984 – 2012

2014	Dr. Joel B. Nelson
2013	Dr. Stephen Nakada
2012	Dr. Lawrence Klotz
2011	Dr. Gerald Andriole
2010	Dr. John Michael Fitzpatrick
2009	Dr. Antoine Khoury
2008	Dr. Margaret Pearle
2007	Dr. Martin Gleave
2006	Dr. Leonard Zinman
2005	Dr. Joseph A. Smith Jr.
2004	Dr. Anthony Atala
2003	Dr. Peter T. Scardino
2002	Dr. Inderbir Gill
2001	Dr. Shlomo Raz
2000	Dr. Donald Lamm
1999	CUA in London, no Residents' Day
1998	Dr. Patrick Walsh
1997	Dr. Joseph Oesterling
1996	Dr. Michael Marberger
1995	Dr. E. Darracott Vaughan
1994	Dr. Martin Resnick
1993	Dr. Andrew Novick
1992	Dr. Howard Winfield
1991	Dr. Moneer Hanna
1990	Dr. Drogo Montague
1989	Dr. Ralph Clayman
1988	Dr. Gerald Sufrin
1987	Dr. Alvaro Morales
1986	Dr. J. Edson Pontes
1985	Dr. Alan Perlmutter
1984	Dr. Alan Bennett

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