Moderated Poster Session V: Oncology 2
Friday, October 30, 2015
11:00 a.m. – 12:30 p.m.

P65
Budget Impact Model for the Utilization of PCA 3 Urine Testing in Prostate Cancer Screening

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Background: Continued prostate cancer screening with serum PSA in patients with a history of a negative prostate biopsy can result in unnecessary repeat prostate biopsies with significant morbidity and cost. The PCA3 molecular urine test has been shown to an independent predictor for the diagnosis of significant prostate cancer in men who are still at risk after a negative prostate biopsy. We utilized a budget impact model to study the potential reduction in unnecessary prostate biopsies and its cost benefits in this population

Methods: In a theoretical population of 1 million people over a one-year timeline, the number of prostate biopsies and its cost was compared between a "Traditional" method of prostate cancer screening (e.g., PSA screening) after an initial negative prostate biopsy and an "New" method incorporating the PCA3 urine test after an elevated PSA. Men with abnormal results would undergo repeat prostate biopsy

Results: In the "Traditional" method, 959 repeat prostate biopsies would be performed at a fully weighted cost of $1,866,214. When PCA3 was used in the "New" method, 400 prostate biopsies would be performed at a fully weighted cost of $931,000. There was a cost savings of $935,214.

Conclusions: The incorporation of the PCA3 urine test into our decision algorithm for men at risk for prostate cancer after an initial negative prostate biopsy will result in a significant reduction in unnecessary biopsies with significant cost savings

P66
Radiotherapy With Androgen Deprivation Therapy For High-risk Prostate Cancer- The Centre Hospitalier De l'Université De Montréal Experience

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Background: There is much discussion about the best treatment modality for high-risk prostate cancer patients. We observed lately that surgery has become more frequently used in these patients. Here, we analyze the long-term data in these high risk patients treated with external beam radiation (EBRT) and androgen deprivation therapy (ADT) at the University of Montreal.

Methods: There is much discussion about the best treatment modality for high-risk prostate cancer patients. We observed lately that surgery has become more frequently used in these patients. Here, we analyze the long-term data in these high risk patients treated with external beam radiation (EBRT) and androgen deprivation therapy (ADT) at the CHUM.

Results: Of the 162 analyzed patients, only 7% did not receive any ADT. Mean time on ADT was 24 months (SD 11 mo). In 46% of patients, ADT was given for ≥ 24 months. Mean age was 69 years (SD 6y) with 58% over 70 years old. 63% had 1 high-risk feature (RF), 27% had 2 RF and 10% had 3 RF.. All patients were treated with EBRT of a median dose of 70 Gy (range 56-80 Gy) with 27% of patients receiving >70 Gy.

At a mean/median of 60 months (SD 24 mo) following EBRT, 15%(n=24) experienced BCR. Mean follow-up for patients without recurrence was 64 months (SD 35 mo).

In univariate analysis, the number of RF was not a significant predictive factor for BCR (p=0.08) as was T-stage (p=0.5) and Gleason score (p=0.2). As continuous variable, PSA (p=0.04) was significantly predictive as well as age where patients ≥ 70 years had a much better BCR rate (p<0.001). In multivariate analysis after adjusting for age, only the number of RF (p=0.04), but not T-stage (p=0.2), Gleason score (p=0.1) or PSA as a continuous variable (p=0.08) were predictive. Actuarial recurrence free survival at 5 and 7 years were 90% and 81%, respectively. However, patients younger than 70 years old had an actuarial recurrence free survival at 5 and 7 years of 81% and 69%, respectively compared to older patients who had a rate of 98% and 91% at 5 and 7 years.

Conclusions: Excellent outcomes are achievable after EBRT combined to long-term ADT in high risk prostate cancer patients. While the results are excellent in older patients, there is room for improvement in patients younger than 70 years. These results compare favorably to surgical series. In the younger patient population the use of surgery should be studied in a controlled trial.

P67
Short-term Outcomes of Intraoperative Cell Saver® Transfusion during Open Partial Nephrectomy

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Background: Previous work has suggested that transfusion with blood from the Cell Saver® intraoperative cell salvage system does not increase the risk of cancer recurrence or decrease survival following surgery for prostate or bladder cancer. However, the safety of Cell Saver® transfusion in patients with renal cell carcinoma is not known. We sought to determine whether Cell Saver® transfusion was associated with inferior outcomes in patients undergoing open partial nephrectomy.

Methods: All patients who underwent open partial nephrectomy by a single surgeon (BJD) from August 2008 through April 2015 were retrospectively identified. Operations were grouped according to whether or not they included a transfusion using the Cell Saver® intraoperative cell salvage system (Haemonetics, Braintree, MA) and analyzed at the procedure level. Clinical, pathological and outcome data were compared between groups.

Results: Sixty-nine open partial nephrectomies in 67 patients were identified. Thirty-three procedures (48%) included a Cell Saver® transfusion. The majority of tumors were clear cell renal cell carcinoma (62%) and stage T1a (68%); mean tumor size was 3.4±1.3 cm. There were no significant differences between groups for any measured clinical or pathologic characteristics. Operations including a Cell Saver® transfusion had longer operative times (141 vs 108 minutes, p<0.001) and significantly greater blood loss (600 vs 200 ml, p<0.001). There were no significant differences in postoperative complication rate (21% vs 17%, p=0.83) or median length of hospital stay (3.3 vs 3.3 days, p=0.094) between groups. At a median follow up of 23 months (IQR: 7.5-42 months), there was no difference in recurrence rate (3.0% vs 2.8%, p=0.9). There was no metastatic progression or cancer-specific mortality in either group.

Conclusions: Cell Saver® transfusion during open partial nephrectomy was not associated with inferior postoperative or oncologic outcomes with short-term follow-up, and no patients developed metastatic disease. Our data suggest that Cell Saver® transfusion may be safe to use in patients undergoing open partial nephrectomy, although further study with longer follow-up is needed.

P68

Value of Magnetic Resonance Imaging-Ultrasound Fusion as the Initial Prostate Biopsy

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Background: Improved prostate cancer (CaP) detection using targeted Magnetic Resonance Imaging-Ultrasound (MRI-US) fusion compared to conventional biopsy has been shown in patients with repeat prostate biopsies. In this IRB-approved study, we analyzed the utility of employing MRI-US fusion prostate biopsy as the initial biopsy in CaP detection.
Methods: We retrospectively reviewed patients who underwent a FBX as their initial prostate biopsy between 8/2013-9/2014 and compared them to patients that underwent a conventional transrectal US prostate biopsy in our pre-FBX time period. Patients first underwent an MRI with suspicious lesions on MRI were labeled as 3, 2, 1, and 0 (High, Moderate, Low, and No Level of Suspicion, respectively) using an internally developed classification system. A small group of trained radiologists interpreted and annotated each MRI Lesion. A GE LOGIQ E9 ultrasound device was used to fuse multi-parametric prostate MRI data with real-time ultrasound during biopsy. The locations of the lesion identified on MRI and positive core on biopsy were evaluated for concordance.
Results: N=168 in FBX cohort (mean age at biopsy=65). N=178 in SBX cohort (mean age at biopsy=64). Mean PSA in FBX cohort was 7 and 6 for SBX (p=0.185, t-test). CaP detection rate by FBX was 58.3% (98/168) versus 56.7% (101/178) in SBX (p=0.765, chi-square). Higher Grade Prostate Cancer (HGCaP > Gleason 7) was more frequently detected in the FBX group: 70/98 (71.4%) v. 55/101 (54.5%) in SBX (p=0.013). In the FBX group, MRI suspicion level directly correlated with both likelihood of CaP (Spearman's rho=0.44) and Gleason score (rho=0.382), p<0.001. Level 3, 2, and 1 MRI lesions resulted in 84.6% (55/65), 49.2% (30/61) and 31.0% (13/42) CaP detection rates respectively (p<0.001, chi-square). Level 3, 2, and 1 MRI lesions resulted in HGCaP detection rates of 78.2%, 73.3%, and 38.5% respectively (p=0.017, chi-square). Exact concordance in location of positive core was found in 81.6% (80/98) of positive biopsies. Exact and adjacent (prostate zone immediately next to positive core) concordance was found in 89.8% (88/98) of positive biopsies.
Conclusions: This preliminary analysis shows FBX and SBX as initial biopsy modalities may have overall comparable rates of CaP detection. However, the targeting of suspicious MRI lesions by FBX confers increased HGCaP detection, which could potentially improve clinically significant disease detection at the start of CaP management.

P69

Radium-223 in an International Early Access Program (EAP): Effects of Concomitant Medication on Overall Survival in Metastatic Castration-Resistant Prostate Cancer (mCRPC) Patients

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Background: The pivotal ALSYMPCA study reported improved overall survival (OS) in bone-symptomatic mCRPC patients (pts) treated with radium-223 (Ra-223) vs placebo (median 14.9 vs 11.6 mo, HR=0.70). Data from 696 EAP pts recruited from 14 countries (Europe, Canada, Israel) are presented.
Methods: In this prospective phase 3b study, mCRPC pts with symptomatic or asymptomatic bone metastases (no visceral disease) received Ra-223 50 kBq/kg (IV injection) every 4 weeks for 6 cycles. Primary endpoints were safety and OS. The effects of concomitant medications, baseline (BL) pain, alkaline phosphatase (ALP), and ECOG performance status (PS) on OS were assessed.
Results: 696 pts were treated; 58% received all 6 Ra-223 injections. At BL, median age was 72 years; 88% of pts were ECOG PS 0-1; pain was reported as no pain, mild-moderate, and severe in 21%, 52%, and 27%, respectively. 60% of pts received prior therapy with docetaxel. For pts treated with concomitant therapy, 22% were treated with abiraterone, 20% with denosumab, 18% with bisphosphonates, and 4% with enzalutamide. Grade 3/4 adverse events (AEs) were reported in 38% of pts; 21% discontinued Ra-223 because of AEs. At the time of analysis, median OS was 16 months (13-not estimated [NE]). Median time to first SSE was 18 months (17-NE), 24% of pts had ≥50% confirmed ALP decrease from BL, and 8% had >50% confirmed PSA decrease from BL. In post hoc analyses, OS was statistically significantly longer in pts with BL ALP <220 U/L vs ≥220 U/L, ECOG PS 0-1 vs ≥2, no pain vs mild-moderate vs severe, concomitant denosumab, and concomitant abiraterone (Table 1).
Conclusions: In Ra-223-treated pts, OS appeared to be better in those treated concomitantly with denosumab or abiraterone. Significantly longer OS was observed in pts with a good ECOG PS, no pain, and low ALP.

Table 1. P69

Characteristic	No. patients	Median OS, months (95% CI)	Long-rank *p* value
Concomitant denosumab			
Yes	138	NA (15–NE)	<0.009
No	558	13 (12–NE)	
Concomitant abiraterone			
Yes	156	NA (16–NE)	<0.0001
No	540	14 (12–16)	
ALP			
<220 U/L	431	NA (NE)	<0.0001
≥220 U/L	263	10 (9–11)	
ECOG PS			
0–1	609	17 (14–NE)	<0.0001
≥2	87	7 (5–11)	
Pain			
No	146	NA (16–NE)	
Mild-moderate	360	15 (13–NE)	0.00018*
Severe	163	11 (8–12)	

*No vs. all pain. NA: not available; OS: overall survival; CI: confidence interval; ALP: alkaline phosphatase; ECOG PS: Eastern Cooperative Oncology Group Performance Status; NE: not estimated.

P70

Impact Of Pathology Review On Clinical Management Of Patients With Bladder Cancer

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Background: Clinical decisions taken by urologists depend heavily on the interpretation provided by the pathologist with regards to transurethral resection specimen. In this retrospective study, we evaluate the impact of pathology review on management of patient with bladder cancer.
Methods: A genitourinary pathologist at our institution reviewed 98 transurethral resection specimens for patients with suspected bladder cancer

obtained from outside hospitals. A urologist at our institution classified patients into risk groups according to the pathology reports obtained before and after review. A management course was proposed as well, according to the main urological guidelines.
Results: The original pathology reports included 5 benign cases, 8 Ta, 27 T1, 56 T2 and 2 T4a tumors. On review, the interpathologist agreement by tumor stage was 100% and 98% for benign lesions and T2 tumors respectively, but only 62% for Ta and 63% for T1 tumors.
Taking into account all of the pathology variables in the review, including stage, grade, presence of concomitant CIS, LVI, and variant histology, 36/98 patients (37%) had a proposed change in management. However, major management changes occurred in 23 out of the 36 patients. Most of these major changes (14/23) involved patients originally staged as T1 (61%). Another observation is that 26% (6/23) of those changes were solely due to incomplete initial pathologic report in the form of missing LVI, concomitant CIS and variant histology and not due to interpathologist discrepancy in interpretation.
Overall, the 23 discrepant pathology reports that lead to significant change in management could be summarized as follows: T category change after review lead to 13 radical cystectomies being proposed and an additional 2 being avoided. 6 patients were deemed at very high risk for progression because CIS, LVI, or variant histology was found in the review pathology and therefore early cystectomy was proposed in those instances. Two patients had a completely different histological diagnosis after review and hence different treatment plans were proposed.
Conclusions: A complete initial pathological report provides a more accurate risk classification of the patient's disease status. Review pathology plays a primary role and impacts on the management of bladder cancer patients especially those with high-grade disease.

P71

Clinical Utility of a 17-gene Genomic Prostate Score (GPS) for Treatment Selection in Men with Newly Diagnosed Prostate Cancer (PCa)

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Background: The Oncotype DX Prostate Cancer Assay is clinically validated as a biopsy-based gene expression assay that, combined with clinical features, provides an estimate of PCa disease aggressiveness. We report two clinical utility studies assessing the impact of incorporating GPS on treatment recommendations (TR) and decisions in men with very-low to intermediate risk PCa.
Methods: In the first study, community-based urologists ordering at least 4 assays from 5/2013 to 1/2014 participated. Clinicopathologic data, the GPS and treatment were abstracted from medical records of GPS patients and a clinically similar baseline group. The proportion of men recommended and pursuing active surveillance (AS) before and after the availability of the GPS were computed. In the second prospective study, urologists at 3 centers (academic and community) recorded TR on pre- and post-GPS questionnaires, including changes in treatment intensity.
Results: 15 urologists completed the chart review study on 211 men (124 GPS; 87 baseline). The relative increase in TR for AS was 22%, (51% baseline, 61% GPS; absolute difference of 10%). GPS pts chose AS more than baseline pts (67% GPS; 43% baseline, absolute increase of 24%, relative increase of 56%). Of men recommended AS, 96% of GPS and 80% of baseline pts chose it. In 158 men in the prospective study, the relative increase in recommendation for AS was 24% and absolute TR increase for AS was also 10%(41% to 51%). 18% of TR changed post-GPS and TR modality and/or intensity occurred in 26% of men (25 decreased; 14 increased; 2 equivocal).
Conclusions: Both studies, conducted with different methodologies, demonstrate that use of GPS provides meaningful change in TR and decisions in men with newly diagnosed PCa and results in a net increase in recommendation and/or adoption of AS. In the chart review study, TR changes appear to underestimate changes in actual treatment received and more GPS patients than baseline patients were assigned to AS supporting the clinical utility of GPS in the initial assessment and management of men with low risk PCa.

P72

A Comparison of Morbidity of Salvage Whole Gland Cryosurgery and High Intensity Focused Ultrasound For Radio-recurrent Prostate Cancer

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Background: Treatment of radio-recurrent prostate cancer (RRPC) poses a unique challenge. Energy based salvage treatment options such as High intensity focused ultrasound (HIFU) and Cryotherapy (CRYO) can ablate the prostate with minimal side effects. We report our experience comparing the morbidity of both salvage treatment modalities over a 17 years period.
Methods: 283 patients from 1995 to 2014 underwent either salvage CRYO or HIFU. Patients were divided into 3 groups, only patients having at least one year follow-up were included. Complications reported after 90 days of treatment were compared. Group I had the first 65 patients treated with CRYO between 1995 and 1998, Group II was composed of the 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 the learning curve and technologic transit without inter-operator and inter-institutional variability
Results: The mean pre-salvage Prostate Specific Antigen level in Group I was higher ($p \leq 0.001$, one way ANOVA test). In Groups 1, 2 and 3 respectively, we recorded 78, 49 and 13, Clavien grade 1/2 complications; 2, 5 and 4 Clavien grade 3a and 8, 2 and 3 Clavien grade 3b complications. Clavien grade 2 complications were statistically higher in Group 1 versus Group 2 ($p=0.005$) and in Group 2 versus Group 3 ($p=0.0001$). The rate of 'mild to moderate incontinence' was significantly higher in the CRYO group compared to the HIFU cohort ($p \leq 0.05$). The rate of urinary retention was significantly higher in Group 2 compared to the Group 3 ($p=0.0005$). The rates of severe incontinence (ranging from 1.5% to 5%), need for surgical intervention (uniform at 1.5%) and recto-urethral fistulae (ranging from 1.5% to 3%) were not statistically different.
Overall Improvement in complication rates was seen between our early experience with CRYO and our late experience (88 vs. 56), although statistical significance was not reached ($p=0.469$).
Conclusions: HIFU is promising 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.

P73

Lymph Node Counts are Valid Indicators of the Quality of Surgical Care in Bladder Cancer: A Population-Based Study

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Background: To describe lymph node counts in routine clinical practice and evaluate their association with outcomes to explore its utility as a quality indicator.
Methods: Electronic records of treatment and surgical pathology reports were linked to the population-based Ontario Cancer Registry to identify all patients who underwent cystectomy between 1994-2008. Temporal trends were described over three periods: 1994-1998, 1999-2000, 2004-2008. Multivariate generalized linear regression analysis was used to determine the factors associated with the utilization of pelvic lymph node dissection (PLND). A Cox proportional hazards regression model was used to explore the associations between PLND and survival.
Results: The study population included 2802 patients. Utilization of PLND (50, 62, 85%), median node yield (5, 6, 9), and node density (56, 50, 39%) all improved over the study periods ($p<0.001$). In multivariate analysis, factors associated with not having PLND include advanced age, female gender, lower socio-economic status, low surgeon volume, and partial

cystectomy. In adjusted analyses patients who did not receive a PLND had inferior overall (HR 1.26, 95%CI 1.15-1.38) and cancer-specific (HR 1.23, 95%CI 1.11-1.36) survival. Node yield, as well as density, was also associated with long-term survival.
Conclusions: There is significant variation in utilization and quality of PLND at cystectomy in routine practice. Node counts are independently associated with long-term survival, and this association is persistent despite adjustment for provider-related variables. These results suggest that lymph node counts are a valid quality indicator of surgical care of MIBC.

P74
Cytogenetics as a Diagnostic Aid for Genitourinary Liposarcoma
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Background: Genitourinary sarcomas are rare malignancies. Paratesticular lesions are predominantly liposarcoma (21-51%) and median tumor size ranges from 4 to 7 cm. The majority of these tumors have intermediate biologic potential but can show highly malignant behavior. Cytogenetic analysis may aid in the approach to treatment. Two molecular targets include mdm2 and DDIT3, cellular proteins that disrupt the actions of p53 on cellular repair and direct normal adipogenesis, respectively. The objective of this study is to describe our institution's experience with spermatic cord liposarcoma and detail a unique aspect of our work.
Methods: We queried a pathologic database for all liposarcoma of paratesticular origin over the past 15 years. Twelve cases were identified. We retrospectively reviewed the medical record for operative reports, pathology reports, and clinic notes. Fluorescent in situ hybridization was performed on five high grade tumors to test for either amplification of the mdm2 gene or translocation involving DDIT3.
Results: Half of the cases underwent primary surgery or cytoreductive resection at our institution. Tumors originated most commonly in the paratesticular region, followed by the inguinal canal. The majority of our sample and 75 % of patients undergoing primary resection had high grade tumors. In cytogenetic analysis of five high grade tumors, three tested positive for mdm2 amplification and two tested positive for DDIT3 translocation. All primary cases are alive and none have required re-resection for recurrent disease. Median duration of follow up was 4.8 years (interquartile range = 1.5 years). Five-year overall survival for the entire cohort was 66% (Table 1).
Conclusions: Genitourinary liposarcoma lends itself well to the burgeoning applications of molecular pathology and personalized medicine. By recognizing specific molecular features, our institution is able to refine its classification of lipomatous tumors. Additionally, cytogenetic analysis may help stratify patients with regard to expected recurrence and assist in directing clinical trial eligibility. As we continue to progress toward personalized therapeutic approaches, targeting the molecular aberrations of a patient's unique tumor could prevent additional surgery and preserve healthy years of cancer-free survival.

P75
Effect of Multimodal Analgesia with Paravertebral Blocks on Biochemical Recurrence in Men Undergoing Open Radical Prostatectomy
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Background: Recent studies have suggested that anesthetic technique during radical prostatectomy may affect biochemical recurrence or metastatic progression. This association has previously been investigated in series that employ epidural analgesia. The objective of this study is to determine the association between the use of a multimodal analgesic approach incorporating paravertebral blocks and risk of biochemical recurrence following open radical prostatectomy.
Methods: Using a prospective database of 3029 men undergoing open radical prostatectomy by a single surgeon, we identified 2909 men who received no neoadjuvant androgen deprivation and had at least 1 year of follow up. We retrospectively compared patients who received general anesthesia with opioid analgesia (Nov 1999 - Oct 2003, n=662) to those

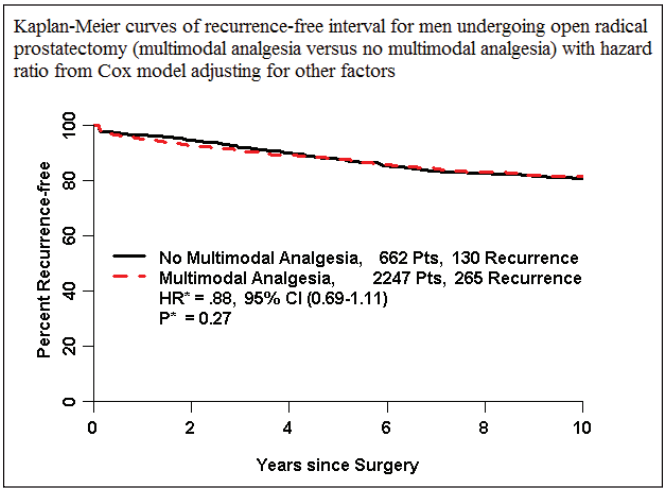

Fig. 1. P75.

Table 1. P74. Summary of cytogenetic analysis in five patients with history of primary spermatic cord liposarcoma

Patient ID	Age	Tumour location	Stage	FNCLCC grade	FISH analysis	FISH results	Adjuvant XRT	Survival status
A	90	Paratesticular	pT2b	High	DDIT3	5% positive for translocation (35% negative, 60% complex)	No	Deceased
B	82	Paratesticular	pT2a	High	mdm2	Positive for amplification (ratio 21.5, SNR 41.5)	Yes	Alive
C	77	Paratesticular	pT2b	High	DDIT3	16% positive for translocation (64% negative, 20% complex)	No	Alive
D	66	Paratesticular	pT2b	High	mdm2	Positive for amplification (ratio 23.5, SNR 57.9)	No	Alive
E	65	Inguinal	pT2a	High	mdm2	Positive for amplification (ratio 17.4, SNR 28.1)	Yes	Alive

FNCLL: French Federation of Cancer Centers Sarcoma Group; FISH: fluorescence in situ hybridization; XRT: radiation therapy; DDIT3: DNA damage inducible transcript 3; mdm2: mouse double minute 2; SNR: signal-to-noise ratio.

who received general anesthesia with multimodal analgesia incorporating paravertebral blocks (Nov 2003 - July 2014, n= 2247). The primary outcome was time to biochemical recurrence. Biochemical recurrence-free interval was assessed using the Kaplan-Meier technique and compared using a multivariable Cox-proportional hazards regression model.
Results: In total, 395 patients (14%) experienced biochemical recurrence following radical prostatectomy, including 265 (12%) who received multimodal analgesia and 130 (20%) who did not. After adjusting for age, race, body mass index, preoperative prostate-specific antigen, grade, stage, perineural invasion, margin status, percent of tumor in the gland, and diameter of the dominant nodule, there was no difference in recurrence-free interval between groups (HR 0.88, 95% CI 0.69-1.11, p=0.27) (Fig. 1).
Conclusions: Use of a multimodal analgesic approach incorporating paravertebral blocks is not associated with a reduced risk of biochemical recurrence following radical prostatectomy.

P76
Risk Factors And Timing Of Venous Thromboembolism After Cystectomy In Routine Clinical Practice: A Population Based Study

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Background: Peri-operative venous thromboembolism (VTE) is common in cystectomy patients and a source of significant morbidity. Here we describe the risk and timing of peri-operative VTE for patients undergoing cystectomy for muscle invasive bladder cancer (MIBC) in routine clinical practice. We also evaluate factors associated with VTE and its association with survival.
Methods: The population-based Ontario Cancer Registry (OCR) was used to identify all patients who underwent cystectomy between 1994-2008. Multivariate logistic regression analysis was used to determine the factors associated with VTE around the date of surgery. A Cox proportional hazards regression model explored the associations between VTE and survival.
Results: Of the 3879 patients included in the study, 3.63% (n=141) were diagnosed with a VTE within 1 month of their surgical admission date. This increased to 4.67% (n=181) at 2 months and by 3 months, 5.44% (n=211) of patients had a VTE. Fifty-five percent (n=95) of VTE events presented after hospital discharge. In multivariate analysis, factors associated with VTE diagnosis included only surgeon volume and length of hospital stay. Nodal yield and adjuvant chemotherapy were not associated with VTE risk. VTE diagnosis was associated with an inferior CSS [HR 1.35 (95% CI 1.13-1.62)] and OS [HR 1.27 (95% CI 1.08-1.49)].
Conclusions: Over half of VTE events in cystectomy patients occur after hospital discharge with substantial incidence up to 3 months after surgery. In this population-based cohort there were limited variables identified to aid in stratification for VTE risk and VTE did portend a worse prognosis.

P77
Effects Of Surgeon And Patient Gender On Type Of Nephrectomy Performed.

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Background: Studies have shown gender disparity in surgical treatment of localized renal masses. The etiology may lie in surgeon perceptions that are affected by patient gender. Probing the relationship between surgeon gender, patient gender and practice patterns may help to elucidate the etiology of this disparity. Our objective was to determine if the ratio of nephrectomy type, namely radical (RN) to partial (PN), in each patient gender group would vary with surgeon gender.
Methods: American Board of Urology certification/recertification operative logs were reviewed from 2009-2013. This period was chosen as after 2009 elective PN became a standard guideline recommendation. Nephrectomy cases by any approach were extracted using CPT codes. Relationships between patient and surgeon characteristics and the ratio of RN to PN were investigated using multivariable logistic regression including; patient age, patient gender, year of surgery, minimally invasive (MIN) surgical approach (vs. open), surgeon age, surgeon gender, region of practice, practice area population size, number of nephrectomy procedures performed by surgeon (NNx) and surgeon subspecialty.
Results: Of 16,862 patients identified, 41% were female. Approach was minimally invasive in 55% and increased from 50% to 61% from 2009 to 2013. Overall 50% underwent RN which decreased from 56% in 2009 to 47% in 2013. Most surgeons reported general practice (68%) while 16% were oncologists and 10% endourologists. Mean NNx was 18 and was higher in surgeons performing PN (20 vs. 16, p< 0.001). Comparing male and female patients, RN was undertaken in 51% and 48%, respectively. Women accounted for 5% of surgeons in 2009 which increased to 7% in 2013. RN was undertaken in 48% and 50% of patients by female and male surgeons, respectively. On multivariable analysis there was no association between surgeon gender and likelihood of RN (p=0.532). Surgical approach was the most significant predictor such that patients undergoing MIN were twice as likely to have RN vs. those with open approach (p<0.001). NNx was associated with nephrectomy type in that with each nephrectomy performed the likelihood of PN increased by 2%. Subset analysis on patients operated upon by oncologists showed similar results. Approach remained a strong predictor of type of nephrectomy (OR 1.53, p<0.001) along with number procedures done, while surgeon gender continued to show no association (p=0.317).
Conclusions: Surgeon gender showed no association with patient gender and nephrectomy type. Open surgical approach and surgeon volume were associated with increased rates of PN.

P78
Clinical Predictors for Upgrading of Biopsy Gleason Sum 3+4 Prostate Cancer

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Background: Gleason sum 3+4 prostate cancer (PCa) has a more favourable prognosis compared to Gleason sum 4+3 or higher tumours. The purpose of this study was to identify predictors for upgrading of biopsy Gleason 3+4 prostate cancer.
Methods: Consecutive patients with Gleason 3+4 on biopsy were identified. Patients who chose radical prostatectomy were included in this analysis. Age, PSA, PSA density (PSAD), % of core biopsies with Gleason pattern 4, and overall % of cancer that was pattern 4 were recorded from the medical record. The primary outcome was Gleason 4+3 or higher on prostate pathologic evaluation.
Results: Of 73 patients, 25 (34%) were upgraded to GS 4+3 or higher. There was no difference in age (p=0.61), PSAD (p=0.09) or % of core biopsies with Gleason pattern 4 (p=0.39) between groups. PSA (p=0.02) and overall % of cancer that was pattern 4 at biopsy (p=0.001) were higher in patients who were upgraded. On a multi-variable model, only overall proportion of cancer that was pattern 4 on biopsy was predictive of upgrading (p=0.007). Using a >25% Gleason 4 threshold, this characteristic had 84% sensitivity and 56% specificity for upgrading.
Conclusions: In patients diagnosed with Gleason 3+4 prostate cancer, a higher proportion of pattern 4 is associated with Gleason upgrading in the prostate specimen.

P79

Neoadjuvant Chemotherapy Prior to Cystectomy is Not Associated with Increased Postoperative Complication Rates Compared to Cystectomy Alone

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Background: Despite the known overall survival benefit associated with neoadjuvant chemotherapy (NAC) for bladder cancer, this treatment modality still remains underutilized, potentially due to fears that it may increase the rate of perioperative and postoperative complications. This study sought to analyze the complication rates at our institution associated with NAC + cystectomy compared to patients who received cystectomy alone for bladder cancer.

Methods: This was a retrospective cohort study of all open radical cystectomies (RC) performed for bladder cancer at the University of Rochester Medical Center (Rochester, NY) from January 2009 to April 2013 by a single surgeon. Patients undergoing a cutaneous ureterostomy or continent urinary diversion were excluded. 105 patients met our inclusion and exclusion criteria. 23 patients received NAC prior to cystectomy while 83 patients received cystectomy alone. All patients who received NAC received gemcitabine and cisplatin. The primary end-points were 30 day and 90 day complication rates. Secondary outcomes included estimated blood loss (EBL), OR time, ICU admission and length of stay (LOS). Categorical variables were compared using Fisher's exact test. Continuous variables were compared via the Student's t-test.

Results: There was no significant difference between our cohorts in regards to patient age, body mass index, Charlson Comorbidity Index score, American Society of Anesthesiologists score, operative time, EBL, ICU admissions or overall LOS (Table 1). There were no significant differences in terms of overall complication rates at 30 days and 90 days, nor were there any differences in the rate of high grade complications. The majority of complications were Clavien grade 1-2 in both cohorts (Table 2).

Table 1. P79

Characteristics	NAC + RC (mean)	RC alone (mean)	*p* value
Age (years)	70.9	69.7	0.57
BMI (kg/m^2)	28.0	28.0	1.0
ASA score	2.8	2.7	0.43
CCI score	5.7	5.6	0.82
EBL (mL)	1485.4	1511.3	0.92
OR time (mins)	468.2	470.9	0.87
ICU stay (days)	1.7	1.7	1.0
LOS (days)	10.9	11.1	0.91
Organ-confined disease (<pT3)	65%	64%	1.0

BMI: body mass index; ASA: American Society of Anesthesiologists; CCI: Charlson Comorbidity Index; EBL: estimated blood loss; OR: operating room; ICU: intensive care unit; LOS: length of stay; NAC: neoadjuvant chemotherapy; RC: radical cystectomy.

Table 2. P79

Complications	NAC + RC	RC alone	*p* value
30-day complication rate	82.6%	79.3%	1.0
High grade (Clavien ≥3)	34.8%	35.4%	1.0
30- to 90-day complication rate	26%	22%	0.78
High grade (Clavien ≥3)	8.7%	6.1%	0.65

NAC: neoadjuvant chemotherapy; RC: radical cystectomy.

Conclusions: NAC with Gemcitabine and Cisplatin prior to RC was not associated with a greater risk of post-operative complications. These findings require confirmation in a larger cohort.

P80

Clinical Features Of Prostate Cancer In Confirmed *BRCA2* Mutation Carriers

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Background: Approximately 1.2% of prostate cancer cases occur in patients who carry mutations for the BRCA2 gene (BRCA2+). These patients often have a more aggressive prostate cancer with higher rates of cancer-specific mortality. However, there has been no formal compilation of the data for the BRCA2 mutation carrier subset of men. This literature review aims to summarize the current data regarding clinical features and outcomes among BRCA2+ prostate cancer cases.

Methods: A literature review was performed on the NIH PubMed.gov database. The following phrase was used to query this database: "BRCA2 prostate." Inclusion criteria included: at least 5 subjects with genetically confirmed BRCA2 mutations, confirmed non-BRCA1 or BRCA2 mutation controls, data for at least 2 clinical parameters such as age, PSA, Gleason's score, tumor stage; there was no criteria for BRCA2 mutation sub-type. Patient data and tumor characteristics were summarized and used to generate tables and charts.

Results: The average age at diagnosis for BRCA2+ carriers was 61.4 years. At initial presentation, 81.3% of BRCA2+ carriers had PSA>3ng/ml; with unknown cases excluded, 97.4% of BRCA2+ carriers had PSA>3ng/ml. At diagnosis, 60.6% of BRCA2+ carriers had Gleason's score ≥7 (67.5% with unknown cases excluded), and 34.2% of BRCA2+ cases had stage T3-T4 cancer at diagnosis (36.7% with unknown cases excluded). 21.1% had metastatic disease at diagnosis (27.8% with unknown cases excluded). Two studies showed a decreased overall survival among BRCA2+ carriers versus non-carriers, five studies showed higher risks of cancer-specific death among BRCA2+ carriers versus non-carriers.

Discussion: BRCA2+ carriers have been known to have a more aggressive course of prostate cancer with poorer outcomes. This review summates the aggressiveness of the BRCA2+ disease with most cases having an elevated PSA and higher-grade disease at presentation. More than a third of BRCA2+ cases initially present with disease extending beyond the prostatic capsule and nearly 20% are already metastatic. Outcomes are poor for BRCA2+ men with higher rates of mortality from prostate cancer. Based on these findings, there is an implicit need for earlier identification with ongoing surveillance of these patients. Additionally, alternative screening parameters and modalities should be explored.