



Veterans Affairs Urological Forum

AUA NATIONAL MEETING 2018

SUNDAY, MAY 20, 2018

1:00 PM – 5:30 PM

APPETIZERS • BEVERAGES

ROOM 2014/2016
MOSCONE CENTER WEST
SAN FRANCISCO, CA

AGENDA:

1:00 - 1:15 PM:

REGISTRATION, REFRESHMENTS, EXHIBITS

1:15 - 1:25 PM:

WELCOME & USAV UPDATE

- Jeffrey A. Jones, MD, President USAV (Chief of Urology, Houston VA Medical Center / Professor, Baylor College of Medicine)

1:25 - 1:40 PM:

OPERATIONAL EFFICIENCY TO ADDRESS HIGH VOLUME CONSULTS AT THE VA

- Mutta M. Issa, MD, MBA, Vice President USAV (Chief of Urology, Atlanta VA Medical Center / Professor of Urology, Emory University)

1:40 - 2:10 PM:

BUSINESS MEETING – USAV OFFICERS

2:10 - 2:30 PM:

BUSINESS WRAPUP & DISCUSSION OF FUTURE USAV EVENTS

2:30 - 3:00 PM:

POSTER SESSION / ANNOUNCE & MEET WITH SPONSORS

3:00 - 3:30 PM:

GENOMIC STRATIFICATION OF PROSTATE CANCER RISK
(INDUSTRY SPONSORED BY GENOMIC HEALTH)

Updated Nccn Guidelines / Arv7 -Mcrpc Treatment Decisions

- Steven E. Canfield, MD (Associate Professor & Chair, Div. of Urology, McGovern Medical School / Univ. of Texas Health Science Center, Houston)

Oncotype Dx GPS – VA Pilot Publication

- Julie Lynch, PhD, RN, MBA (Research Scientist, VINCI Services VA Salt Lake City Healthcare System)

3:35 - 3:42 PM:

**2018 SGSU KIMBROUGH MEETING HIGHLIGHTS & 2019
MEETING WITH NEW USAV SESSION INFORMATION
(KONA, HI)**

- Steven J. Hudak, MD (Lieutenant Colonel USA / Young Urologist
Committee Chair SGSU)

3:42 - 3:50 PM:

PARASTOMAL HERNIA MANAGEMENT

- Timothy F. Donahue, MD (Imm. Past President SGSU / Memorial Sloan
Kettering Cancer Ctr., New York, NY)

3:50 - 4:00 PM:

**PROSTATE BIOPSY STRATEGIES TO REDUCE
COMPLICATIONS**

- Sean Stroup, MD, CDR, USN (Director of Uro-Oncology Naval
Medical Center. San Diego)

4:00 - 5:20 PM:

ABSTRACT PRESENTATIONS

Scientific Program Committee:

- Danil Makarov, MD (Scientific Committee Chair)
- Jennifer Taylor, MD (Scientific Committee Chair)

Moderators:

- Kirsten Greene (San Francisco VA)
- Kristin Chrouser (Ann Arbor VA)

Abstract Committee Recognition:

- Robert Grubb, MD (MUSC/Charleston VA)
- Florian Schroeck, MD (Dartmouth/White River Junction VA)
- Marc Rogers, MD (MUSC/Charleston VA)

5:20- 5:27 PM:

PRIZES & AWARDS

5:27- 5:29 PM:

SUMMARY & RECOGNITION

5:30 PM:

**MEETING ADJOURNED – CONTINUE NETWORKING /
MEET WITH SPONSORS**

2018 USAV OFFICERS:

EXECUTIVE COMMITTEE

President: Jeffrey A. Jones, MD (Chief of Urology, Houston VA Medical Center / Professor, Baylor College of Medicine)

Vice President/President Elect: Muta Issa, MD, MBA
(Chief of Urology, Atlanta VA Medical Center / Professor of Urology, Emory University)

Secretary: Debora Moore, MD (SBYVAMC, Salisbury, NC)

Treasurer: Krishnanath Gaitonde, MD (VHACIN)

Member At Large: John Leppert, MD (Palo Alto, CA)

OTHER POSITIONS:

VA Member at Large, Liaison to SGSU Board: Deborah Moore, MD

USAV Representative, SGSU Board Member: Jeffrey Jones, MD

AUA Liaison: Robert Moore, MD

Bylaws Committee: Robert Moore, MD, Muta Issa, MD, Jeffrey Jones, MD

SCIENTIFIC PROGRAM COMMITTEE 2018

Program Chairs:

Danil V. Makarov, MD (VANYHHS, New York, NY)

Jennifer Taylor, MD (MEDVAMC, Houston, TX)

Moderators:

Kirsten Greene, MD (San Francisco VA)

Kristin Chrouser, MD (Ann Arbor VA)

Abstract Selection Committee:

Robert Grubb, MD (MUSC/Charleston VA)

Florian Schroeck, MD (Dartmouth/White River Junction VA)

Marc Rogers, MD (MUSC/Charleston VA)

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MEETING SPONSORS



Organizational support provided by:
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Society of Government Service Urologists

ABSTRACTS:

DOES PROSTATE MRI IMPROVE PATIENT ADHERENCE TO FOLLOW UP TESTING IN AN ACTIVE SURVEILLANCE PROTOCOL?

Xiaosong Meng, MD, PhD*; Benjamin Press, BS*; Andrew B. Rosenkrantz, MD*; Richard Huang, BS*; Fang-Ming Deng, MD, PhD*; Samir S. Taneja, MD*
New York, NY (Presentation to be made by Dr. Meng)

Introduction and Objective: The use of active surveillance (AS) for management of low risk prostate cancer (PCa) is rising given studies demonstrating excellent cancer-specific survival. However, patient and physician adherence to AS guidelines for prostate-specific antigen (PSA) frequency and prostate biopsy (PBx) is often poor. We have postulated that use of annual prostate magnetic resonance imaging (MRI) in place of PBx may help improve patient adherence to follow-up (f/u) testing as it is less invasive. In this study, we evaluate the interim outcomes and adherence to an MRI-based AS selection and f/u protocol.

Methods: Between June 2012 and July 2017, 199 patients with a prior diagnosis of PCa on systematic biopsy (SB) presented to a single surgeon for possible enrollment in AS. An additional 799 patients presented for PBx with elevated PSA. Patients with low risk PCa detected on combined SB and (MRI/ultrasound fusion-targeted biopsy) MRF-TB were enrolled into our AS program and included in a prospective data registry. Patients were counseled on our AS protocol of semi-annual PSA and annual prostate MRI, with scheduled PBx at year 1 and 6, and for cause PBx as needed.

Results: A total of 205 patients were enrolled in our AS program following initial MRF-TB, of which 153 with minimum 1 yr f/u were evaluable. Adherence to yr 1 MRI and PBx was 93.4% and 67% with an average follow up time of 1.1 and 1.4 yr, respectively. Adherence for subsequent MRI and PSAs are shown in Table 1. There was no significant difference in prostate imaging reporting and data system (PI-RADS) score between men adherent to MRI compared to those were not adherent. PSA follow up results demonstrated an average velocity of 0.36 ng/ml per yr, with stable adherence to semi-annual PSA after year one. To date, 5.9% of patients were lost to f/u, 21.5% underwent treatment, and 111/153 (72.5%) remain on AS.

Conclusions: Over time, we noted a serially declining rate of adherence to f/u MRI, but very good adherence to surveillance by PSA, with very low rates of men lost to f/u after yr 2. Surprisingly, decreases in MRI adherence did not correlate with PI-RADS score. We postulate that as time on AS increases, some men with stable serial MRIs may feel reassured and chose not to pursue further imaging, but remain compliant with continued f/u and monitoring by PSA.

APPROPRIATE SCREENING FOR UROLOGIC COMPLICATIONS AFTER SPINAL CORD INJURY IN A NON-DESIGNATED SPINAL CORD INJURY CENTER VETERANS AFFAIRS HOSPITAL

Alyssa Greiman MD*, Rohail Kazi BS*, Hayden Hill MD*, Lindsey C. Cox MD*
Charleston, SC:

Presentation to be made by Dr. Alyssa Greiman

Introduction and Objective: Surveillance for common urologic complications after spinal cord injury (SCI) is not consistent, without consensus among clinical practice guidelines. The Paralyzed Veterans of America has issued a clinical practice guideline with recommendations including a yearly urologist visit, a serum creatinine, and a renal ultrasound. These recommendations are the least intensive urologic follow-up of the various other clinical practice guidelines for SCI. We present adherence to these screening guidelines at a non-designated SCI center as a bellwether for urologic care after SCI.

Methods: We identified all patients with documented SCI seen at the Ralph H. Johnson VA Medical Center between January 2014 and December 2015 and evaluated whether patients received an urologist visit, serum creatinine measurement and upper tract imaging during the study period.

Results: 99 patients were identified with SCI [Demographics in Table 1]. 49% of patients had a complete urologic surveillance. Those patients with a complete evaluation did not live closer to the care facility ($p=0.40$) or the designated SCI center in Augusta ($p = 0.13$). There was no difference in age ($p=0.18$), race ($p=0.64$), SCI level ($p=0.16$) ASIA impairment ($p=0.39$), ambulatory status ($p=0.27$), comorbidities ($p=0.83$) or bladder management ($p=0.14$). Those with a complete evaluation were more likely to have had a urology visit ($p<0.0001$), to have had cystoscopy ($p=0.001$), cytology ($p=0.03$), and urodynamics ($p<0.00001$). There was no difference in hospitalization for urinary tract infections in those who had a complete evaluation and those who did not (18.4%, $p=0.09$).

Conclusions: Surveillance for common urologic complication after spinal cord injury per the Paralyzed Veterans of America clinical practice guideline including a yearly urologist visit, serum creatinine and upper tract imaging was performed in 49% of Veterans with SCI seen at a single non-designated SCI center Veterans Affairs Hospital. There were no identifiable predictive factors to aid in determining who is most likely to receive a complete evaluation.

VARIANT HISTOLOGY IS INDEPENDENTLY ASSOCIATED WITH POOR OVERALL SURVIVAL IN PATIENTS UNDERGOING RADICAL CYSTECTOMY FOR MUSCLE-INVASIVE BLADDER CANCER

Alexander A. Parker, Joel Vetter, Yifan Meng, Vivek Arora, Brian Baumann,
Robert Grubb, Eric Kim

Washington University in St. Louis – Department of Urology, St. Louis, MO

Introduction and Objective: Variant histology is associated with poor prognosis in muscle-invasive bladder cancer (MIBC); however, it remains unclear if this association is independent of tumor stage. We sought to evaluate the overall (OS) and disease free survival (DFS) of patients receiving cystectomy (RC) at our institution, based on histological findings.

Methods: We identified 479 patients who underwent RC for MIBC from January 2010 to December 2016. Variant histology included micropapillary, squamous, adenocarcinoma, small cell, and sarcomatoid (n=45). Clinical variables used included age, body mass index, operative time, estimated blood loss, length of stay, lymph node yield, Charlson comorbidity index (CCI), final pathological stage, length of stay (>10 days), margin status, 30-day complication rate, and receipt of neoadjuvant chemotherapy. Kaplan-Meier estimated survival curves were generated for the primary outcomes, OS and DFS, and a Cox proportional hazards model was utilized to identify factors that predicted survival.

Results: Kaplan-Meier survival curves are provided in Figure 1. Variant histology was associated with poor OS ($p=0.002$) and DFS ($p=0.011$) when compared with urothelial histology in patients receiving cystectomy for MIBC. Variant histology remained a predictor of OS (HR 1.6, $p=0.04$) but not DFS (HR 1.6, $p=0.08$) on multivariate analysis when controlling for pathologic stage and patient comorbidity. Pathologic stage was the strongest predictor of OS (T2: HR 4.3, $p<0.001$, T3: HR 7.9, $p<0.001$, and T4: HR 11.4, $p<0.001$) and DFS (T2: HR 6.3, $p<0.001$, T3: HR 17.6, $p<0.001$, and T4: HR 22.9, $p<0.001$).

Conclusion: In our experience, variant histology is independently associated with OS but not DFS in patients who received RC for MIBC. This association persists when controlling for final pathologic stage. However, final pathologic stage remains the strongest predictor of both OS and DFS.

RADICAL CYSTECTOMY PROVIDES A SURVIVAL BENEFIT IN ELDERLY PATIENTS WITH T2 BLADDER CANCER

Michael Chevinsky, MD*; Joel Vetter, MS*; Niraj Badhiwala, MD*; Vivek Arora, MD*; Brian Baumann, MD*; Eric Kim, MD*; Robert Grubb, MD
St. Louis, MO:

Presentation to be made by Dr. Michael Chevinsky

Introduction and Objective: Radical cystectomy (RC) is the standard of care for patients with muscle-invasive bladder cancer (BCa). In elderly patients RC may pose a considerably higher risk of perioperative morbidity and mortality compared with alternative therapies. The current study aims to compare elderly patients with clinical T2 (cT2) BCa who underwent RC to those who did not.

Methods: A review of a prospectively maintained institutional database identified 115 patients over age 75 diagnosed with cT2 BCa between July, 2010 and December, 2016. Patients who underwent RC were compared with those treated with alternative therapies with respect to patient characteristics, Adult Comorbidity Evaluation-27 (ACE-27), a comorbidity index validated in cancer patients, chemotherapy and radiation status, and overall survival (OS). In patients who underwent RC, OS was calculated at time from surgery in order to minimize lead time bias; for patients who did not undergo RC it was calculated from time of diagnosis. Both a Kaplan-Meier curve and a multivariable Cox proportional hazards model (PH) controlling for potential confounding factors were used to compare overall survival between groups.

Results: Among the 115 patients in our cohort, 50 (43.4%) underwent RC. There was no difference between the groups with respect to race, gender, ACE-27 score, or chemotherapy status. Patients who underwent RC were younger at time of diagnosis, 79.5 years (yrs) (standard deviation (SD) 3.6 yrs) vs 82.3 yrs (SD 5.6 yrs), $p < 0.05$, and were less likely to have received radiation (2.0% vs 29.2%, $p < 0.001$). RC was significantly associated with increased survival compared with no RC ($p = 0.008$). Median survival for patients who underwent RC was 22.2 months compared to 11.3 months for no RC. Figure 1. is a Kaplan-Meier survival curve plotting percent OS and year from RC or diagnosis in patients who did and did not undergo RC, respectively. On Cox PH, RC was associated with improved OS (hazard ratio (HR) 0.45; 95% CI 0.30-0.75; $p < 0.005$). ACE-27 was the only significantly confounding factor associated with decreased OS.

Conclusions: The current study demonstrated a survival benefit among patients over 75 with cT2 BCa who underwent RC. Although there was no difference in ACE-27 comorbidity score between the two groups there may be unmeasured confounding factors that favor the RC group.

Source of Funding: None

PATIENT, PROVIDER, AND FACILITY FACTORS ASSOCIATED WITH UNDERUSE OF GUIDELINE RECOMMENDED SURVEILLANCE FOR HIGH-RISK NON-MUSCLE-INVASIVE BLADDER CANCER – A NATIONAL STUDY

David S. Han*, BS;1 Amanda R. Swanton*, MD, PhD;1 Kristine E. Lynch*, MS, PhD;2 Ji Won Chang*, MPH;2 Brenda Sirovich*, MD, MS;1,3 Douglas J. Robertson*, MD, MPH;1,3 John D. Seigne*, MB;1 Philip P. Goodney*, MD, MS;1,3 and Florian R. Schroeck, MD, MS1,3

From Lebanon, NH;1 Salt Lake City, UT;2 and White River Junction, VT3
Presentation to be made by Mr. David S. Han.

Introduction and Objective: Patients with high-risk non-muscle-invasive bladder cancer (NMIBC) are at high risk for recurrence and disease progression. Thus, guidelines indicate these patients should undergo cystoscopic surveillance at least every 4 months during the first 2 years after diagnosis. We hypothesized that actual practice differs from these standards and sought to assess patient, provider, and facility factors associated with underuse of surveillance.

Methods: We used administrative and pathology data abstracted via a validated natural language processing algorithm to select patients newly diagnosed with high-risk NMIBC between 2005 and 2011 from the national Department of Veterans Affairs (VA) database. Patients were followed until cancer recurrence, death, date of last VA encounter, or 2 years after diagnosis. Procedure codes were used to enumerate the number of cystoscopies during follow-up. Underuse of cystoscopic surveillance was defined as cystoscopy less frequent than every 4 months. We identified patient, provider, and facility variables associated with underuse using multivariable generalized estimating equations.

Results: Of 2,070 patients included, 651 (31%) received cystoscopy less frequently than every 4 months. Only 3 factors were associated with underuse of surveillance: African American race (OR 1.44, 95% CI: 1.11–1.88), no comorbidity (vs. 1 to 2 comorbidities with OR 0.76, 95% CI: 0.59–0.97), and male provider gender (OR 1.77, 95% CI: 1.27–2.46) (Figure). Patients' year of diagnosis, age, sex, household income, and rural residence, as well as provider type (resident, attending, advanced practice provider) and age were not associated with underuse. Similarly, no facility factors (size, rurality, complexity, number of urologists) were associated with underuse.

Conclusions: One third of Veterans with high-risk NMIBC do not receive the recommended high-intensity surveillance. The patient and provider factors associated with underuse suggest some systematic differences in surveillance, but reasons for these differences are not immediately clear. To gain more insight into barriers to high-intensity surveillance, we will need qualitative research assessing determinants of care not captured in administrative data such as provider and patient attitudes and their perception of risk.

Source of Funding: Department of Veterans Affairs VISN 1 Career Development Award; Conquer Cancer Foundation Career Development Award; Dartmouth-Hitchcock Department of Surgery Internal Career Development Award

LARGE VARIATION AND LARGE DOSES: OPIATE PRESCRIPTION PATTERNS AFTER INPATIENT UROLOGIC SURGERY IN A NATIONAL VA COHORT

Jennifer Robles MD*, Jason Denton BS*, Kirk A. Keegan MD MPH, Michael Matheny*, Matthew Resnick MD MPH*: Nashville, TN
Presentation to be made by Dr. Jennifer Robles

Introduction and Objective: Opioid dependence has been declared a national public health emergency. There is known substantial variation in non-surgical opiate prescribing but there are few data characterizing this in the postoperative period despite recommendations to limit postoperative narcotic prescriptions to 7 days or 200 oral morphine equivalents (OME). We sought to evaluate patterns of postoperative opioid prescribing after inpatient urologic surgery in a national Veterans Health Administration (VA) population. We hypothesize that substantial variation exists in opiate prescribing patterns following common major urologic surgeries.

Methods: Using the Observational Medical Outcomes Partnership (OMOP) database, we retrospectively identified all VA patients who underwent nephrectomy, prostatectomy, cystectomy, transurethral resection or photovaporization of the prostate (TURP/PVP) from 1/1/2014 through 1/1/2017. We obtained demographic data, operative factors including length of stay (LOS), and discharge opiate Rx data on each patient. We evaluated the relationship between a priori identified covariates and prescribed OME using linear regression and fit a multivariable logistic regression model to evaluate their association with OME.

Results: We identified 19,867 patients who underwent one of the evaluated inpatient urology procedures within the VA Health Care System from 2014-2017. The average age was 67 (21-98), 99% were male, and procedures were split evenly by region and year. 18% (3556) of patients were not prescribed an opioid at discharge. The median amount of discharge opioids was 187.5mg OME (SD 206) with very wide variation from 0 to 7560mg OME. Age, sex, race, surgery type, LOS, and surgery year were found to be significantly associated with prescribed OME. Compared to those in the lowest quartile of prescribed OME, those in the highest quartile were more likely to be younger (63 vs. 70) and have modestly increased LOS (3.5 vs. 2.6d). There was wide variation in postoperative opioid prescribing with numerous high (OME>600mg) outliers within each procedure (Figure 1). Patients who underwent laparoscopic/robotic procedures had similar prescribed OME compared to open procedures. TURP/PVP patients had the widest range (0-7560mg).

Conclusion: Data from a national VA cohort reveals substantial variation and very high postoperative opioid prescribing after all common inpatient urologic surgeries. The vast majority exceeds current recommendations to provide 7 days or 200mg OME after surgery. Taken together, these data suggest that there is an unmet need to develop standardized discharge prescribing practices after common urologic surgeries.

DEVELOPMENT OF A NOVEL PROGNOSTIC RISK SCORE FOR PREDICTING COMPLICATIONS OF PENECTOMY IN THE SURGICAL MANAGEMENT OF PENILE CANCER

Nermarie Velazquez, MD*; Benjamin Press*, BA; Audrey Renson*, MPH; James S, Wysock*, MD; Samir Taneja*, MD; William C. Huang*, MD;

Marc A. Bjurlin*, DO
New York, New York

Presentation to be made by Dr. Nermarie Velazquez

Introduction and Objective: Penectomy for penile cancer is useful in staging, disease prognosis, and treatment; however, limited studies have evaluated its surgical complications. Our objective was to assess the complications of penectomy and determine predictive models to create a novel risk score for penectomy complications.

Methods: A retrospective review of patients undergoing penile cancer surgical management were extracted from the 2005–2015 American College of Surgeons National Surgical Quality Improvement Program. Data were queried for procedure codes for partial and total penectomy among those with penile cancer. To develop predictive models of penectomy complications, we fit LASSO logistic, random forest, and stepwise logistic models to training data using cross-validation, demographic, comorbidity, laboratory, and wound characteristics as candidate predictors. Each model was evaluated on the test data using ROC curves. A novel risk score was created by rounding coefficients from the model with the highest AUC.

Results: 175 cases met inclusion criteria. Overall incidence of penectomy complications was 18.9% where UTI (4.0%) and superficial surgical site infection (2.9%) were most common. Using test data, LASSO logistic, random forest, and stepwise logistic models for predicting penectomy complications had AUC [95% CI] 0.71 [0.56-0.87], 0.72 [0.55-0.87] and 0.61 [0.44-0.79] respectively. 9 variables were included in the risk score. The risk score derived from the LASSO model had moderately good performance (AUC 0.77 [0.68-0.85], sensitivity 0.79, specificity 0.70, kappa 0.34).

Conclusions: Penectomy for the management of penile cancer is associated with appreciable complications rates. Predictive models of complications of penectomy performed moderately well. Our novel prognostic risk score for predicting complications may allow for improved preoperative counseling and risk stratification of men undergoing surgical management of penile cancer.

IMPLEMENTATION OF A NOVEL PERIOPERATIVE CARE SERVICE IN A VETERANS ADMINISTRATION HOSPITAL: REDUCED OPIOID UTILIZATION AFTER MAJOR UROLOGIC SURGERY

Authors: Benjamin M. Dropkin, MD*, Bret D. Alvis, MD*, Leah E. Williams, BS*, Cary W. Stimson, MD, JD*, Kristen R. Scarpato, MD, MPH*, Jennifer Robles, MD*, Matthew J. Resnick, MD, MPH*, Christopher G. Hughes, MD*, Ann Walia, MD*, David F. Penson, MD, MPH*, Kirk A. Keegan, MD, MPH: Nashville, Tennessee
Presentation to be made Dr. Benjamin M. Dropkin

Introduction and Objective: Opioid misuse and over-prescription within the U.S. Healthcare system has emerged as a critical public health problem. In an effort to improve care across the peri-operative spectrum, a novel, physician-led, Anesthesiology Perioperative Care Service (APCS) was developed and implemented in our Veterans Administration Hospital. The Service has facilitated joint perioperative pain management as well as increased utilization and adherence to Enhanced Recovery After Surgery (ERAS) pathways. We sought to determine the influence of the APCS on opioid utilization following major urologic surgery.

Methods: We conducted a retrospective cohort study using a pre-post design among 103 patients (52 pre- and 51 post-implementation) who underwent major urologic surgery (open radical cystectomy, open radical nephrectomy, and open partial nephrectomy) within the Tennessee Valley Healthcare System (TVHS). Primary outcome measures included total inpatient opioid dose, number of filled opioid prescriptions, and use of opioids one year after discharge. Secondary measures included variation in length of stay (LOS) and 30-day readmission rates as well as measures of patient satisfaction.

Results: After implementation of APCS, patients received fewer opioid doses (291 vs. 121 total orders), filled fewer prescriptions post-discharge (366 vs. 180 pills per patient), and were less likely to still be using opioids one year after discharge (11% vs. 2% of patients). The median length of stay was reduced by two days after open nephrectomies (6 vs. 4 days). All-cause 30-day readmissions improved following cystectomy (75% vs. 29% of patients). Post-implementation patients surveyed were satisfied with pain control after discharge (80% satisfied) and with their overall VA care (100% satisfied).

Conclusions: The novel Anesthesiology Perioperative Care Service has led to meaningful improvements in the care of our Veterans following major urologic surgery. Veterans used fewer opioids pre- and post-discharge and were less likely to be using opioids one year after discharge. They were also less likely to have extended hospital stays or readmissions.

Source of Funding: None

ASSOCIATION BETWEEN TIME TO PROSTATE-SPECIFIC ANTIGEN NADIR DURING ANDROGEN-DEPRIVATION THERAPY FOLLOWING RADICAL PROSTATECTOMY AND RISK OF CASTRATION-RESISTANT PROSTATE CANCER

Authors: William G Simpson DO*1, Lauren Howard PhD*2, Christian Ericson MS-III*1, William Aronson MD3, Matthew Cooperberg MD4, Christopher Amling MD5, Christopher Kane MD6, Stephen Freedland MD3, Martha K Terris MD1
1Augusta, GA. 2Durham, NC. 3Los Angeles, CA. 4San Francisco, CA. 5Portland, OR., 6San Diego, CA

Presentation to be made by: Dr William G Simpson; wsimpson@augusta.edu

Source of Funding: None

Keywords: Nadir, androgen-deprivation, castration-resistant

Introduction: Biochemical recurrence (BCR) of prostate cancer following radical prostatectomy (RP) is commonly treated with androgen-deprivation therapy (ADT). Although 90% of patients exhibit an initial response to ADT, many patients who later develop castration-resistant prostate cancer (CRPC). Predictors of this resistance are higher pre-ADT PSA, higher PSA nadir, shorter pre-ADT doubling time (PSADT), seminal vesical invasion, and Gleason Score > 7. Once starting ADT, those that reach a PSA nadir of undetectable (PSA<0.01ng/mL) have significantly lower risk of developing CRPC versus those with a detectable nadir. Our objective was to analyze whether time to PSA nadir (TTN) and the nadir value in men following onset of ADT for non-metastatic BCR after RP could predictor of both CRPC and metastasis.

Methods: The SEARCH database was used to retrospectively identify 264 men status post RP at 1 of 6 VA hospitals treated from 1988 to present that were subsequently received ADT for BCR. All patients with metastasis prior to ADT or those receiving concomitant XRT for their recurrence were excluded. Patients were grouped by time to PSA nadir (1-4, 4-8, 8-12 months) and whether or not the nadir was detectable. Multivariable Cox proportional hazards models were used to test the association between time to PSA nadir after ADT and CRPC, metastases, prostate cancer specific mortality (PCSM), and all-cause mortality (ACM). A landmark analysis was performed, starting at 12 months after ADT.

Results: Median pre-ADT PSA was 1.6. Of 189 men with an undetectable PSA nadir after ADT, time to nadir was 1-4 months for 130 men, 4-8 months for 37 men, and 8-12 months for 22 men. Of 75 men with a detectable nadir after ADT, time to nadir was 1-4 months for 16 men, 4-8 months for 28 men, and 8-12 months for 31 men. During a median follow-up of 7.6 years after ADT, 65 developed CRPC, 58 developed metastases, and 108 died of which 41 were from PC. On multivariable analysis, relative to an undetectable nadir at 1-4 months, men with an undetectable nadir at 4-8 months had a higher risk of CRPC (HR 3.70, p=0.001) and metastases (HR 3.64, p=0.003). The 5-year CRPC survival among men with an undetectable nadir in 1-4 months was 92%. Men with a detectable nadir at any time after ADT had higher risk of CRPC, metastases, PCSM, and ACM vs. men with an undetectable nadir at 1-4 months.

Conclusions: Men receiving ADT for PSA recurrence following RP are at higher risk of developing CRPC and metastasis if their PSA nadir is detectable or even if their PSA nadir is undetectable, but the TTN of undetectable PSA was at 4-8 months.

EARLY-LIFE ALCOHOL INTAKE AND HIGH-GRADE PROSTATE CANCER; RESULTS FROM AN EQUAL ACCESS, RACIALLY DIVERSE BIOPSY COHORT

Jamie A. Michael^{1*}, Lauren E. Howard^{1*}, Sarah C. Markt^{2*}, Amanda De
Hoedt^{1*}, Charlotte A. Bailey^{1*}, Lorelei A. Mucci^{2*}, Stephen J. Freedland^{3*},
Emma H. Allott^{4*}
1Durham, NC
2Boston, MA
3Los Angeles, CA
4Chapel Hill, NC

Presentation to be made by Ms. Jamie A. Michael

Introduction and Objective: Epidemiologic evidence for an association between alcohol and prostate cancer (PC) is mixed. Moreover, there is a lack of research investigating early-life alcohol intake as a risk factor for either overall or high-grade PC. We examined lifetime alcohol intake in association with PC diagnosis in an equal-access, racially-diverse prostate biopsy cohort.

Methods: Men undergoing prostate biopsy at the Durham Veterans Affairs Medical Center from 2007-2018 completed a survey indicating average number of alcoholic beverages consumed per week (categorized as none (ref), 1-6, and ≥ 7) during each decade of life. Multivariable logistic regression was used to test the association between alcohol intake across decades and diagnosis of overall, low-grade (grade group (GG) 1-2) and high-grade PC (GG 3-5).

Results: Of 650 men who underwent biopsy, 325 were diagnosed with PC, 238 with low-grade and 88 with high-grade disease. Relative to non-drinkers, men who consumed ≥ 7 drinks/week at ages 15-19 had increased odds of high-grade PC diagnosis (OR 3.21, p-trend=0.020), with similar findings for ages 20-29 and 30-39. Consistent with these results, men in the upper tertile of cumulative lifetime intake had increased odds of high-grade PC diagnosis (OR 3.74, p-trend<0.001). In contrast, current alcohol intake was not associated with PC.

Conclusions: Among men undergoing prostate biopsy, heavier alcohol intake earlier in life and higher cumulative alcohol intake were positively associated with high-grade PC diagnosis, while current alcohol intake was unrelated to PC. Our findings suggest that early-life alcohol intake should be explored as a potential risk factor for high-grade PC.

Source of Funding: None

INCREASED INCIDENCE AND HIGHER GLEASON GRADE PROSTATE CANCER AMONG VETERANS SINCE THE UNITED STATES PREVENTIVE SERVICES TASK FORCE RECOMMENDATION AGAINST PROSTATE-SPECIFIC ANTIGEN SCREENING

Chrystal Chang MD*, Tejash T Shah MD*, Michael J Piecuch MD*, Sri R Pentakota MD PhD*, Shahida Ahmed MD*, Hossein Sadeghi-Nejad MD
East Orange, New Jersey

Presentation to be made by Dr. Chrystal Chang

Introduction and Objectives: There has been a significant decline in prostate-specific antigen (PSA) screening and number of prostate biopsies performed since the United States Preventive Services Task Force (USPSTF) Grade D recommendation in 2012 against PSA-based screening. To determine the impact of this trend on prostate cancer diagnosis in the veteran population, we compared biopsy results from 2010-2011 before the USPSTF recommendation, and 2013-2015 after the recommendations were implemented.

Methods: We retrospectively reviewed data from a single Veterans Affairs medical center, studying patients with a first-time positive prostate cancer biopsy in the years 2010-2011 (pre-2012) and 2013-2015 (post-2012). Following IRB approval, we compared patient characteristics including age, PSA, and Gleason score.

Results: A total of 457 patients with first-time positive biopsies were identified, 175 in the pre-2012 group and 282 in the post-2012 group. There was a statistically significant difference in age between the two groups, with the post-2012 patients being about two years older at time of diagnosis (67.0 vs 64.9, t-test $p = 0.005$). There was also a statistically significant increase in percent of patients undergoing prostate biopsies being diagnosed with prostate cancer; 54.6% of patients in the post-2012 group vs 46.8% in the pre-2012 group (chi square $p=0.0209$). Median PSA values did not differ between the 2 periods (Wilcoxon Rank Sum p value= 0.5963). There was a greater incidence of high grade prostate cancer diagnosed in the post-2012 group, with 36.1% having Gleason 8-10 disease compared to 20.0% in the pre-2012 group (chi square $p = 0.002$). However, the percent of patients with metastasis at diagnosis did not differ between the 2 periods (chi square $p=0.19$).

Conclusions: Following implementation of the USPSTF PSA screening guidelines, we found an increased incidence of prostate cancer in veterans, as well as high grade prostate cancer, with the percentage of patients with Gleason 8-10 disease almost doubling in the post-2012 period. This finding adds to the growing concern that decreased PSA screening is leading to increased diagnosis of more aggressive and potentially lethal disease.

Sources of Funding: None

FIRST-YEAR WEIGHT LOSS WITH ANDROGEN-DEPRIVATION THERAPY INCREASES RISKS OF PROSTATE CANCER PROGRESSION AND PROSTATE CANCER-SPECIFIC MORTALITY: RESULTS FROM SEARCH

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Presentation to be made by Dr. Ilona Csizmadi

Introduction and Objectives: Men with prostate cancer (PC) who fail primary therapy are placed on early androgen-deprivation therapy (ADT) as the de facto standard of care. However, numerous side effects have been documented and there is now strong evidence indicating that ADT also leads to body composition changes resulting in weight gain and obesity. Obesity at ADT initiation is associated with early development of castration-resistant prostate cancer (CRPC). However, the effects of ADT-induced weight changes on PC progression are unknown. Therefore, we sought to investigate the association between weight change, estimated from weights documented pre- and post-ADT initiation, with PC outcomes in men who had undergone RP.

Methods: Data from the Shared Equal Access Regional Cancer Hospital (SEARCH) cohort (1994-2015) were analyzed to study the impact of weight change, approximately 1-year post-ADT initiation, on metastases, CRPC and PC-specific mortality (PCSM). Men diagnosed with metastases or CRPC within 18 months of ADT-initiation were excluded resulting in a sample of 357 men who had undergone radical prostatectomy. We estimated hazard ratios (HR) and 95% confidence intervals (CI) using covariate-adjusted Cox proportional hazards models for the associations between weight change and PC progression and PCSM post-ADT. In additional competing risk analyses, the data were re-analyzed while accounting for non-PCSM.

Results: During a median follow-up of 81 months (IQR: 46-119), 55 men developed metastases, 61 developed CRPC, 36 died of PC, and 122 died of any cause. In multivariable analysis, HRs were elevated for metastases (HR=1.46; 95% CI, 0.66-3.23) and PCSM (HR=2.70; 95% CI, 0.86-8.49) with moderate-to-severe weight gains of 2.3 kg or more, compared with mild weight gains of 2.2 kg or less, but results were not statistically significant. Weight loss was associated with statistically significant increases in risks of metastases (HR=2.79; 95% CI, 1.26-6.21) and PCSM (HR=4.63; 95% CI, 1.49-14.3) compared with mild weight gains. Results were slightly attenuated but remained statistically significant in analyses that accounted for competing risks of non-PCSM.

Conclusions: Adverse PC outcomes were not observed with moderate-to-severe weight gains during the first year following ADT initiation. Weight loss was associated with increases in metastases and PCSM. Strategies that mitigate weight loss in men undergoing ADT may improve long-term outcomes for prostate cancer survivors.

Funding: NIH/NCI grant: P50CA92131 and NIH K24 CA160653

OUTCOMES OF PRE-BIOPSY PROSTATE MRI FOLLOWED BY MRI FUSION-GUIDED TARGETED AND SYSTEMATIC BIOPSY IN MEN WITH PREVIOUS ASAP AND/OR HGPIN

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Presentation to be made by Dr. Facundo Uriburu Pizarro

Introduction and Objectives: The finding of high grade prostatic intraepithelial neoplasia (HGPIN) or atypical small acinar proliferation (ASAP) typically prompts a repeat prostate biopsy in clinical practice. We sought to evaluate the ability of prostate MRI followed by MRI-ultrasound fusion targeted biopsy (MRF-TB) and systematic biopsy (SB) to detect prostate cancer (PCa) in men with a history of HGPIN, ASAP, or both (HGPIN/ASAP).

Methods: Between July 2011 and July 2017, 1058 underwent MRF-TB and SB by a single surgeon after pre-biopsy MRI. Biopsy results and MRI suspicion scores (mSS) were queried from an IRB approved prospective data registry for men with prior prostate biopsy and no prior diagnosis of cancer. Men without standardized MRI grading and men who did not undergo both MRF-TB and SB were excluded. Cancer detection rates (CDR) were compared using McNemar and Kruskal-Wallis tests. All statistics were performed in IBM SPSS v.23.

Results: 306 men met inclusion criteria with an average age of 67 years, prostate volume of 72 cc and PSA of 9 ng/dl. 80/306 had history of HGPIN, ASAP or HGPIN/ASAP (34, 23, and 23, respectively). 133/306 (43.5%) of patients were diagnosed with PCa on repeat biopsy (Table 1). Overall, we found no difference in CDR between men with prior history of HGPIN and/or ASAP (36/80, 45%) and men who did not (97/226, 43%). There was no difference between HGPIN, ASAP, and HGPIN ASAP in overall CDR, Gleason 7 (3+4), and Gleason ≥ 7 (4+3). The mSS distribution was similar between all groups.

Conclusions: We found no difference in CDR among men with previous diagnosis of HGPIN, ASAP, HGPIN/ASAP, or previous benign biopsy. Regardless of previous histologic diagnosis, mSS remains a strong predictor of the likelihood of cancer. We would advocate use of MRI to determine need for repeat biopsy among men with HGPIN or ASAP.

(UUTUT) IN POPULATION THE UPPER URINARY TRACT UROTHELIAL TUMORS VETERAN

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(To be presented by Robert G. Moore, M.D.)

Introduction and Objective: In the general population UUTUT are uncommon, accounting for 5% of all urothelial tumors. UUTUT occur in patients ages 75-79 years. Bilateral UUTUT is present in 1.6% with 80% of these patients have a history of prior bladder cancer in the general population. We reviewed our Veteran Population examining mean age of presentation, incidence of bilateral disease, prior history of bladder cancer and progression to metastatic disease.

Methods: A retrospective chart review was conducted from 1/2013 to present. A total of 24 patients was identified.

Results: The mean age of onset for UUTUT was 65.9 years (range 54-83 yrs). The incidence of bilateral UUTUT is 7/24 (29.2%) of these 6/7 were high grade (HG) and 1/7 were low grade (LG) with only 1/7 of the bilateral UUTUT having a prior history of bladder cancer. Overall 17/24 (70.8%) UUTUT were HG and 7/24 (29.2%) were LG. 7/24 (29.2%) had prior bladder cancer. 5/24 progressed to metastatic disease in 19-96 months and 1/24 presented with metastatic disease. 2/24 patients are deceased.

Conclusion: In the Veteran population UUTUT presents at a younger age, has a higher incidence of bilateral disease as well as a higher rate of progression to metastatic disease. The correlation of bilateral UUTUT with prior history of bladder cancer was only 14.3% vs reported 80% in the general population. These findings need to be confirmed with multi institutional studies.

REDUCTION SCROTOPLASTY AND RECONSTRUCTION OF BURIED PENIS IN A CASE OF IDIOPATHIC LYMPHEDEMA

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Presentation to be made by Dr. T.J. Tipton

Introduction and Objective: Lymphedema occurs by an accumulation of interstitial fluid within the subcutaneous tissues, often secondary to lymphatic obstruction and/or inadequate reabsorption and drainage. Dependent sites such as the lower extremities and scrotum are particularly susceptible; however, isolated scrotal lymphedema comprises only 4% of all cases. Although rare, scrotal edema can be both physically and psychologically debilitating, with profound effects on voiding and sexual functions, not to mention the impediment to routine daily activities in severe cases. Conservative management is often unsuccessful, whereas surgical intervention is challenging and requires innovative, multidisciplinary care. Herein we report a case of profound, isolated scrotal lymphedema for which successful testis-sparing surgical resection and subsequent STSG reconstruction was undertaken.

Methods: A 69 yr. old male smoker with history of obesity and HTN presented to our clinic with 8 year history of progressive scrotal lymphedema affecting his sexual, voiding, psychologic and ambulatory functions. He was misdiagnosed with hydrocele initially and underwent biopsy revealing lymphedema. Following appropriate counseling, the patient was brought to the operating room and placed in the lithotomy position while maintaining the foot of the bed owing to the massive size of the scrotum. He then underwent testis-sparing scrotoplasty whereby 15 lbs. of penoscrotal tissue was excised. A split-thickness thigh graft was used to replace the involved penile shaft skin. Jackson-Pratt drains were placed bilaterally and removed in office several days later following discontinuation of drainage.

Results: Operative time was 425 min. Total EBL was 1800cc. The patient was seen at 1 week, 2 weeks, 1 month, 3 months and 6 months follow up. His JP drains were removed at 1 week. Both patient and surgeon perceived cosmesis was excellent at last follow up. No complications occurred. He began recovering sexual function at 4 months and now voids and ambulates without difficulty.

Conclusions: Chronic penoscrotal lymphedema can be a debilitating disease for patients and surgically challenging for providers. The patient herein presented underwent successful testis-sparing reconstruction with STSG for profound, idiopathic penoscrotal lymphedema.

Source of Funding: None

NOVEL MODELS FOR PREDICTION OF RADICAL CYSTECTOMY POST-OPERATIVE COMPLICATIONS AND CARE PATHWAYS

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Presentation to be made by Dr. Taylor

Introduction and Objective: Radical cystectomy (RC) is commonly performed for the management of muscle invasive bladder cancer. While RC has one of the highest rates of morbidity among urologic surgery, our ability to predict post-operative complications remains poor. To address this challenge, we aim to create novel models to predict complications and factors leading to extended length of hospital stay and discharge to a higher level of care after RC.

Methods: Using the American College of Surgeons National Surgical Quality Improvement Program, perioperative adverse outcome variables for patients undergoing elective RC for bladder cancer from 2005-2015 were extracted. Variables assessed include occurrence of minor, infectious, serious, or any adverse events, extended length of hospital stay, and discharge to higher-level care. To develop predictive models of RC complications, we fit generalized additive model (GAM), least absolute shrinkage and selection operator (LASSO) logistic, neural network, and random forest models to training data using various candidate predictor variables. Each model was evaluated on the test data using ROC curves.

Results: A total of 5,166 patients were identified who met the inclusion criteria. A total of 1,216 complications occurred. LASSO logistic models demonstrated the highest area under curve (AUC) for predicting any complications (0.63), discharge to a higher level of care (0.75), extended length of stay (0.68) and infectious (0.62) adverse events. It was comparable to random forest in predicting minor (0.60) and serious (0.63) adverse events (Figure 1).

Conclusions: Our models have improved performance at predicting complications, extended length of hospital stay, and discharge to a higher level of care after RC compared to commonly used comorbidity indices. These novel predictive models may allow for improved preoperative counseling and risk stratification of men undergoing RC. In addition, identifying the most important variable leading to each type of adverse event may allow for targeted optimization of modifiable variables pre-op to reduce post-op adverse events.

Source of Funding: None

ADVANCED AGE DOES NOT PREDICT SURVIVAL IN PATIENTS UNDERGOING RADICAL CYSTECTOMY FOR MUSCLE-INVASIVE BLADDER CANCER

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Introduction and Objective: Given the perioperative morbidity associated with radical cystectomy (RC), alternative treatment options are considered for elderly patients with muscle-invasive bladder cancer (MIBC). We evaluated the overall (OS) and disease-free survival (DFS) of patients with MIBC who underwent RC at our institution, based on age-stratified cohorts.

Methods: We identified 344 patients who underwent RC for MIBC from January 2010 to December 2016. Cohorts were stratified by age (<60, 60-69, 70-79, and 80+ years). Clinical variables used included body mass index, operative time, estimated blood loss, length of stay, lymph node yield, Charlson comorbidity index (CCI), final pathological stage, approach (open v. robotic), length of stay (>10 days), margin status, 30-day complication rate, receipt of neo-adjuvant chemotherapy, variant histology and receipt of blood transfusions. Kaplan-Meier estimated survival curves were generated for the primary outcomes, OS and DFS, and Cox proportional hazards model was utilized to identify factors that predicted survival.

Results: Kaplan-Meier survival curves are provided in Figure 1. No significant differences were noted in OS ($p=0.39$) and DFS ($p=0.25$) across the various age groups. Multivariate analysis demonstrated $CCI \geq 3$ was independently associated with decreased OS (HR: 1.62, 95% CI: 1.06 – 2.46, $p=0.026$), and DFS (HR: 1.79; 95% CI: 1.05 – 3.05, $p=0.032$). Further, pathological stages of T2, T3 and T4 were all found to independently be drivers of OS and DFS compared to T0.

Conclusions: We found no difference in OS or DFS among patients with MIBC undergoing RC based on age. Therefore, for patients with MIBC, age should not be used as a selection criteria for RC.

ADVERSE PERIOPERATIVE EVENTS FOLLOWING CYSTECTOMY: CAN WE PREDICT WHO IS AT HIGHER RISK?

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(Presentation to be made by Dr. Michael Chevinsky)

Introduction and Objectives: Long length of stay (LOS) and major perioperative morbidity and mortality are uncommon following radical cystectomy (RC) for bladder cancer (BCa) and often lead to extensive utilization of healthcare resources. Determining perioperative factors that increase risk for these outcomes is important for perioperative patient counseling. The current study aims to determine which patient, tumor, operative, and postoperative characteristics place patients at higher risk for major perioperative complications and extended LOS following RC for BCa.

Methods: A review of our prospectively maintained database identified 479 patients who underwent RC for BCa between January, 2010 and December, 2016. Patients who had major adverse perioperative events were compared to those who did not. Adverse events included Clavien 3b or higher complication within 30 days of surgery or LOS greater than 2 standard deviations above the mean (SD). Oncologic and perioperative factors were compared between groups and logistic regression analysis (LRA) was performed.

Results: 20.7% of patients suffered a major adverse perioperative event. Of these, only 3.7% of patients had a LOS longer than 2 SD (21.5 days) and only 39% of these did not have an associated Clavien \geq 3b complication. Patients with major adverse events were more likely to have asthma (10.1% vs 4.2%, $p<0.05$), chronic pulmonary disease (24.2% vs 10%, $p<0.001$), or moderate or severe renal disease (14.1% vs 7.4%, $p<0.05$). Patients with major adverse events were more likely to have a higher stage on final pathology; 28.2%, 14.1%, and 57.5% of patients with major adverse events had T1 or less, T2, and T3/T4 disease on final pathology, respectively, compared with 40.8%, 16.1%, and 43.2% in patients without major adverse events ($p<0.05$). Patients with major adverse events were more likely to have received a postoperative blood transfusion (26.3% vs 15%, $p<0.008$). On LRA patients with coronary artery disease (CAD) (odds ratio (OR) 2.66; 95% confidence interval (CI) 1.09-6.50; $p<0.05$), chronic pulmonary disease (OR 2.49; 95% CI 1.34-4.60; $p<0.005$), renal disease (OR 2.20; 95% CI 1.07-4.53; $p<0.05$) and current smoking status (OR 2.09; 95% CI 1.02-4.28; $p<0.05$) had significantly increased odds of a major adverse event.

Conclusions: CAD, chronic pulmonary disease, renal disease and current smoking increased the odds of having a major adverse perioperative event after RC. Patients who are current smokers and those with one or more of these medical comorbidities should be counseled regarding their increased risk of major adverse perioperative events.

Source of Funding: None

ROBOT-ASSISTED RADICAL CYSTECTOMY PROVIDES EQUIVALENT ONCOLOGIC CONTROL AS OPEN RADICAL CYSTECTOMY WHILE MINIMIZING MORBIDITY

Yifan Meng, Joel M. Vetter, Alexander A. Parker, Robert L. Grubb III, Eric H. Kim

Introduction: Over the last decade, robot-assisted radical cystectomy (RARC) has been increasingly utilized in the United States. We assessed perioperative and survival outcomes for RARC and open radical cystectomy (ORC) at our institution.

Material and Methods: Data from patients undergoing ORC and RARC for bladder cancer from January 2010 to December 2016 were analyzed. Major complications were defined as Clavien III or higher. Primary end points were overall survival (OS) and disease-free survival (DFS). Patient-specific variables and outcomes were analyzed in relation to surgical approach. Kaplan-Meier curves were generated for ORC and RARC, and Cox proportional hazards analysis was performed.

Results: During the study period, 126 (26%) of 479 patients underwent RARC. There were no patient demographic differences between open and robotic groups. OS and DFS were not significantly different between the open and robotic approaches (figure 1). Patients who underwent robotic operations had significantly longer operative times (7.6 vs. 6.6 hours, $p<0.001$), less estimated blood loss (0.7 vs. 1.3 L, $p<0.001$), and shorter length of stay (7.6 vs. 9.2 days, $p<0.001$). RARC resulted in higher lymph node yield compared to the open group (22 vs. 17, $p<0.001$). No significant difference was found in positive margins between the two groups. No statistically significant differences were found in 30-day major complications [24% (RARC) vs. 31% (ORC), $p=0.1$].

Conclusions: In our experience, RARC provides similar oncologic control as ORC while minimizing patient morbidity. At centers with sufficient robotic expertise, RARC should be considered the standard approach to cystectomy.

DISCRIMINATIVE ABILITY OF COMMONLY USED INDICES TO PREDICT ADVERSE OUTCOMES AFTER RADICAL CYSTECTOMY: COMPARISON OF DEMOGRAPHICS, ASA, MODIFIED CHARLSON COMORBIDITY INDEX, AND MODIFIED FRAILITY INDEX

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Presentation to be made by Dr. Meng

Introduction and Objectives: The American Society of Anesthesiologists (ASA) physical status classification system, the modified Charlson Comorbidity Index (mCCI), and the modified Frailty Index (mFI) have been associated with complications following urologic surgery. No study has compared the predictive performance of these indices for postoperative complications following radical cystectomy (RC) for bladder cancer.

Methods: A retrospective review of 1,516 patients undergoing elective RC for bladder cancer were extracted from the 2005–2011 American College of Surgeons National Surgical Quality Improvement Program. Perioperative outcome variables assessed were occurrence of minor adverse events, severe adverse events, infectious adverse events, any adverse event, extended length of hospital stay, discharge to higher-level care, and mortality. Patient comorbidity indices and demographics were assessed for discriminative ability in predicting perioperative adverse outcomes using an area under the curve analysis from the receiver operating characteristics curves.

Results: The most predictive comorbidity index for any adverse events is mCCI (AUC 0.511) and demographic factors are BMI (AUC 0.519) and Sex (AUC 0.519), shown in Figure 1A and 1B, respectively. However, overall performance for all predictive indices were poor for any adverse event (AUC <0.52). Combining the most predictive demographic factor (BMI) and comorbidity index (mCCI) resulted in incremental improvements in discriminative ability over the individual outcome variables.

Conclusions: For RC, easily obtained patient mCCI, BMI, and sex have overall similar discriminative abilities for perioperative adverse outcomes compared to tabulated indices that are harder to implement in clinical practice. However, both demographic factors and comorbidity indices have poor discriminative ability for adverse events.

SOFT GLANS? SYNDROME-CAN THIS ERECTION BE SAVED

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Introduction: Soft glans syndrome is a disorder in which the corpora cavernosa of the penis are erect but the corpus spongiosum and glans penis remain soft and cold. This affects appearance and ability to penetrate.

Materials and Methods: A retrospective chart review was performed. We present 3 patients with this condition.

Data:

Patient 1: 28yo with a self-inflicted penile strangulation injury over a year ago. His complaint was soft glans, a “waist” in the distal third of his penile shaft, and rigidity of only 55%. Also, noted was lack of spontaneous erections.

Patient 2: 62yo with a history of erectile dysfunction using Viagra with success. He had catheter trauma that led to a complex catheter placement. Post catheter removal he complained of soft glans and decreased sensation.

Patient 3: 56yo presented with soft glans and distal third of his penile shaft failing to fill. He reports this started post TURP ~ 6 years ago. He has tried vacuum device, Muse and injection therapy. Pt also has a palpable Peyronies plaque. Patient can achieve erections but has difficulty penetrating.

Patient 1 was started on daily vacuum therapy and Viagra weekly. 3 months later his distal shaft “waist” fills out to 75%. He is getting spontaneous erections. Pt is improved and is continuing the course.

Patient 2 was given restriction bands that failed. He has started daily vacuum therapy and Viagra. Muse 125mcg failed to fill the glans. He is titrating Muse to see if this will help. He is able to have intercourse.

Patient 3 is being evaluated for a penile prosthesis.

Conclusion:

The prevalence of soft glans syndrome is unknown.

Suspected pathophysiologies of soft glans syndrome include:

Neurologic or “failure to initiate”. The affected motor nerves innervating the corpus spongiosum result in an inability to activate the arterial inflow and veno-occlusive processes within the spongiosal erectile tissue.

Arterial occlusive disease or “failure to fill”. The affected dorsal or spongiosal arteries result in insufficient arterial perfusion pressure to the spongiosal erectile tissue.

Fibrosis or “failure to store”. This results in corpus spongiosum having poorly expandable erectile tissue causing insufficient compressive pressure on the sub-tunical venules and veno-occlusive dysfunction.

Soft glans is seen in patients post penile prosthesis placement, however the true incidence in erectile dysfunction patients is unknown. Perhaps, we should rethink our evaluation of these patients to include questioning about glans engorgement or firmness.

MEASUREMENT OF THE BIOPSYCHOSOCIAL IMPACT OF AN ODOR REDUCING, MOISTURE WICKING OSTOMY APPLIANCE

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NP*, Pasithorn Suwanobol, MD*, and Ted Skolarus, MD, MPH

From Ann Arbor, Michigan

Presentation to be made by Mr. Benjamin Li

Introduction and Objective: Ostomy creation after major urological and colorectal surgery produces physical and psychosocial challenges impairing quality of life (QOL). Addressing these challenges (e.g., odor, noise) may improve QOL and coping. We conducted a pilot feasibility study to explore QOL before and after using a specialized ostomy cover designed to reduce odor and absorb moisture.

Methods: We recruited patients with an ostomy from urology and colorectal surgery clinics at the VA Ann Arbor Healthcare System. All participants received the StomaCloak™ ostomy appliance cover. We used the Coloplast™ Stoma-QoL survey to assess QOL at baseline and 1 month after wearing StomaCloak™ and generated a summary score from worst (20) to optimal (80) QOL. We added 5 items and examined QOL changes using descriptive analyses.

Results: Eleven participants (6 urostomy, 3 colostomy, 2 ileostomy) completed both assessments. Ten were male and median age was 67 years (range 39–81). The average Stoma-QoL scores before and after wearing the appliance were 50.5 and 52.4, respectively, with other responses noted in the Figure.

Conclusions: It is feasible to measure QOL changes after wearing a specialized ostomy appliance cover. Our pilot data suggest an opportunity to improve QOL among ostomy patients using this appliance warranting further study.

SHOULD GLEASON 8 ON PROSTATE BIOPSY ALWAYS BE TREATED AS GLEASON 8?

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Presentation to be made by Dr. Caitlin Shepherd

Introduction/Objectives: Patients identified with Gleason score (GS) 8 prostate cancer on prostate biopsy are treated as high-risk disease which often includes long-term androgen deprivation. In a contemporary cohort, we sought to determine how many patients with GS 8 on biopsy retained high-risk pathology at prostatectomy, while also assessing changes in biochemical recurrence (BCR).

Methods: We performed a retrospective review of patients who underwent radical prostatectomy at our institution from 2009 to 2015. We identified changes in pathology at prostatectomy, and also compared BCR in the cohort. The BCR rate in patients that were categorized as having high-risk prostate cancer based solely on their GS and subsequently downgraded was compared to that of their intermediate risk counterparts. Statistical analysis was performed using R statistical software to compute Fisher's exact test.

Results: We found that 28 (87.5%) of 32 patients with GS 8 prostate cancer on initial biopsy were downgraded to GS < 8 on final pathology. Of the 28 patients who were downgraded, 12 (42.9%) patients had BCR, while 3 of the 4 patients (75.0%) who were not downgraded had BCR ($p = 0.23$). A subset of 28 of the 32 patients with GS 8 prostate cancer were risk-stratified as having high-risk disease solely due to their initial biopsy GS. Subsequently, 25 (89.3%) of these 28 patients were downgraded to GS < 8 disease on final pathology. The BCR rate in these patients of (44.0%, 11/25) was compared to that of patients with unfavorable and favorable intermediate-risk disease, which was 21.1% (17/77, $p = 0.033$) and 18.4% (28/152, $p = 0.0042$), respectively.

Conclusions: In a contemporary cohort of patients, 87.5% of patients with GS 8 disease on initial biopsy were downgraded to a GS < 8 on final pathology. The rate of BCR for these patients that were downgraded was lower than that for patients who were not downgraded. Patients that were categorized as having high-risk prostate cancer based solely on their GS and subsequently downgraded to a lower GS on final pathology continued to have significantly higher BCR rates than their intermediate risk counterparts. Current efforts to improve risk stratification with genomic testing may help designate treatment efforts.

Source of Funding: None

DIFFERENCES IN MORTALITY DUE TO PROSTATE CANCER BETWEEN THE 3 VISN2 NORTH VA MEDICAL CENTERS

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Presentation made by Barry S Stein MD

Introduction: We have previously presented on the increase in expected mortality from prostate cancer at the Stratton VA, Albany NY (AL), particularly in patients >75 years of age. In order to test if that VA is an outlier, we compared the AL cohort to one from both the Syracuse (SY) and Buffalo (BU) VAMCs.

Methods: This study was done under IRB approval, as well as approval from the directors of all three medical centers in upstate NY. In what is now known as VISN2 North. Patients from all three centers can be accessed from CPRS in any one of the institutions. We obtained the names of all of the patients in the tumor registries of these centers from January 1, 2000 through December 31, 2009. Follow up for all of these patients was obtained to December 31, 2014. In cases of death, the National Death Index was used to determine the cause of death. Only patients who were followed for > 1 year were included.

Results: Using the Tukey multiple comparison test, death due to prostate cancer was statistically higher ($p < .05$) in AL 12.9%, versus SY 4.4% or BU 8.4%. The proportion of patients presenting with metastatic cancer at diagnosis was significantly higher ($p < .05$) at AL 5.8% compared to SY 3.2% but not to BU 4.9%. AL also had a statistically significant (Pearson Chi-square $p < .001$) proportion of D'Amico high risk patients 31.2% at diagnosis compared to SY 18.1%. All three centers were found to have significantly ($p < .001$) older patients in the high risk D'Amico category compared to intermediate or low risk groups. The proportion of African American patients was statistically higher ($p < .05$) in BU 21.7% than AL 12.5% or SY 9.8%. Factors such as: Gleason Grade 8-10 and stage T2c or greater were statistically significantly higher ($p < .05$) in AL than SY or BU. PSA presentation of 100 or greater were highest ($p < .05$) in AL and BU.

Conclusion: A total of 2.4% of the patients followed regularly by primary care providers at AL were diagnosed with prostate cancer over the study period, compared to 3.2% at SY and 3.56% at BU. However the AL patients tended to be more advanced at presentation, and had a higher risk of progression and death from prostate cancer. Further work needs to be done to determine why this should be so.

Source of Funding: Partially funded by NY State Grant

LONGITUDINAL FOLLOW-UP OF AN ACTIVE SURVEILLANCE COHORT SELECTED BY MRI-ULTRASOUND FUSION TARGETED BIOPSY

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Presentation to be made by Mr. Benjamin Press

Introduction and Objectives: The use of active surveillance (AS) in low risk prostate cancer (PCa) is rising given studies demonstrating excellent cancer-specific survival. We have postulated that use of MRI and MRI-ultrasound fusion targeted biopsy (MRF-TB) allows improved selection of men for AS, and reduction of the need for prostate biopsy (Pbx) in follow-up. In this study, we evaluate the interim outcomes of an MRI-based AS selection and follow-up protocol.

Methods: Between June 2012 and July 2017, 199 patients with a prior diagnosis of PCa on systematic biopsy (SB) presented to a single surgeon for possible enrollment in AS. An additional 799 patients presented for Pbx with elevated PSA with either no prior or prior negative Pbx. Patients with low risk PCa detected on combined SB and MRF-TB were enrolled into our AS program (semi-annual PSA, annual prostate MRI, scheduled PBx at year (yr) 1 and 6, and for cause biopsies as needed) and included in a prospective data registry. PSA velocity, follow-up prostate MRI and PBx outcomes and progression to definitive treatment were analyzed.

Results: A total of 205 patients were enrolled in our AS program following initial MRF-TB (Figure 1), of which 153 with minimum 1 yr f/u were evaluable. In follow up (f/u), average PSA velocity was 0.36 ng/ml/yr. 102/153 were biopsied at yr 1 with 27.4% upgraded. 45 men were not biopsied after yr 1 MRI: 40 due to low MRI suspicion score (≤ 3), 4 due to age > 75 yr and 1 lost to f/u. 6 men required for cause PBx in f/u after yr 1. At a mean of 2.4 f/u MRI studies, 22% demonstrate MRI progression. Pathologic progression was seen in 44% of men with MRI progression at 1 yr (28%), compared to a 22-25% upgrade rate in men with stable (45%) or downgrade (26%) on MRI. At a median f/u of 2.1 years, 5.9% were lost to f/u, 21.5% underwent treatment, and 111/153 (72.5%) remain on AS.

Conclusions: Among men selected for AS by MRF-TB, 27.4% are upgraded on one-year PBx, with greatest risk among men with MRI progression. The relatively high rate of upgrade on follow-up PBx suggests a need for continued improvement in MRF-TB targeting accuracy. In follow-up, stable PSA, MRI, and low rate of for cause PBx are observed parameters in men remaining on AS. Further follow-up is needed to determine the relative benefit of MRI and MRF-TB in the conduct of AS.

NEUTROPHIL, LYMPHOCYTE AND PLATELET COUNTS, AND RISK OF PROSTATE CANCER OUTCOMES IN WHITE AND BLACK MEN: RESULTS FROM THE SEARCH DATABASE

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Introduction and Objective: Systemic inflammation, as measured by C-reactive protein has been linked with poor prostate cancer (PC) outcomes, predominantly in white men. Whether other immune measures like white blood cell counts are correlated with PC progression and whether results vary by race is unknown. We examined whether complete blood count (CBC) parameters were associated with PC outcomes and whether these associations varied by race.

Methods: Analyses include 1,826 radical prostatectomy patients from six VA hospitals followed through medical record review for biochemical recurrence (BCR). Secondary outcomes included castration resistant PC (CRPC), metastasis, all-cause mortality (ACM), and PC-specific mortality (PCSM). Cox-proportional hazards were used to assess the associations between pre-operative neutrophils, lymphocytes, platelets, neutrophil-lymphocyte ratio (NLR) and platelet-lymphocyte ratio (PLR) with each outcome. We used a Bonferroni-corrected p-value of $0.05/5=0.01$ as the threshold for statistical significance.

Results: Of 1,826 men, 794 (43%) were black and 1,032 (57%) white. Neutrophil count ($p<0.001$), NLR ($p<0.001$), and PLR ($p<0.001$) were significantly lower, while lymphocyte count ($p<0.001$) was significantly higher in black versus white men. After adjusting for clinicopathological features, no CBC measures were significantly associated with BCR. There were no interactions between CBC and race in predicting BCR. Similarly, no CBC values were significantly associated with CRPC, metastases, or PCSM either among all men or when stratified by race. However, higher neutrophil count was associated with higher ACM risk in white men ($p=0.004$).

Conclusions: Pre-operative CBC measures were not associated with PC outcomes in black or white men undergoing radical prostatectomy, except for neutrophils positive association with risk of ACM in white men. Whether circulating immune cell markers provide insight to the pathophysiology of PC progression or adverse treatment outcomes requires further study.

PELVIC FRACTURE ASSOCIATED GENITOURINARY INJURIES WITH CONCOMITANT LOWER GASTROINTESTINAL INJURY: INCIDENCE, MORBIDITY, AND MORTALITY

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Presentation to be made by Dr. Nermarie Velazquez

Introduction and Objectives: Limited data exists on the characteristics, risk factors, and management of pelvic fractures from blunt trauma causing both genitourinary (GU) and lower gastrointestinal (GI) injury. We sought to determine these parameters as well as elucidate independent risk factors.

Methods: The National Trauma Data Bank admission datasets for years 2010-2014 were queried for all pelvic fractures by ICD-9CM codes. Exclusion criteria included ≤ 17 years of age or penetrating injury. Patients with incomplete records were also excluded. Patients were divided into 3 cohorts: pelvic fracture, pelvic fracture with GU injury, and pelvic fracture with GU and lower GI injury. Between groups comparisons were performed using stratified analysis. Multivariable logistic regression models were used to determine independent risk factors for concomitant rectal injury.

Results: Review of 3,977,634 cases revealed 187,354 pelvic fractures of which 3.3% had GU injury ($n=6,140$) and 0.15% had GU and GI injury ($n=283$). Most common mechanism was motor vehicle collision. Injury severity score, pelvic AIS, and mortality were higher with combined injury ($p<0.001$), leading to longer hospital and ICU stays and ventilator days ($p<0.001$) and more frequent discharges to acute rehabilitation ($p<0.01$). Surgical management of concomitant injuries involved both urinary (62%) and rectal repairs (81%) or diversions (29% and 46%, respectively) (Figure 1). Male gender (OR=2.42), disruption of the pelvic circle (OR=6.04), pubis fracture (OR=2.07), innominate fracture (OR=1.84), and SBP <90 mmHg (OR=1.59) were the strongest independent predictors of combined injury (all $p<0.01$) (Table 1). Most common complications included pneumonia, DVT, ARDS, and cardiac arrest. All of these were significantly more common in the combined injury group ($p<0.01$).

Conclusion: Pelvic fractures with lower GU and GI injury are rare ($<1\%$ of pelvic fractures). They are associated with more severe injuries and increased hospital resource utilization. Most combined injuries undergo surgical repair and/or diversion. The strongest independent predictors are disruption of the pelvic circle, male gender, pubis fracture, innominate fracture, and SBP <90 mm Hg

INCORPORATION OF MINDFULNESS EXERCISES TO REDUCE ANXIETY AND PAIN DURING URODYNAMIC TESTING: A RANDOMIZED CONTROLLED PILOT STUDY

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Presentation to be made by Dr. Uberoi

Objectives: Mindfulness exercises have shown improvement in emotional coping and reduction of anxiety, leading to their incorporation into treatment for acute and chronic pain conditions. The present trial compares the impact of mindfulness exercises as they pertain to anxiety and pain levels among patients undergoing invasive in-office urodynamics (UDS).

Methods: Twenty-seven patients were randomized to either psychologist led mindfulness exercises or an empty quiet room prior to undergoing UDS. The personnel performing UDS were blinded to the intervention. The primary outcome, reduction of anxiety after UDS, was measured by the state-trait anxiety inventory (STAI-6). STAI-6 consists of questions regarding positive aspects of mood and negative aspects of mood. Secondary outcome of pain was measured by the visual analog scale (VAS). Participants completed questionnaires at baseline, after control/study intervention, and immediately after UDS. Wilcoxon-Mann-Whitney test was performed for difference between anxiety and pain between groups. Secondary analyses were performed with Wilcoxon sign rank test to measure differences in changes within each group.

Results: Demographics, past medical history and presenting symptoms were similar between the groups. There was no statistically significant difference in anxiety in the mindfulness or control group at baseline ($p=0.42$), after intervention ($p=0.15$), or after UDS ($p=0.13$). Pain was not statistically different between groups at baseline ($p=0.17$), after intervention ($p=0.11$), after UDS ($p=0.38$). Secondary outcomes of fear ($p=0.05$) and embarrassment ($p=0.07$) were lower in the mindfulness group.

Conclusions: This pilot study does not reflect reduction in patients' anxiety and pain during urodynamics procedure. Fear and embarrassment were noted to be lower in the mindfulness group. We suspect confounding effect may have been present in the control group based on self-report of 'relaxation techniques' used by control patients in the quiet, empty room.

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TARGETED ANTIMICROBIAL PROPHYLAXIS FOR TRANSRECTAL ULTRASOUND GUIDED PROSTATIC NEEDLE BIOPSY – 5 YEAR EXPERIENCE

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Presentation to be made by Dr. Cohen

Objective: To prevent infectious complications following Transrectal Ultrasound Guided Prostatic Needle Biopsy (TRUS/PNB) through use of targeted antimicrobial therapy over a five year period.

Materials and Methods: We used a modification of previously published techniques to perform rectal swabs prior to TRUS/PNB. Rectal swabs were placed in vials containing broth with Ciprofloxacin 10mcg/ml and transported to the microbiology lab. After 24 hrs these specimens were subcultured to MacConkey Agar with ciprofloxacin plate. Those specimens showing growth of gram-negative organisms were submitted for further susceptibility testing to confirm organism identity and antimicrobial resistance. Patient with fluoroquinolone susceptible organisms received ciprofloxacin, while those with resistant organisms received directed antimicrobial prophylaxis

Results: Over a five year period 658 patients had rectal swabs taken. Of these 13 % had positive cultures for Ciprofloxacin resistance and were placed on targeted prophylaxis.

Conclusion: There were 4 patients who had documented UTI/Sepsis. These were all easily managed with no prolonged hospitalizations. This represented a 0.6% infectious complication rate which compares favorably with published data regarding standard fluoroquinolone prophylaxis.