

Moderated Poster Session IV: Prostate and Testes Cancer Friday, September 24, 11:00 a.m.—Noon

P49

Aggressive Urologic Malignancy in Heart Transplant Recipients

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Background: Urologic malignancies are common after heart transplantation, with prostate cancer (CaP) being the most common solid tumor. To date, there are no studies comparing the aggressiveness of urologic malignancies in heart transplant recipients (HTR).

Methods: We retrospectively reviewed our institution's transplant database to identify patients diagnosed with urologic malignancies following heart transplantation between January 1980 and January 2010. Prostate cancer was detected after routine screening with both digital rectal exam (DRE) and prostate-specific antigen (PSA), whereas renal cell carcinoma (RCC) and bladder cancer (CaB) were diagnosed either incidentally on imaging or upon evaluation for hematuria. Data was analyzed using descriptive statistics.

Results: Among 1250 HTR, 12 patients were found and treated based on elevated PSA levels. One additional CaP case was incidentally discovered on transurethral prostate resection and not treated. Of the 12 CaP patients that were treated, 5 underwent prostatectomy, 6 had radiation, and 1 received both radiation and hormone ablation therapy. The mean time between transplantation and CaP diagnosis was 65 ± 33 months. Nine patients (75%) were biochemically free of recurrence at a mean of 49 months. Three (25%) are alive with disease. No patients died from CaP at a mean follow up of 45 ± 30 months. Four patients were diagnosed with CaB. Three (75%) are dead with disease: 2 after cystectomy were aborted due to metastatic disease and 1 after chemotherapy and radiation. Mean interval between transplantation and CaB diagnosis was 54 ± 33 months. At a mean follow up of 42 ± 46 months, 3 mortalities were attributed to CaB. Two patients were diagnosed with RCC and surgically treated. The mean interval between transplantation and RCC diagnosis was 66 ± 29 months. At a mean follow up of 54 ± 15 months, there was 1 mortality (Table 1).

Conclusion: As in the generalized population, routine PSA testing and DRE appear to be beneficial as screening for CaP in HTR. In our experience, both CaB and RCC appear to be uncommon, but aggressive in HTR. Given the limited number of patients in this cohort, no definitive conclusions can be made. However, patients with signs or symptoms of CaB or RCC should be evaluated in a timely fashion.

P50

Risk of Secondary Malignancy in Patients with Testicular Cancer is Increased with Radiotherapy

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Background: Patients with testicular cancer undergo therapeutic regimens that are known to have deleterious long-term effects. We hypothesized that these patients may have an increased baseline risk for secondary malignancies, and that radiotherapy may further increase their risk of developing certain cancers. We explored the rates of secondary bladder cancer, leukemia and lymphoma, due to their association with ionizing radiation, in testicular cancer patients.

Methods: We retrospectively searched the SEER database for all patients diagnosed with primary testicular cancer between 1973 and 2006. Within

this cohort, we calculated rates of secondary leukemia, lymphoma and bladder cancer via International Code diagnostique-oncology-3 (ICD-O-3) codes. Secondary malignancies were included only if they were diagnosed after the testicular cancer. We calculated overall cohort rates, and cancer rates specifically in those patients that received radiotherapy.

Results: Between 1973 and 2006, there were 20 300 patients diagnosed with a testicular cancer. The median age of diagnosis was 33 years. They were followed for a total of 285 077 person-years, and their median follow up was 13.0 years. Of all patients with testicular cancer, 8590 (43%) received some form of radiation therapy. They were followed for a total of 124 684 years, and their median follow up was 14 years. Of all patients, 139 developed lymphoma or leukemia, and 99 developed bladder cancer. Of those patients who received radiotherapy, 76 developed lymphoma or leukemia, and 56 developed bladder cancer. The calculated rates of lymphoma-leukemia were 48.9 and 61.01 cases per 100 000 persons per year, for all testicular cancer patients and those that received radiotherapy, respectively. These rates were 15.3% and 44% higher than national cancer institute published rates. The calculated rates of bladder cancer were 34.7 and 44.0 cases per 100 000 persons per year, for all testicular cancer patients and those that received radiotherapy, respectively. These rates were 6.5% lower and 19% higher than national averages.

Conclusions: We acknowledge that the limitation of this study was that we were unable to discern who received chemotherapy. However, in our analysis patients with testicular cancer had an increased rate of leukemia and lymphoma, which was augmented by radiotherapy. Thus, patients should be counselled accordingly as to the risks of radiotherapy, and should be closely followed for life given the potential development of secondary malignancy.

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Stage Specific Population-based Trends of RPLND Use

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Introduction: No data are available regarding the use of retroperitoneal lymph node dissection (RPLND) across all stages of non-seminomatous germ cell testicular tumors (NSGCTT) in the community. We examined the rates of RPLND use in this patient subset in a large population-based cohort.

Materials and Methods: Between 1988 and 2006, 9633 patients with NSGCTT were treated with or without an RPLND within 17 Surveillance, Epidemiology and End Results (SEER) registries. Analyses focused on annual trends (1988-1992, 1993-1997, 1998-2002, 2003-2006) and univariable and multivariable logistic regression models, stratified according to disease stage. Analyses were adjusted for patient age, race (white, black, other), socio-economic status (low vs. high) and SEER region.

Results: Overall 2620 (27.2%) of 9633 NSGCTT patients underwent an RPLND (1988-1992: 34.7%, 1993-1997: 29.5%, 1998-2002: 27.6%, 2003-2006: 22.2%; X² trend $p < 0.001$). In patients with stage I NSGCTT, the

Table 1. P49. Urologic Malignancy in Heart Transplant Recipients

	Cancer type	Clinical Stage	Gleason Score/ or Grade ¹	Treatment	Outcome	Transplant- cancer interval (months)	Follow-up after cancer (months)
1	Prostate	T2bNxMx	3+4=7	RRP ²	Alive, NED ⁵	104	60
2	Prostate	T1cNxMx	3+4=7	Radiation	Dead, NED ⁵	55	42
3	Prostate	T2bNxMx	3+4=7	RRP ²	Alive, NED ⁵	67	111
4	Prostate	T2bNxMx	3+4=7	RAP ³	Alive, NED ⁵	91	29
5	Prostate	T1cNxMx	3+4=7	Radiation	Dead, NED ⁵	61	61
6	Prostate	T2aNxMx	4+4=8	Radiation	Alive, with tumor	23	59
7	Prostate	T1cNxMx	3+4=7	Radiation	Alive, NED ⁵	110	14
8	Prostate	T1cNxMx	3+4=7	RRP ²	Dead, NED ⁵	18	51
9	Prostate	T2bNxMx	4+5=9	XRT + Hormone Tx ⁴	Alive, with tumor	50	11
10	Prostate	T1cNxMx	3+4=7	Radiation	Dead, NED ⁵	43	71
11	Prostate	T1aNxMx	2+3=5	No Tx ⁴	Alive	47	61
12	Prostate	T1cNxMx	3+3=6	RRP ²	Alive, NED ⁵	125	3
13	Prostate	T1cNxMx	3+3=6	Radiation	Alive, with tumor	47	13
14	Bladder	T2bNxMx	High Grade	Chemo & radiation	Dead, with disease	97	40
15	Bladder	T1NxMx	Low Grade	TURBT, intavesical BCG	Alive, NED ⁵	52	107
16	Bladder	T3aNxM0	High grade	attempted radical cystoprostatectomy (unresectable)	Dead, with disease	50	17
17	Bladder	T4aNxM1	High Grade	attempted radical cystoprostatectomy (metastatic)	Dead, with disease	16	4
18	Renal	T1aNxMx	Intermediate Grade	partial nephrectomy	Alive, NED ⁵	86	64
19	Renal	T2NxMx	High Grade	radical nephrectomy - -> chemo/ XRT	Dead, recurrence	45	43

1. Grade (Fuhrman grade for RCC)
2. RRP (radical retropubic prostatectomy)
3. RAP (robotic assisted prostatectomy)
4. Tx (treatment)
5. NED (No evidence of disease)

overall rate of RPLND was 22.4% (1988-1992: 18.4%, 1993-1997: 23.5%, 1998-2002: 32.4%, 2003-2006: 25.7%; X2 trend $p < 0.001$). In patients with stage II NSGCTT the rate of RPLND was 50.1% (1988-1992: 20.9%, 1993-1997: 18.5%, 1998-2002: 31.8%, 2003-2006: 28.8%; X2 trend $p = 0.003$). Finally in patients with stage III NSGCTT the overall rate of RPLND was 13.1% (1988-1992: 15.0%, 1993-1997: 19.0%, 1998-2002: 32.3%, 2003-2006: 33.6%; X2 trend $p = 0.983$). In multivariable logistic regression models that focused on stage I patients, year of surgery ($p < 0.001$) and SEER registry ($p < 0.001$) represented independent predictors of RPLND. In patients with stage II, year of surgery ($p = 0.01$)

remained an independent predictor of RPLND.

Conclusion: Population based trends indicate a decreasing rate of RPLND use. This decrease is most apparent in stage I patients where a 55.1% drop was recorded. It may be attributable to wider use of surveillance and/or chemotherapy. Less pronounced decrease was also recorded in stage II patients (19.1% drop) and is attributable to the wider use of chemotherapy as monotherapy. The RPLND rates did not change for stage III patients.

P52**Decreased Survival of Black Americans with Testicular Cancer: A Contemporary Population-based Analysis**

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Purpose: A previous report (Journal Urology; Bridges P, Sharif R, Razaq A, Guinan P; 1998) indicated that Black Americans have worse survival after the diagnosis of testicular cancer (TC) than their White counterparts. We re-examined the association between race and survival in a large population-based dataset.

Materials and Methods: Between 1998 and 2006, 2221 men were diagnosed and treated for metastatic Testicular Germ Cell Tumors (TGCT) (Seminoma and Non-Seminoma). Analyses focused on the association between Black American race and overall mortality (OVM) and consisted of univariable and multivariable Cox Regression models. Analyses were adjusted for age, year of diagnosis (1988-1995, 1996-2000, 2001-2003, 2004-2006), affluence level (low, high), income level (low, high), education level (low, high), histological subtype (Seminoma, Non-seminoma,) type of intervention (orchiectomy ± RPLND, no surgical intervention) and SEER registry.

Results: Of 2221 patients with metastatic TGCT, 80 (3.6%) were Black Americans, 2019 (90.9%) were White Americans and 122 (5.3%) were from other ethnicities. The 5-year OVM was 38.0%, 25.0% and 27.8% for respective Black Americans, White Americans and Other Ethnicities (Black vs. White; $p = 0.018$, Other vs. White; $p = 0.3$, Black vs. Other $p = 0.3$). Black American race was associated with a 1.6-fold and 1.5-fold higher overall mortality when compared to White Americans in univariable and multivariable analyses respectively.

Conclusions: Overall mortality rate is 1.6 and 1.5-fold higher in Black American patients with metastatic TGCT relative to White Americans. This disparity in overall mortality rate relative to White American patients with TGCT deserves attention.

P53**Toremifene 80 mg Demonstrates Reduction in Fracture Risk in Men who are Less Than 80 Years of Age on Androgen Deprivation Therapy**

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Background: The use of androgen deprivation therapy (ADT) in prostate cancer is associated with increased fracture risk. Previously we demonstrated in a Phase III trial that toremifene, a selective estrogen receptor modulator (SERM), significantly decreased fracture incidence in men receiving ADT. Similar to other SERMs, there was an increase in venous thromboembolic events (VTEs). This risk appeared to stratify to men ≥ 80 years of age. VTEs occurred in 1.5% and 2.5% of men < 80 , ≥ 80 respectively. To identify a patient population with the greatest benefit/risk profile we assessed the effect of toremifene in men < 80 years.

Methods: In this analysis of men < 80 years of age receiving ADT for prostate cancer, 430 men received toremifene 80 mg and 417 received placebo (orally daily). All subjects were on ADT for ≥ 6 months, had a serum PSA ≤ 4 ng/mL, were ≥ 70 years of age or were at or below WHO thresholds for spine or hip (BMD). The primary endpoint was new vertebral fractures. Secondary endpoints included fragility fractures and bone mineral density (BMD).

Results: Toremifene 80 mg demonstrated a 79.5% relative risk reduction in the incidence of new vertebral fractures (CI_{0.95}: 29.8%-94.0%; $p < 0.005$). The absolute reduction was 3.8% (4.8% placebo, 1.0% toremifene). Toremifene 80 mg significantly increased BMD at all sites

measured ($p < 0.001$ for all comparisons). There was a concomitant decrease in markers of bone turnover ($p < 0.001$ for all comparisons). Venous thromboembolic events occurred in 2.1% of the toremifene patients compared to 1.0% ($p = 0.26$) of the placebo patients. Other adverse events were similar between groups.

Conclusions: In men < 80 years receiving ADT for prostate cancer, toremifene significantly decreased the incidence of new vertebral fractures. Toremifene also significantly improved BMD, bone turnover markers, and breast pain and tenderness. The risk of VTE was lower than in the overall study population. These results suggest an improved benefit/risk profile in men < 80 years receiving ADT.

P54**Effect of Posterior Reconstruction of the Rhabdosphincter on Early Postoperative Continence Following Robotic Assisted Radical Prostatectomy: A Comparison of Two Matched Groups**

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Background: Predicting the time to recovery of urinary continence after radical prostatectomy (RP) remains an impossible task. The causes for the challenge are the multifactorial nature of incontinence, some of which have been studied at length and others not studied thoroughly. Patient's age, urinary function & the degree of neurovascular bundle preservation have been shown as independent predictors of post-RP urinary continence. To evaluate the role of reconstructing the posterior aspects of the rhabdosphincter (RS) for a more rapid recovery of continence after robotic assisted radical prostatectomy (RARP); two age matched groups were compared at 90 and 180 days after catheter removal.

Methods: 110 patients were matched from two consecutive series, one with RARP reconstruction of the RS & one without. The patients were matched regarding age, nerve sparing and baseline continence. The patients were evaluated using a QOL questionnaire score for continence. At 3 and 6 months after catheter removal mean QOL scores and number of pads/day of both sets were compared. The procedure involved restoring the continuity of the severed ends of the Denonvilliers' fascia. The preserved reflection of the Denonvilliers' fascia dorsal to the bladder neck was sutured to the distal end at the urethral stump, attached to the posterior rhabdosphincter.

Results: No significant difference in age, preoperative quality of life (QOL) scores & nerve preservation between both sets was found between both sets of patients (p -value 0.99, 0.84 & 0.65 respectively). However a significant difference between both sets was observed in the mean QOL scores and number of pads used at 3 and 6 months (p values < 0.001). Fisher's exact also showed a significant difference between the frequency of pad use among both sets at 3 months and 6 months (p -values are < 0.0001). Regression analysis of all the variables on QOL scores recorded that reconstruction of the RS, time & their interaction had a significant positive impact on postoperative continence, (p -values < 0.0001 , < 0.0001 and 0.028, respectively).

Conclusions: With elimination of other variables affecting postoperative continence, posterior reconstruction of the RS could be considered an effective technique for early continence recovery after RARP.

P55**Integrated Safety Results from 4 Randomized, Double-Blind, Placebo-Controlled Studies of Sipuleucel-T**

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Background: Sipuleucel-T is an investigational autologous active cellular immunotherapy. Three Phase 3 studies in metastatic castration-resistant prostate cancer (CRPC) provided evidence of survival prolongation, and a randomized trial in androgen dependent prostate cancer (ADPC) demonstrated an increase in PSA doubling time. We now describe the safety profile of sipuleucel-T across these 4 studies.

Methods: Patients were randomized (2:1) to receive 3 intravenous (IV) doses of sipuleucel-T or placebo in the outpatient setting at 2-week intervals at medical oncology and urology sites. Patients on the ADPC trial were eligible for a single booster infusion following PSA ≥ 3.0 ng/mL. The safety population included 904 patients (601 sipuleucel-T: 303 placebo) who underwent at least 1 leukapheresis.

Results: The majority of patients were Caucasian (90.6%) and had a baseline ECOG performance status of 0 (83.4%); the median age was 70. 93% of patients in the safety population received all 3 infusions. Adverse events (AEs) seen more commonly in sipuleucel-T patients were chills (53.1%), pyrexia (31.3%), headache (18.1%), myalgia (11.8%), influenza-like illness (9.7%), and hyperhidrosis (5.0%). The majority of these AEs occurred ≤ 1 day following infusion, were mild or moderate, and resolved in ≤ 2 days. AEs following booster infusion were comparable to the initial infusions. Grade 3 acute infusion reactions (AIRs), including chills, pyrexia, fatigue, asthenia, dyspnea, hypoxia, bronchospasm, dizziness, headache, hypertension, myalgia, nausea, and vomiting, occurred in 3.5% of sipuleucel-T and 0% of placebo patients. The incidence of Grade 3 AIRs was 0.8%, 2.1%, and 1.3% following the 1st, 2nd, and 3rd infusions of sipuleucel-T, respectively. AIRs were treated with acetaminophen, IV H1 and H2 blockers, and IV meperidine. No Grade 4 or 5 AIRs were observed. There was no evidence of an increased incidence of autoimmune events or secondary malignancies. Cerebrovascular events (CVEs) occurred in 3.5% of sipuleucel-T and 2.6% of placebo patients or 2.010 (95% CI: 1.25, 3.08) and 1.50 (95% CI: 0.65, 2.96) per 100 person-years, respectively ($P = 0.48$). No evidence of a difference in the time to onset of CVEs or in the incidence of non-neurologic arterial or venous vascular events was observed.

Conclusions: Sipuleucel-T is well tolerated in both the CRPC and ADPC settings. Acute infusion reactions can be managed in the outpatient setting.

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Therapeutic Value of Lymph Node Dissection at Radical Prostatectomy: A Population-based Retrospective Study

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Background: The therapeutic benefit of pelvic lymph node dissection (PLND) at radical prostatectomy is still under debate. The overall effect of standard or extended node dissection on prostate cancer survival outcomes are complicated by variation in patient populations and study outcomes in most retrospective reviews. We report our findings of therapeutic effect of PLND for Ontario patients after radical prostatectomy.

Methods: The information sources for the study included electronic clinical data such as the Ontario Cancer Registry (OCR) and supplemented through an extensive chart review conducted by trained abstractors according to a standardized protocol. We used a retrospective case-cohort approach to assess the effect of lymph node removal on prostate cancer-specific mortality. A parent study population included a random sample of 1703 patients treated for cure in Ontario between 1990 and 1998, as well as 591 cases selected based on death from their prostate cancer within 10 years of diagnosis. From this group 313 patients meeting inclusion criteria for this study were identified. A Cox-proportional hazards model was used to determine the association between number of lymph nodes removed and risk of prostate cancer death, considering baseline disease characteristics, treatment and age as potential confounders. In a secondary analysis, the results were stratified based on nodal status.

Results: The crude hazard ratio (HR) showed a marginally statistically significant reduced risk of prostate cancer mortality as the number of LN removed via PLND increased (HR: 0.92, 95% CI: 0.84-1.01). None of the variables considered as confounders caused a change in the LN hazard ratio of greater than 10% and therefore were not included in the

adjusted model. Stratification based on pathological nodal status did not significantly ($>10\%$) change the HR.

Conclusion: These results seem to confirm a trend to therapeutic benefit of greater node removal with reduced prostate cancer mortality although the study was slightly underpowered. In this case-control study design of mostly low-to-intermediate risk patients in Ontario, the possible therapeutic benefit of PLND was found to be independent of pathological nodal status.

P57

Trans-rectal Ultrasound Volume Estimation: How Much Can it be Trusted when Choosing the Best Treatment for Localized Prostate Cancer?

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Background: There are many novel techniques to treat localized prostate cancer. Almost all use prostate volume as a cut-point to obtain better results. Imaging methods (computed tomography, magnetic resonance, ultrasound) may have a wide measurement variability between each other. We have compared reports of trans-rectal ultrasound (TRUS) and digital rectal examinations (DRE) with the actual dimensions and weight of prostate specimens after radical prostatectomy; other than the usual "ellipsoid shaped formula," we also used a new "bullet shaped formula" for validation.

Methods: During 18 months, three dimensions (height, width and length) were obtained from 150 fresh specimens after radical prostatectomy and before formalin fixation. The prostate gland was also weighted. In this study, those values were compared with transrectal ultrasound measurements. Each TRUS measurement was compared to fresh specimen dimensions to evaluate which were more susceptible to errors. Clinical patterns were analyzed to verify the main reasons of error.

Results: Median age was 61 years old. Gleason score 6 or 7 was observed in 44.7% and 42.0%, respectively. Clinical stage T1c or T2a was present in 88.7% of cases. Laparoscopic or open radical prostatectomy was done in 64% and 34% of cases, respectively. When evaluating the DRE data, there was a clear tendency by the clinician to overestimate small (<40 g) and underestimate big prostates (>60 g). The overall rate of precise measurements (error less than 10%) was 21.3%, 22.0% and 31.3% for DRE, TRUS (ellipsoid shaped formula) and TRUS (bullet shaped formula). The "bullet shaped formula" got results closer to the actual volume when compared to "ellipsoid shaped formula" and DRE. The dimension with fewer errors was width. When correlating subgroups with error or not and clinical-pathological features (PSA, Gleason score, margins, extracapsular extension, clinical stage), no predictor for inaccuracy during TRUS could be identified.

Conclusion: The prostate measurements obtained using TRUS are often inaccurate. However, the bullet-shaped formula demonstrated better volume measurement accuracy. The height and length dimensions have a larger degree of error. The DRE tend to aggregate the cases between 30 and 60 g, under or overestimating the others. In light of the findings, further caution is necessary when using prostate volume as main criteria to include or exclude non-surgical treatments as therapeutic choice for localized prostate cancer.

P58

The Natural History and Cause of Death of Men in Whom Metastatic Prostate Cancer Developed Following Radical Prostatectomy

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Background: Recently authors in the breast cancer domain have shown that in patients with metastases, primary tumor pathological characteristics do not predict outcomes as well as previously thought. Thus, we analyzed classical predictors of disease progression in a mets-only cohort from time of distant recurrence after prostatectomy. Moreover, we report the chronologic history of progression from RP to metastatic disease to death, and assess competing risks of death in this unique group of patients.

Methods: Between 1954 and 1997, 1004 consecutive patients underwent radical prostatectomy at Virginia Mason Medical Center in Seattle, Washington. Kaplan Meier survival analysis were used to analyze time to metastases (METS) and death. Univariate and multivariate Cox regression models addressed the prognostic significance of METS on death and PC-specific death. Washington State death certificates were obtained to assess cause of death.

Results: Of all patients, 99 (9.9%) had METS. The actuarial METS-free survival for all 1004 men was 81% (95% confidence interval [CI], 78-84%) 20 years after surgery. Median time to METS after surgery was not reached for the entire cohort. Of all patients, METS were predictive of PC-specific death on univariate (HR=27.3, $p < 0.001$) and multivariate (HR=10.0, $p < 0.001$) Cox Regression. Of those with documented biochemical recurrence (BCR), median time from BCR to METS was 2.7 years (95% CI, 2.5-3.0). Of those with METS, median time from surgery to METS was 6.7 years (95% CI, 5.6-7.7), and mean time from METS to death was 5.0 years (95% CI, 4.5-5.9). Of those with METS, only pre-op PSA was predictive (HR=1.1, $p < 0.05$) of PC-specific death on Cox regression. On multivariate analysis, PSA was no longer significant ($p = 0.05$). However, PSA was predictive of overall death on adjusted analyses, but pathological Gleason was not. Of all patients with METS, 77 (77.7%) died. Of those, 71% were PC-specific, 10.4% cardiovascular, 5.2% pulmonary, 4% lung cancer, and 12% other.

Conclusions: The minority of men will develop metastatic disease. The risk of metastases was predicted by classical pathological predictors. However, once men develop metastases, their risk of dying of their disease is unrelated to their initial grade and stage. In addition, the median time from mets to death in our study was shorter than reported in previous studies and maybe due to later time of diagnosis of mets for some in the pre-PSA era. Finally, a third of patients will die of competing risks, which is important to recognize when planning treatment for these men.

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Is Post chemotherapy Retroperitoneal Lymphadenectomy Necessary after Complete Response

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Background: Post chemotherapy retroperitoneal lymph node dissection (pcRPLND) for residual retroperitoneal disease is the standard of care for non-seminomatous germ cell tumours. The management of men whose retroperitoneal disease completely responds (CR) by imaging to chemotherapy is more controversial. Some centres recommend RPLND to remove microscopic disease that may progress to late relapse. We have retrospectively evaluated our experience with the management of patients who presented with retroperitoneal (RP) metastases and who underwent initial chemotherapy. **Methods:** The charts of the 305 consecutive patients from the Princess Margaret Hospital Testis Tumor Clinic who presented to the clinic with RP adenopathy and received initial chemotherapy were reviewed. **Results:** Of these 305 men, 131 (42.9%) achieved a CR in the RP as assessed by imaging (defined as residual adenopathy < 1 cm in maximal axial dimension) and were observed. Nine (6.8%) later relapsed and all were salvaged (6 RPLND only, 2 salvage chemotherapy+RPLND, 1 RPLND+chemotherapy). Full bilateral pcRPLND with postganglionic sympathetic nerve preservation where possible was done in 144 men with residual RP disease. Thirty (30) did not achieve an initial response of whom 50% died of disease. **Conclusions:** Our experience in unique in that we report the outcomes of all men who present with RP adenopathy managed by initial chemotherapy and not just those who either undergo RPLND or are managed expectantly. In our total experience, 42.9% achieved a CR in the RP. Without further therapy (pcRPLND), only 6.8% of these patients relapsed and all were salvaged. Our experience strongly supports continuing surveillance as opposed to surgery in this population of CR after chemotherapy.

P60

Outcomes of Patients with Localized Prostate Cancer Treated with Radical Prostatectomy: The experience of a Single Canadian Institution

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Introduction and Objectives: Surgery and radiation are both standard treatment options in the management of localized or locally extensive prostate cancer. Few direct comparisons of these 2 modalities have been performed. Coinciding with the opening of the Ottawa Prostate Cancer Assessment Center the aim of this study is to analyze the surgical outcomes of patients treated at the Ottawa Hospital. A parallel analysis will be performed by radiation oncology in patients treated with radiotherapy.

Methods: Between April 1995 and October 2007, 570 patients underwent open radical prostatectomy (RP) at the Ottawa Hospital - Civic Campus. Of these, 434 did not receive pre-operative androgen ablation, had complete clinical data, and thus were included in analysis. Two definitions of biochemical recurrence (BCR) were considered, PSA > 0.2 ng/mL and PSA > 0.4 ng/mL. Additionally, patients receiving post-operative radiotherapy or hormones were considered primary treatment failures.

Results: Five and Ten year recurrence free survival was 79% (95% CI 73-84%) and 72% (95% CI 62-80%) with BCR > 0.2 ng/mL compared to 82% (95% CI 77-87%) and 80% (95% CI 73-86%) with BCR > 0.4 . Clinical stage, pre-treatment PSA and biopsy Gleason sum were significant predictors of disease recurrence.

Conclusion: These results provide local validation of the effectiveness of Radical Prostatectomy in the management of men with localized prostate cancer. We await the results of men treated with radiotherapy during this time period. This information can be used to counsel patients being evaluated in the Prostate Cancer Assessment Center.

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Comparative Cost-Analysis of Robotic-Assisted Laparoscopic Prostatectomy and Open Prostatectomy

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Background: Radical prostatectomy accounts for approximately one-half of the \$1.7 billion cost of prostate cancer treatment. Utilization of robotic-assisted laparoscopic prostatectomy (RALP) has increased rapidly. The cost efficacy of RALP remains undetermined.

Objective: To perform a comparative cost-analysis of RALP and open radical prostatectomy (RRP).

Methods: We retrospectively reviewed all patients undergoing RALP (n = 25) or RRP (n = 55) by one of four surgeons at a single institution over a 3 month period. Hospital length of stay (LOS), operative time, hospital charges, reimbursement, and direct and indirect hospital costs were analyzed and compared. Ratio of costs-to-charges (RCC) rates was applied to each charge amount to calculate costs. Detailed cost information was obtained according to charge origin.

Results: Mean LOS between patients undergoing RALP (1.2 ± 0.5 days) and RRP (1.6 ± 0.6 days) was comparable ($p > 0.05$). Mean OR time was 48% longer in patients undergoing RALP (277.5 ± 97 minutes) compared to RRP (187 ± 86 minutes). Mean total costs for RALP exceeded the total costs for RRP by 71% (\$13,992 vs. \$8,180; $p < 0.05$). Most of the difference was due to surgical supply and operating room costs (\$11,425 RALP vs. \$4,054 RRP; $p < 0.05$). Total nursing costs were significantly greater for RRP than for RALP (\$2,240 vs. \$834; $p < 0.05$). 36% of the total costs associated with robotic prostatectomy were related to the robotic technique (\$2000 direct, \$3000 indirect). The ancillary, cardiology, imaging, administrative, laboratory and pharmacy costs were not significantly different.

Conclusions: In this single institution analysis, total actual costs associated with RALP were significantly greater than costs for RRP. Higher operating room costs account for the increased cost of RALP. These data require validation among a larger cohort.