

Program Schedule

North Central Section of the AUA, Inc.
95th Annual Meeting
October 6 – 9, 2021
Fairmont Chicago Millennium Park
Chicago, Illinois

Program Chair: Elizabeth B. Takacs, MD

All sessions will be located in International Ballroom (Level 2) unless otherwise noted.

WEDNESDAY, OCTOBER 6, 2021

7:00 AM-6:00 PM

Registration/Information Desk Hours

Location: International Foyer (Level 2)

7:00 AM-6:00 PM

Speaker Ready Room Hours

Location: Royal (B2 Level)

7:30 AM-11:00 AM

Spouse/Guest Hospitality Suite Hours

Location: Embassy (Level 2)

7:30 AM-9:00 AM

Breakfast

Location: International Foyer (Level 2)

7:50 AM-8:00 AM

President's Welcome

President:

Jeffrey Triest

8:00 AM-9:00 AM

Tips and Tricks: Robotic Renal Surgery

Location: International Ballroom

Moderator:

Chandru Sundaram

8:00 AM-8:15 AM

Outpatient Robotic Renal Surgery

Panelist:

Ronney Abaza

8:15 AM-8:30 AM

Renal Mass Enucleation : How to do it

Panelist:

Gopal Gupta

8:30 AM-8:45 AM

Tips/Tricks: Robotic Retroperitoneal Partial Nephrectomy

Panelist:

Paul Gellhaus

8:45 AM-9:00 AM

Discussion

8:00 AM-10:00 AM

Open Mic

Location: Gold Room

Moderator:

C.R. Powell

8:00 AM-8:20 AM

Adult UPJ Obstruction - Perplexing and Inconsistent

Speaker:

Sapan Ambani

8:20 AM-8:40 AM	Access to Male Infertility Care: How Disparities Impact our Patients and Their Families <i>Speaker:</i> James Dupree
8:40 AM-9:00 AM	Genitourinary Acupuncture Basics: Do Urological Patients Benefit From Acupuncture? <i>Speaker:</i> Larissa Bresler
9:00 AM-9:20 AM	Anticholinergics: Does Treatment of the Bladder Put the Brain at Risk? <i>Speaker:</i> Jacqueline Zillioux
9:20 AM-9:40 AM	"OUCH! Pelvic Pain Treatments: Thinking out of the Box" <i>Speaker:</i> Annah Vollstedt
9:40 AM-10:00 AM	Disparities in Bladder Cancer: Sex, Race and Immunologic Status <i>Speaker:</i> Laura Bukavina
9:00 AM-9:25 AM	Robotic Renal Surgery- Past, Present and Future Location: International Ballroom <i>Introducer:</i> Ronald Boris <i>Speaker:</i> Jihad Kaouk
9:25 AM-10:00 AM	Management of the Small Renal Mass- The Ideal Candidate Location: International Ballroom <i>Moderator:</i> Ronald Boris
9:25 AM-9:30 AM	Introduction
9:30 AM-9:40 AM	Surveillance <i>Panelist:</i> Alexander Chow
9:40 AM-9:50 AM	Ablative Procedure <i>Panelist:</i> Gopal Gupta
9:50 AM-10:00 AM	Partial Nephrectomy <i>Panelist:</i> Geoffrey Box

10:00 AM-10:30 AM	Break
10:30 AM-11:30 AM	Non-Surgical Management of Advanced GU Malignancies <i>Moderator:</i> Marcus Quek
	Kidney <i>Panelist:</i> Kenneth Nepple
	TCC <i>Panelist:</i> Hristos Kaimakliotis
	Prostate <i>Panelist:</i> Kara Babaian
	Testes <i>Panelist:</i> K. Clint Cary
11:30 AM-1:00 PM	Industry Sponsored Lunch Symposium
11:30 AM-1:00 PM	Industry Sponsored Lunch Symposium
1:00 PM-5:00 PM	Health Care Policy Forum Location: International Ballroom
1:00 PM-1:35 PM	American Medical Association (AMA) House of Delegates (HoD) Update
1:00 PM-1:25 PM	Telehealth and Scope of Practice Challenges <i>Speaker:</i> Hans Arora
1:25 PM-1:35 PM	Q&A Session
1:35 PM-2:35 PM	Open Mic
1:35 PM-1:55 PM	Onboarding and Role Considerations for the Urology APP <i>Speaker:</i> Susanne Quallich
1:55 PM-2:05 PM	Q&A Session

2:05 PM-2:25 PM	The Price Is Right? How Federal Price Transparency Policies Impact Urology <i>Speaker:</i> Kevin Koo
2:25 PM-2:35 PM	Q&A Session
2:35 PM-3:15 PM	Lobbying 101 <i>Introducer:</i> James Brown <i>Speakers:</i> Jennifer Harbison Yehuda Sugarman
3:05 PM-3:15 PM	Q&A Session
3:15 PM-3:35 PM	Break
3:35 PM-4:50 PM	Hot Topics in Health Policy
3:35 PM-3:55 PM	SAU Task Force Update: Recruiting/Retaining Urologists to Practice Rural Medicine
3:55 PM-4:15 PM	Update on Transgender and Gender Dysphoria Legislation <i>Speaker:</i> Emilie Johnson
4:15 PM-4:35 PM	Access for Prostate Cancer Screening <i>Speaker:</i> Mary Westerman
4:35 PM-4:50 PM	Q&A Session
4:55 PM-5:00 PM	NCS Health Policy Young Investigator Award Presentation
3:00 PM-4:30 PM	Educators Session Location: Gold Room <i>Moderator:</i> Elizabeth Takacs
3:00 PM-3:30 PM	Intraoperative Assessment of our Learners: Review of the Literature and Case Studies <i>Speaker:</i> Geoffrey Box

3:30 PM-4:30 PM

Round Table on CBME – Milestones 2.0 How Are We Doing?

Moderator:

Geoffrey Box

Panelists:

Sapan Ambani

Stephanie Kielb

R. Houston Thompson

5:00 PM-6:00 PM

General Epidemiological and Socioeconomics Podium Session

Location: International Ballroom

Moderators:

Candace Granberg

Kevin Koo

UTILITY OF CERAMIDE TESTING IN MEN WITH ERECTILE DYSFUNCTION

David Yang, MD¹, Manaf Alom, MBBS¹, C Scott Collins, MD², Stephen Kopecky, MD³, Sevann Helo, MD¹, Ziegelmann Matthew, MD¹, Tobias Kohler, MD¹

¹Mayo Clinic, Department of Urology, ²Mayo Clinic, Department of Internal Medicine, ³Mayo Clinic, Department of Cardiology

Introduction:

Erectile dysfunction (ED) is a known precursor and sequelae to diagnosed cardiovascular disease (CVD). ED AUA guidelines recommend evaluating standard CV risk factors including serum lipids and penile doppler to help stratify CV risk, but few patients are referred for further evaluation.

Plasma ceramides are metabolic byproducts that predicts adverse cardiovascular events resulting from unstable atherosclerotic plaque. CVD risk conferred by ceramide levels has been shown to be independent of conventional risk factors such as LDL and hsCRP levels. Thus, *Plasma MI-Heart Ceramide* is a new test that useful for evaluating shorter term major adverse cardiovascular events (MACE) in the next 1 to 5 years. We sought to evaluate the utility of ceramide levels in ED patients.

Methods:

We initiated ceramide testing in all patients with ED in late 2019 (in addition to lipids and HgbA1c). We queried our electronic medical record for ceramide levels and men with a diagnosis of ED.

Results:

245 men with ED and ceramide levels were analyzed. 44% (n=107) were normal, 42% (n=103) were moderate risk, 12% (n=29) were high risk and 2% (n=6) were very high risk. As result of their ceramide and office evaluation, 42% (15/35) of high/very high risk patients were referred for cardiac evaluation.

Conclusions:

1 in 7 men presenting to an ED clinic had a high or very high ceramide risk with many being referred for further workup. Further study is warranted to optimize utility of ceramide in men with ED and potentially decrease peri-procedural IPP cardiac morbidity.

Funding: N/A

Caprini Risk Score is Shockingly High in Penile Prosthesis Surgery Patients

Kevin Hebert, MD, Chintan Mehta, MD, Sevan Helo, MD, Matt Ziegelmann, MD, Tobias Kohler, MD
Mayo Clinic, Rochester, MN

Introduction: Significant overlap of risk factors for erectile dysfunction and venous thromboembolism (VTE) may disproportionately increase the risk of VTE in men undergoing inflatable penile prosthesis (IPP) surgery. Owing to the absence of available literature, AUA and EAU perioperative VTE guidelines do not address VTE risk with IPP surgery and generally recommend against pharmacologic prophylaxis with outpatient surgery.

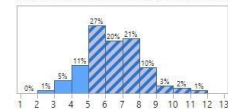
Methods: We retrospectively reviewed and calculated Caprini Scores for 215 patients undergoing IPP surgery at our institution between July 2017 and June 2019. Traditionally, recommended prophylaxis for Caprini scores of 5 or higher is pneumatic compression devices and low molecular weight heparin.

Results: Of 215 IPP patients, 84% were classified as high or highest risk for VTE utilizing the Caprini risk score (Figure 1). This is in part due to our cohort's mean age of 64, mean BMI of 31 and history of prostate cancer treatment as the cause of ED.

Conclusion: VTE prophylaxis should strongly be considered in men undergoing penile implant surgery.

Funding: none

Figure 1. Bar graph showing distribution of preoperative Caprini Score in IPP Patients: Diagonal filled bars indicate high or highest risk.



SIGNIFICANT FINANCIAL DIFFERENCES OF CHEMICAL AND SURGICAL ANDROGEN DEPRIVATION IN A CONTEMPORARY COHORT

Charles Paul, MD, MBA¹, Rohan Garje, MD², Karl Kreder, MD, MBA¹, Sarah Mott, MS², Paul Gellhaus, MD¹

¹University of Iowa Hospitals and Clinics, Department of Urology, Iowa City, IA, ²University of Iowa Hospitals and Clinics, Holden Comprehensive Cancer Center, Iowa City, IA

Introduction

Androgen deprivation therapy (ADT) remains a cornerstone of treatment for advanced prostate cancer. Few men elect for surgical castration via bilateral orchiectomy. We compared the relative difference in financial charges between chemical and surgical ADT in a contemporary cohort.

Methods

Billing data was obtained for patients receiving chemical ADT and who had bilateral orchiectomy from 2014-2019. We compared charges of administration for chemical ADT and overall charges for bilateral orchiectomy. We evaluated the time chemical ADT patient charges surpassed those of surgical charges, as well as the net present value (NPV) of hypothetical savings for electing surgery over various ADT agents.

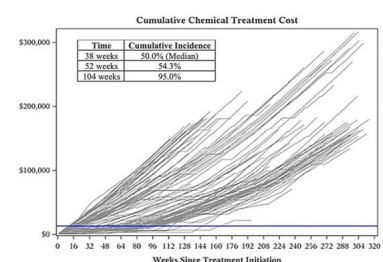
Results

137 patients receiving chemical ADT and 7 patients who had undergone bilateral orchiectomy were analyzed. Median and mean surgical charges were \$13,000. By 38 weeks following treatment initiation, 50% of chemical ADT patients had surpassed surgical charges, with 95% surpassing surgical charges at 2 years. The NPV in savings for a median patient varied between ADT agent and was the highest (\$167,000) for leuprolide.

Conclusion

In only 38 weeks, the median chemical ADT patient charges surpassed the charges for surgical castration. The NPV of electing surgery over ADT was the highest with leuprolide. Despite under-utilization, surgical castration remains a clinically relevant and cost-effective option for permanent ADT.

Funding: N/A



WHEN REIMBURSEMENT REFLECTS REALITY: MEDICARE PRICING TRENDS IN URETHRAL STRICTURE SURGERY

Raevti Bole¹, Victoria Edmonds², Katherine Theisen¹, Brian Linder¹, Boyd Viers¹

¹Mayo Clinic, Rochester, ²Mayo Clinic, Arizona

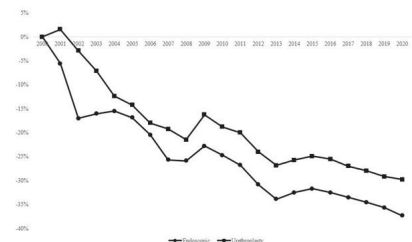
Introduction: In 2016, the AUA released guidelines recommending urethroplasty over repeated endoscopic procedures for recurrent disease. We sought to determine if this recommendation was mirrored by trends in Medicare reimbursement.

Methods: The Centers for Medicare and Medicaid Services database was queried for reimbursement and provider-level data related to urethral stricture procedures from 2000-2020. Monetary data was adjusted for inflation to 2020 US dollars. Average annual and total percentage change in reimbursement were calculated.

Results: From 2000-2020, average reimbursement rate decreased significantly more for endoscopies than for urethroplasty ($p=0.047$, **Figure 1**). The annual reimbursement rate decreased by -1.64% for endoscopies and -1.46% for urethroplasty. When comparing annual decrease in reimbursement between endoscopies and urethroplasty, there was no difference from 2000-2016 (-1.7% vs. -1.6%, $p=.17$). However, from 2017-2020, endoscopic procedures witnessed a sharper annual decrease in reimbursement than urethroplasty (-1.9% vs. -1.23%, $p<.001$). Decrease in annual reimbursement for urethroplasty was lower after 2017 compared with 2000-2016 (-1.2% vs. -1.6%, $p = 0.01$).

Conclusions: Medicare reimbursement decreased for all procedures related to urethral strictures from 2000-2020. Procedures followed a similar trajectory from 2000-2016, however reimbursement for endoscopies decreased significantly more than for urethroplasty from 2017-2020. These differences may support a shift in urologic practice towards urethroplasty in accordance with national guidelines.

Funding: N/A



NOT EVERYONE CAN USE VIDEO VISITS: USING PHONE ENCOUNTERS FOR UROLOGIC CARE DURING COVID-19

Juan Andino, MD, MBA¹, Erica Odukoya, MPH¹, Sophia Ng, PhD², Emma Steppe, MPH², Chad Ellimott, MD, MPH^{1,2}

¹Michigan Medicine Urology, ²Institute for Healthcare Policy & Innovation, Ann Arbor, MI

Introduction

Health insurance organizations have reimbursed audio-only (i.e., phone) visits during the COVID-19 pandemic; however, it is unknown whether phone visit coverage will continue beyond the public health emergency. We sought to understand which patients relied on phone visits for urologic care.

Methods

We performed a retrospective review of outpatient urologic encounters at Michigan Medicine from April 1 - June 30, 2020. We categorized patients as using phone versus video visits. We compared telemedicine use across different demographics characteristics. Chi-square test was used for statistical analysis

Results

There were 4744 telehealth users and 2068 patients (43.6%) received care through phone visits. Older age was associated with increased use of audio-only visits – 57% of patients who used phone visits were >65 years old compared to 31.0% of video visit users ($p<0.001$). African American or black race and rural residence were also associated with increased use of phone visits ($p<0.001$; table 1). While patients requiring an interpreter had more phone visits (19.7%) than video (14.2%), this difference was not statistically significant.

Conclusion

Patients who were older, African American, or lived in a rural area were more likely to use phone visits to connect with their urologists. Without coverage and reimbursement of phone visits, relying on video visits only could propagate health disparities.

Funding: 1 K08 HS027632-01 from the Agency for Healthcare Research and Quality

GUIDELINE-DRIVEN CHANGES IN SURGICAL MANAGEMENT OF URETHRAL STRICTURE IN MEDICARE PATIENTS

Raevti Bole¹, Victoria Edmonds², Katherine Theisen¹, Brian Linder¹, Boyd Viers¹

¹Mayo Clinic, Rochester, ²Mayo Clinic, Arizona

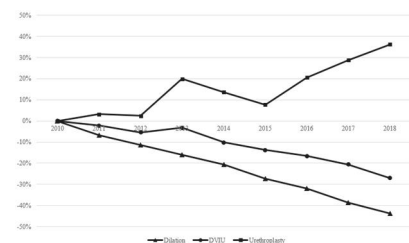
Introduction: In 2016, the AUA released guidelines recommending urethroplasty over repeated endoscopic procedures, such as dilation or direct visual internal urethrotomy (DVIU) for recurrent strictures. We investigated changes in Medicare practice patterns for urethral strictures from 2010 to 2018.

Methods: The Centers for Medicare and Medicaid Services (CMS) database was queried for reimbursement and provider-level data related to urethral stricture from 2010 to 2018. Monetary data was adjusted for inflation to 2020 US dollars (USD). Baseline statistics tabulated as indicated.

Results: Endoscopic procedures were billed 14,923 times by 1110 providers annually. Urethroplasty was billed 209 times annually by 127 providers. Significantly more endoscopies were performed annually than urethroplasties (9.3 vs. 1.6, $p=.02$). Average urethroplasty reimbursement was \$777 versus \$214 for endoscopy. Overall, providers were reimbursed \$1893 annually for endoscopies compared with \$1310 for urethroplasties. Total endoscopies per year decreased 35% (-44% dilation; -27% DVIU), while total urethroplasties increased 36% (**Figure 1**).

Conclusions: Providers performed significantly more endoscopies for urethral strictures than urethroplasties under Medicare from 2010-2018. Although urethroplasty reimbursement is higher, providers received greater annual reimbursement for endoscopies after accounting for procedural volume. Regardless, total endoscopic procedures decreased over time. Findings suggest that although Medicare might incentivize repeated endoscopic management over definitive urethroplasty, urologists are nonetheless responding to national guidelines.

Funding: N/A



GROSS HEMATURIA PRESENTING TO THE EMERGENCY DEPARTMENT: A 1-YEAR, SINGLE CENTER ANALYSIS

Stephen Wertheimer, Jackson Darling, Callie Bartkowiak, Deepansh Dalela, Humphrey Atiemo

Department of Urology, Henry Ford Health System

Introduction:

Gross hematuria (GH) is not an uncommon emergency department (ED) presentation. We assessed clinical characteristics of patients with GH who presented to the ED and were subsequently diagnosed with a new genitourinary (GU) malignancy.

Methods:

Patients presenting with GH to 6 EDs within a single healthcare system between 1/1/2019-12/31/2019 were identified. Patients with a subsequent diagnosis of GU malignancy were clinically characterized by factors regarding time to diagnosis and final pathology.

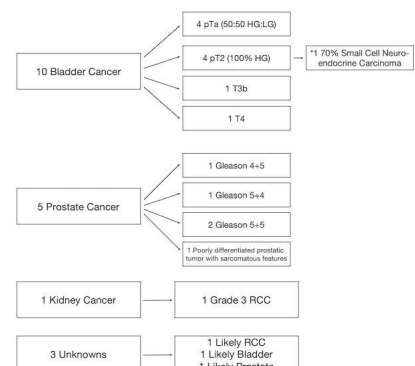
Results:

Of 286,313 patients seen, 1370 (0.48%) had a diagnosis of GH. Average time to diagnosis of malignancy was 32 days, however 20 days if Urology was consulted. Only 196 patients had a diagnosis of GU malignancy in their medical history, with 19 having a new diagnosis, representing 1.4% of GH patients (Figure 1)

Conclusion:

If Urology was consulted when a patient presented to the ED with GH, it reduced average time to diagnosis of malignancy. Majority of malignancies identified were bladder cancer (53%), followed by prostate cancer (26%), with RCC representing ~10%. At our center, patients with GH who present to the ED have a relatively low chance of having a new underlying GU malignancy (1.4%), representing a shift in current thinking.

Funding: n/a



REDEFINING THE GENDER GAP IN UROLOGY

AUTHORSHIP: AN 18 YEAR PUBLICATION ANALYSIS

Megan Prunty, MD¹, Stephen Rhodes, PhD¹, Sarah Markt, PhD², Helen Sun, MD³, Sarah Psutka, MD, MSc⁴, Kirtishri Mishra, MD³, Adam Calaway, MD, MPH³, Laura Bukavina, MD, MPH³

¹Case Western Reserve University / University Hospitals Urology, ²Case Western School of Medicine, Department of Population and Quantitative Health Sciences, ³Case Western Reserve University / University Hospitals, ⁴Department of Urology, University of Washington School of Medicine

Objective: Academic publications are an important metric for academic promotion. Our study characterizes temporal changes in female representation in academic authorship in urology.

Methods: Publication records from the 10 highest impact-factor urology journals from 2002-2020 were retrieved using the easyPubMed package for R. The gender and genderizeR packages inferred author gender.

Results: Of 59,375 articles analyzed, 94.1% had first and 94.2% had last author gender. The proportion of female authors increased positively from 0.17,[0.13, 0.21]($p<0.01$) to 0.27,[0.22, 0.34]($p<0.01$) (Figure 1). For journal specific changes, Neurourology and Urodynamics and Journal of Sexual Medicine had statistically faster growth of female authors (13% and 16%, respectively), compared to Journal of Endourology (7%) and Urologic Oncology (4%) ($p<0.05$). Female first authorship increased from 0.15, [0.11, 0.20] to 0.28,[0.22, 0.36]. Female senior authors did not experience the same growth (0.10,[0.08, 0.13] to 0.19,[0.14, 0.24]).

Conclusion: Significant growth in female authorship in urologic journals occurred from 2002-2020. Of note, female last authorship growth was slower than the other categories. Journal-specific differences are evident, with the highest rates growth in JSM and NAU.

Funding: N/A

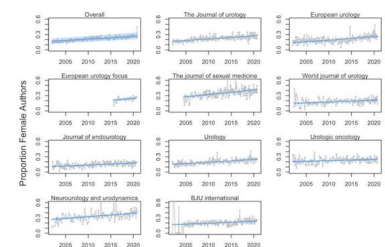


Figure 1. Proportion of female authors over time, overall and split by journal. Data shown in grey, with model fit (plus 95% Highest Density Intervals) in blue.

FAILURE TO RESCUE? AMBULATORY HEALTHCARE UTILIZATION AFTER URETEROSCOPY FOR STONE DISEASE IN A SURGICAL COLLABORATIVE

John DiBianco, MD, Roberto Navarrete, MD, Bronson Conrado, MHSA, Stephanie Daignault-Newton, MS, Khurshid Ghani, MBChB, for the Michigan Urological Surgical, Improvement Collaborative
University of Michigan, Department of Urology

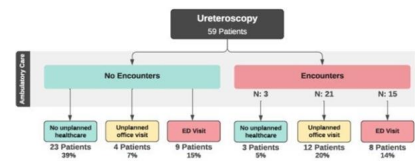
Introduction and Objective: Postoperative healthcare utilization after ureteroscopy (URS) for nephrolithiasis assessed to determine relationship between ambulatory encounters and unplanned visits. Ambulatory encounters quantified and categorized with aim to investigate pathways for preventing emergency department (ED) visits.

Methods: Using the Michigan Urological Surgery Improvement Collaborative (MUSIC) clinical registry, URS patients in practices with ≥ 10 cases in 2019 were stratified by outcome (ED visit, office visit, no visits). One patient from each strata per practice randomly selected for review. Data elements and classification defined a priori. Communication between office and patient prior to unplanned visit labeled an encounter. Patient complaints, timing and office actions examined. Encounter intensity categorized as low, moderate or high based on clinician decision-making and action.

Results: 4526 cases with 30-day ED visit rate of 6.4% identified; 59 patients reviewed. 61% had some form of care after URS. 39% generated ≥ 1 encounter. Mean time to first encounter was 3.7 and 11.9 days for stented and unstented patients, respectively. 15% had ED visit without prior ambulatory encounter. 14% had ED visit despite ambulatory encounter. Nursing education was most common office action (53%). Stented patients had more moderate/high intensity encounters (45.9%) than unstented patients (13.3%).

Conclusions: Postoperative ambulatory care utilization after URS poses a high burden on the healthcare system.

Funding: Blue Cross Blue Shield of Michigan



REIMBURSEMENT INCENTIVE ASSOCIATED WITH DECREASED INPATIENT OPIOID PRESCRIBING FOLLOWING ROBOTIC RADICAL PROSTATECTOMY

Brett Watson, MD¹, Ross Touriel², Joshua Volin², Frank Burks, MD¹

¹Beaumont Health, Dept of Urology, Royal Oak, MI, ²Oakland University William Beaumont School of Medicine, Rochester, MI

Intro

Various strategies have been explored to decrease the quantity of opioids prescribed for post-operative pain. The Michigan Opioid Prescribing Engagement Network, in partnership with BCBS-Michigan, has developed a pain optimization pathway for several surgical procedures, including prostatectomy. Urologists who follow the pain optimization pathway, which includes pre-operative patient education and limiting discharge opioids to 6 tablets of oxycodone 5 mg, can report a modifier for additional reimbursement. We explored the impact of this incentive on inpatient opioid prescribing practices following robotic assisted radical prostatectomy (RARP).

Methods

Patients undergoing RARP between January 2017 and August 2019 at a single institution were retrospectively reviewed. This interval included cases both before, and after, the reimbursement incentive was implemented on July 1, 2018. Outcomes included quantity of opioid administered during hospitalization, reported in morphine milligram equivalents (MME), and average inpatient pain scores, reported with numerical pain scale.

Results

A total of 300 patients underwent RARP, 209 prior to implementation of the reimbursement incentive, and 91 after. Mean MME administered during hospitalization decreased 18% after the incentive went into effect, from 73 to 54 MME ($p=0.04$). There was no difference in average pain scores or length of stay.

Conclusion

For patients undergoing RARP, a reimbursement-based incentive tied to limiting outpatient opioid prescriptions was associated with a decrease in opioids administered during hospitalization, with no impact on subjective pain scores or length of stay. This may reflect the effectiveness of pre-operative patient education on the dangers of opioid use and alternative pain management options.

Funding: N/A

Is a Preoperative Type and Screen Required in Patients Undergoing Common Urological Procedures? A Cost-Benefit Analysis

Joshua Volin, BS¹, Patrick Herndon, BS¹, Aviv Spillinger, BS¹, Patrick Karabon, MS¹, James Blumline, BS¹, Deanna Tran, BS¹, Craig Fletcher, MD², Jason Hafron, MD^{1,3}

¹Oakland University William Beaumont School of Medicine, ²William Beaumont Hospital-Royal Oak, ³William Beaumont Hospital-Royal Oak, Department of Urology

Background: Our objective was to evaluate the cost-effectiveness of obtaining preoperative type and screen (TS) for common urological procedures and to determine patient and hospital factors associated with receiving blood transfusions.

Methods: Retrospective database analysis of the 2006-2015 Nationwide Inpatient Sample (NIS) was performed to identify patients undergoing a variety of urological procedures. A total of 4,113,144 cases were identified. Transfusion rates were then determined from NIS data, and multivariate regression analyses was used to identify factors associated with transfusions. A cost-effectiveness analysis was performed to determine the incremental cost-effectiveness ratio (ICER) of obtaining preoperative TS to prevent an emergency-release transfusion (ERT), with a willingness-to-pay threshold of \$1,500.

Results: Transfusion rates of common urological procedure ranged from .91% to 33.14%. On multivariate modeling, all comorbidities with the exception of obesity were significantly associated with blood transfusion. Some examples included diabetes (OR, 1.26; 95% CI, 1.19-1.33), liver disease (OR, 1.20; 95% CI, 1.13-1.29), and metastatic cancer (OR, 2.69; 95% CI 2.54-2.85) ($p < 0.01$ for all). One-way sensitivity analysis demonstrated that the risk of transfusion should exceed 4.12% to justify preoperative TS. The ICER of preoperative TS for radical prostatectomy (transfusion rate = 3.88%) and penile implants (transfusion rate = 0.91%) were \$1,607 and \$7,709 per ERT prevented, respectively.

Conclusions: Based on a large national database, institutions should consider a risk of transfusion greater than or equal to 4.12% to justify a preoperative TS. A selective TS policy for high risk patients may reduce costs and unnecessary workload for laboratory staff.

Funding: N/A

ASSOCIATION BETWEEN CONFLICT OF INTEREST AND PUBLISHED POSITION ON USE OF UROLIFT DEVICE FOR LOWER URINARY TRACT SYMPTOMS

Armaan Singh¹, Luke Reynolds², Parth Modi²

¹Pritzker School of Medicine, University of Chicago, ²Section of Urology, University of Chicago

Introduction:

The receipt of industry payments has been associated with pharmaceutical prescribing, surgical device selection, and research findings. Recent studies suggest that payments may be associated with positive positions in editorials and reviews. The Urolift device, manufactured by NeoTract LLC, has mixed results compared to TURP for lower urinary tract symptoms. Our goal was to examine associations between authors' financial conflicts-of-interest and their published comments on the Urolift device.

Methods:

We searched Google Scholar for all articles that cite the 2013 L.I.F.T. study in Journal of Urology. We screened for editorials or reviews written by American authors. Two blinded attending urologists coded included articles as favorable or neutral. A separate blinded researcher recorded conflict-of-interest data using the Open Payments Registry.

Results:

We identified 13 articles by 15 unique authors. Since 2014, these authors have collectively received \$270,000 from NeoTract. 3 papers were coded as favorable, and 10 papers were coded as unfavorable. All (4/4; 100%) authors of favorable articles received payments, while 5/12 (41.7%) authors of neutral papers had payments. From the 8 unique authors with payments from Neotract, there were only two disclosures.

Conclusion:

These data suggest a relationship between payments from a manufacturer and positive published position on that company's device. Further work is needed in this area.

Funding: N/A

	Favorable Articles (n = 3)	Neutral articles (n = 10)
Number of unique authors*	4	12
No. of Authors who declared financial conflict of interest	3	1
No. of Authors with undisclosed financial conflict of interest	3	4
No. of Authors who received > 100 dollars in funding from NeoLift	4	5
No. of Authors who received > 1,000 dollars in funding from NeoLift	3	3
No. of Authors who received > 10,000 dollars in funding from NeoLift	2	1

*One author included in both favorable and neutral articles

ADOPTION OF SINGLE-USE FLEXIBLE CYSTOSCOPES FOR OUTPATIENT CYSTOSCOPY: A MICRO-COSTING ANALYSIS

Zhuo Su¹, Mitchell Huang¹, Brian Matlaga¹, Susan Hutfless¹, Kevin Koo²

¹Johns Hopkins University, Baltimore, MD, ²Mayo Clinic, Rochester, MN

Introduction: Single-use flexible cystoscopes may confer clinical and workforce benefits. However, the potential impact on cost containment is not well-characterized. We aimed to evaluate the total cost of outpatient flexible cystoscopy and assess the economic impact of adopting single-use cystoscopes.

Methods: Cost data regarding the purchase, maintenance, and reprocessing of reusable cystoscopes were collected using a micro-costing approach at a high-volume outpatient urology clinic. We estimated the costs for facilities performing a range of annual procedure volumes (1,000-3,000) using a fleet ranging from 10 to 25 cystoscopes. We also compared the total cost for cystoscopic ureteral stent removal procedures performed using single-use vs. reusable devices.

Results: The per-procedure cost associated with reusable flexible cystoscopes ranged from \$105 to \$224 depending on annual procedure volume and number of available cystoscopes devices. As a practice became more efficient by increasing the ratio of procedures performed to cystoscopes in the fleet, the proportion of the total cost due to cystoscope reprocessing increased from 22% to 46%. For ureteral stent removal procedures, the per-procedure cost for reusable cystoscopes (range \$165-\$1,469) was higher than for single-use devices (\$244-\$420), unless the annual procedure volume was sufficiently high relative to the number of reusable cystoscopes in the fleet (≥ 350 for a practice with 10 reusable cystoscopes, ≥ 700 with 20 cystoscopes).

Conclusion: The cost of reprocessing reusable cystoscopes represents the dominant component of the total procedural cost, especially at high-volume centers. Adoption of single-use cystoscopes appears to be most cost-advantageous for stent removal procedures, especially for lower-volume centers.

Funding: N/A

5:00 PM-6:00 PM

Adrenal, Kidney, Ureter – Benign/Malignant Podium Session

Location: Gold

Moderators:

Paul Gellhaus

Simpa Salami

Is Chest Imaging Needed As Part of T1a Renal Cell Carcinoma Surveillance After Surgical Resection?

David Charles, John Fitzgerald, Brennen Cooper, Truman Landowski, Raymond Yong, Ross Everett, William See, Kenneth Jacobsohn, Scott Johnson, Peter Langenstroer

Dept of Urology, Medical College of Wisconsin

Introduction

Following surgical excision of localized renal cell carcinoma (RCC), 20-30% will recur, with 50-60% being lung metastases. The NCCN and AUA guidelines recommend chest surveillance via chest x-ray (CXR) at least annually for five years. Two previous studies found extraordinarily low incidence of pulmonary recurrence in T1-T3 RCC after surgical excision. Despite this, National and International guidelines continue to recommend CXR for surveillance after localized RCC. To that end, we evaluated our cohort of pT1a patients to understand the value of follow up chest imaging in a low-risk population.

Methods

We performed retrospective analysis of patients who underwent surgical excision of T1a RCC between January 2000 and January 2020. We expanded the review of standard demographics to include baseline pulmonary pathology, RCC pathology, and the most contemporary chest imaging. We excluded non-RCC pathology, and those patients with pulmonary nodules on baseline imaging.

Results

With over 20 years of data, we identified 463 patients (mean age 58.3 years, range 23-87) that underwent surgical excision of T1a RCC with mean follow-up of 47.6 months (range 1 – 201). On most recent pulmonary surveillance imaging, 72.4% (335/463) had CXR while 27.6% (128/463) had chest CT performed. Regardless of modality, pulmonary recurrence was not detected on any surveillance imaging (0/463) in patients without pulmonary nodules on preoperative imaging.

Conclusion

With the prior studies in mind, in patients without baseline preoperative lung pathology, we further corroborate that there is minimal to no clinical value in surveillance for pulmonary recurrence after resection of T1a RCC.

Funding: N/A

5:04 PM #15

**PREVENTION OF BLADDER RECURRENCE WITH
INTRAOPERATIVE GEMCITABINE INSTILLATION
FOLLOWING BLADDER CLOSURE DURING RADICAL
NEPHREOURETERECTOMY**

Mohammed Said, MD, Hayden Warner, MD, Vignesh Packiam, MD, Chad
Tracy, MD, Paul Gellhaus, MD

Department of Urology, University of Iowa Hospitals and Clinics

WITHDRAWN

OPTIMAL OUTCOMES FOLLOWING RADICAL NEPHRECTOMY FOR ADVANCED RENAL CELL CARCINOMA

Sarah E. Sweigert, MD¹, Elizabeth L. Koehne, MD¹, Patrick J. Sweigert, MD², Parth M. Patel, MD¹, Hiten D. Patel, MD, MPH¹, Robert C. Flanigan, MD¹, Gopal N. Gupta, MD¹

¹Loyola University Medical Center, Department of Urology, ²Loyola University Medical Center, Department of Surgery

Introduction

We sought to define and characterize a composite optimal outcome (OO) following radical nephrectomy (RN) for locally advanced, large RCC.

Methods

Adult patients with non-metastatic stage II-IV RCC treated with RN (2004-2016) were queried from the National Cancer Database. OO was achieved if the patient met all four criteria: negative margins, no prolonged length of stay (<75 percentile), no 30-day mortality, and no 30-day readmission. Multivariable logistic regression (MVR) was used to identify factors associated with an OO. Overall survival was evaluated using the Kaplan-Meier method and adjusted Cox proportional hazard modeling.

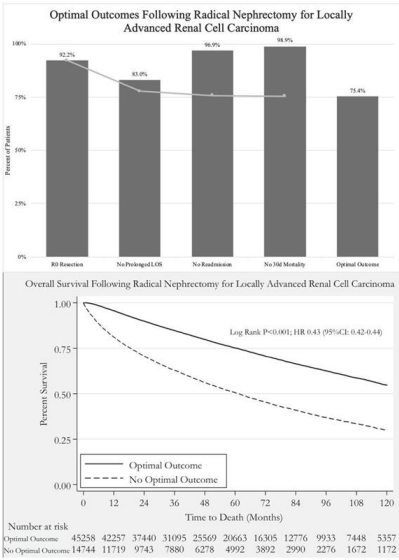
Results

Of the 60,003 patients included, an OO was achieved in 75.4% of patients and was associated with a survival advantage (Figure). On MVR, increased age, non-Hispanic black ethnicity, non-private insurance, increased Carlson-Deyo score, papillary histology, and increased stage conferred a decreased risk of achieving an OO ($p < 0.001$). On adjusted Cox modeling, achieving OO was independently associated with decreased chance of death (HR 0.43, 95%CI [0.42-0.44]).

Conclusion

Three-quarters of patients undergoing RN for locally advanced RCC achieved an optimal composite clinical outcome, which was associated with increased overall survival. Certain vulnerable populations may be at greater risk of not achieving a composite optimal result.

Funding: N/A



MORBIDITY AFTER ROBOTIC VS OPEN RADICAL NEPHRECTOMY FOR TREATMENT OF RCC IN OBESE PATIENTS

Ruben Vasquez¹, Sean Kern¹, Adam Calaway², Chandru Sundaram¹, Ronald Boris¹

¹Department of Urology, Indiana University School of Medicine, Indianapolis, Indiana, USA, ²Department of Urology, Case Western University, Cleveland, Ohio, USA

Introduction

With the rate of obesity in the U.S. steadily increasing, our center has seen an increase in the number of obese and morbidly obese patients who present with complex renal masses. As such, we sought to compare morbidity in our obese population undergoing a robotic radical nephrectomy (RRN) or open radical nephrectomy (ORN).

Methods

Using a prospectively collected database, patients with $\leq$ cT3a and body mass index (BMI) $\geq$ 30 were identified who underwent RN for the treatment of renal cell carcinoma between 2010 and 2019. Regression models were utilized to compare clinical outcomes of patients stratified by BMI with respect to surgical approach.

Results

Of 117 patients (median age 59 years), 79 patients underwent RRN and 38 OPN. No difference in BMI, renal mass complexity score, and Charlson Comorbidity Scores among surgical approach. While there was no difference in Clavien-Dindo outcomes or operative times between approach, OPN had significantly higher rates of blood loss, transfusions, and length of stay (LOS). When stratified by BMI, RRN patients with BMI <50 had decreased LOS, blood loss and transfusions but no difference when BMI ≥ 50 . No difference in hernia, dehiscence, hematoma, or infection was appreciated between surgical approach, regardless of BMI.

Conclusion

Radical nephrectomy on obese patients is challenging but is safe and feasible with early follow up. We find the benefits of the robotic approach are negated in morbidly obese patients. The importance of an experienced surgical team and institution to care for this patient population cannot be overstated.

Funding: n/a

DOES SIZE MATTER? COMPARING ROBOTIC VERSUS OPEN RADICAL NEPHRECTOMY FOR VERY LARGE RENAL MASSES

Sarah E. Sweigert, s.e.capodice@gmail.com¹, Gaurav Pahouja, MD¹, Patrick J. Sweigert, MD², Alex Gorbonos, MD¹, Hiten D. Patel, MD MPH¹, Gopal N. Gupta, MD¹

¹Loyola University Medical Center, Department of Urology, ²Loyola University Medical Center, Department of Surgery

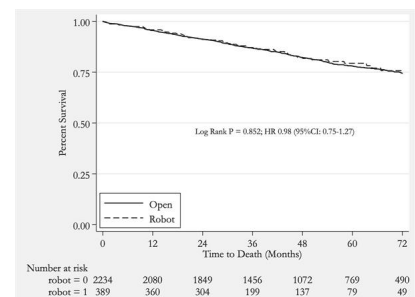
Introduction: We aimed to evaluate the impact of robotic-assisted radical nephrectomy (RRN) versus open radical nephrectomy (ORN) for very large renal cell carcinomas (RCC).

Methods: Adult patients with non-metastatic RCC >10 cm were isolated from the National Cancer Database. Mixed-effects multivariable logistic regression adjusting for patient, tumor, and facility characteristics were used to evaluate rates of positive margin, prolonged length of stay (LOS) (>75th percentile), 30-day readmission, 30-day and 90-day mortality for RRN versus ORN. Overall survival (OS) was evaluated using the Kaplan-Meier method and adjusted Cox proportional hazard modeling.

Results: Of the 2,977 patients who underwent RN, 16.5% underwent RRN. Factors associated with RRN included male gender ($p=0.011$), metro or urban locations ($p=0.011$), academic facilities ($p=0.005$), Charlson-Deyo score >2 ($p=0.010$), private or Medicaid insurance ($p=0.006$), and surgery in a later year ($p<0.001$). ORN was associated with increased median postoperative LOS (4 d [IQR 3-6] vs 3 d, [IQR 2-4]; $p<0.001$). RRN demonstrated no difference in risk of positive margin, 30-day readmission, 30-day or 90-day mortality. RRN was associated with a decreased risk of prolonged LOS (OR 0.37 91%CI [0.27-0.51]). There was no difference in long-term OS between ORN and RRN.

Conclusion: Large, non-metastatic RCC can be treated safely and effectively with RRN, with identical long-term OS and improved LOS compared to ORN.

Funding: N/A



PERCENTAGE OF SARCOMATOID HISTOLOGY IS ASSOCIATED WITH SURVIVAL FOR PATIENTS WITH RENAL CELL CARCINOMA

Amy Man, BA¹, Elizabeth L. Koehne, MD¹, Hiten D. Patel, MD MPH¹, Alessa P. Aragao, MD², Robert C. Flanigan, MD¹, Alex Gorbonos, MD¹, Gopal N. Gupta, MD¹, Michael E. Woods, MD¹, Maria M. Picken, MD², Marcus L. Quek, MD¹

¹Loyola University Chicago Department of Urology, ²Loyola University Chicago Department of Pathology

Introduction: Sarcomatoid dedifferentiation in renal cell carcinoma (RCC) represents an aggressive variant histology with features of epithelial and mesenchymal cells. The amount of sarcomatoid histology (SH) varies from focal to complete dedifferentiation, but impact on outcomes is not well established. Therefore, we aimed to evaluate the association of percentage of SH in RCC with survival.

Methods: Patients ≥ 18 years of age diagnosed with RCC with any degree of SH after nephrectomy were included (2005-2020). Baseline demographic and tumor characteristics were tabulated. Associations of degree of SH and clinical M stage (cM0 vs. cM1) with survival were evaluated by Kaplan-Meier curves and Cox proportional hazards regression.

Results: 121 patients were included with 77 (63.6%) cM0 and 44 (36.4%) cM1 at diagnosis. cM1 patients were more likely to be male and have higher clinical tumor ($p=0.013$) and nodal ($p=0.036$) stage, but a similar proportion had $\geq 20\%$ SH (45.6% vs. 46.8%, $p=0.89$). With median 19.0 (mean 30.6) months follow-up, SH was associated with worse survival per 10% increase (HR 1.19 (95%CI 1.06-1.33), $p=0.003$) and using a $\geq 20\%$ cutoff (HR 1.92 (95%CI 1.05-3.51), $p=0.034$). Patients with cM0 disease and $<20\%$ SH had better 2-year survival (82.0%) compared to cM0 and $\geq 20\%$ SH (50.6%) or cM1 regardless of SH (56.5%). Age and tumor size were additional significant predictors on multivariable analysis while relationships with SH and cM status were similar.

Conclusions: The degree of sarcomatoid dedifferentiation is independently associated with survival for patients with RCC in addition to cM status, age, and tumor size.

Funding: N/A

DOES AFRICAN AMERICAN RACE IMPACT SURVIVAL IN SURGICALLY MANAGED KIDNEY CANCER PATIENTS? THE VETERANS EXPERIENCE

Diego Aguilar Palacios¹, Sarah Markt², Frederick Schumacher², Brigid Wilson^{3,4}, Steven Campbell¹, Robert Abouassaly^{1,4}

¹*Glickman Urological and Kidney Institute, Cleveland Clinic Foundation, Cleveland, OH*, ²*Department of Population and Quantitative and Health Science, Case Western Reserve University School of Medicine, Cleveland, OH*, ³*Case Western Reserve University School of Medicine, Cleveland, OH*, ⁴*Louis Stokes Veteran's Affairs Medical Center, Cleveland, OH*

Introduction: Racial disparities has been reported in multiple urological cancers including renal cell carcinoma (RCC). Herein, we evaluated whether African-Americans undergoing partial nephrectomy (PN) or radical nephrectomy (RN) within the Veterans Affairs (VA) Health System have worse survival than Caucasians.

Methods: A retrospective review of administrative VA data of RCC patients managed with PN/RN (2005-2015) was performed. The impact of race on overall mortality (OM) and cancer-specific mortality (CSM) was evaluated with Cox regression analyses. Multivariable analysis adjusted for relevant demographics, comorbidities, tumor characteristics and nephrectomy type.

Results: A total of 6317 (79%) Caucasian and 1714 (21%) African-American patients were analyzed. For Caucasians: mean age was 62 years, 97% were male, mean tumor-size was 5.3cm and 63% had a RN. Pathology revealed localized (T1/T2) tumors in 79% of patients and predominance of clear cell histology (83%). For African-Americans: mean age was 60 years, 97% were male, mean tumor-size was 4.7cm and 57% underwent RN. Pathology demonstrated clear cell and papillary histology in 62% and 30% respectively. Localized disease was present in 88% of patients. On follow-up, 674 (11%) and 1050 (17%) of Caucasians died of RCC or other causes versus 132 (8%) and 259 (15%) of African-Americans, respectively. On multivariable analyses, compared with Caucasians, the African American HR (95%CI) for CSM and OM were 0.98 (0.78-1.23) and 0.93 (0.83-1.04), respectively.

Conclusion: Our data suggest that there is no evidence of racial disparities in patients undergoing surgery for RCC in a health system with equal access to care.

Funding: Merit Pilot Award #PPO 17-216, VA Grant

Tumor Enucleation versus Standard Margin Partial Nephrectomy: Perioperative, Renal Functional, and Oncologic Outcomes

Hiten D. Patel, MD, MPH, Elizabeth L. Koehne, MD, Keshava Gali, Marcus L. Quek, MD, Gopal N. Gupta, MD

Department of Urology, Loyola University Medical Center, Maywood, IL

Introduction: Standard margin partial nephrectomy (SPN) is a standard of care for amenable renal masses but carries perioperative morbidity and renal functional implications due to sharp incision into and removal of normal renal parenchyma. Tumor enucleation (TE) is an alternative approach using a natural plane of dissection around the tumor pseudocapsule to maximize parenchymal preservation. We aimed to evaluate perioperative, functional, and oncologic outcomes for TE compared to SPN.

Methods: Patients ≥ 18 years of age undergoing robotic-assisted TE or SPN were included (2008-2020). Baseline demographics, tumor characteristics, and comparative effectiveness (perioperative, renal functional, and oncologic outcomes) were assessed.

Results: 467 patients were included with 176 (37.7%) TE and 291 (62.3%) SPN. Baseline tumor characteristics and final histology were comparable between the groups. TE patients had lower (median) EBL (25 vs 150mL, $p < 0.001$), operative time (151 vs. 212min, $p < 0.001$), length of stay (1 vs. 2 days, $p < 0.001$), and fewer major/minor complications (both $p < 0.002$). Positive margin rates were higher for TE vs. SPN (8.5% vs. 3.4%, $p = 0.04$) with similar recurrence rates (2.3% vs. 3.4%) at median 4.0 years follow-up. While baseline renal function was comparable (eGFR 75.8 vs. 78.2, $p = 0.80$), renal function in the first year was better preserved with TE (eGFR 74.5 vs. 67.5, $p < 0.001$) with +8.8 eGFR ($p = 0.001$) maintained after adjustment for preoperative eGFR ($p < 0.001$), hilar clamping ($p = 0.85$), and specimen weight ($p = 0.03$).

Conclusions: TE enables improved perioperative outcomes and preserves greater renal function compared to SPN. While positive margin rates are higher, longer-term recurrence rates are no different suggesting pseudocapsule disruption during TE has limited impact on oncologic outcomes.

Funding: N/A

Outcomes of Adult Pyeloplasty in Symptomatic Patients Without Obstruction on MAG-3 Renal Scan

Jason Zappia, BS, Jason Farrow, MD, Alexander Peters, MS, Chandru Sundaram, MD, Ronald Boris, MD
Indiana University School of Medicine

Introduction: Management of symptomatic ureteropelvic junction obstruction (UPJO) with hydronephrosis with discordant Tc-99m MAG-3 renal scans is challenging. Here we evaluated patients with symptomatic UPJO who underwent robotic pyeloplasty despite their radiographic findings.

Methods: Patients undergoing robotic pyeloplasty at a single institution from January 2009 to February 2020 were retrospectively reviewed. Patients with a pre-operative renal scan whose final radiologist report read “no evidence of obstruction” were compared to patients whose symptoms aligned with imaging. Success was defined as both symptomatic resolution and the absence of any repeat intervention on the ipsilateral UPJ.

Results: Seventy-eight pyeloplasties were identified: 10 patients without and 68 with radiographic obstruction. Pre-operative and peri-operative characteristics are described in Table 1. Operative time and complication rates were similar between groups (Table 1). At 2 months and 12 months, pyeloplasty success rates in patients with discordant imaging were 90% and 80%, respectively, compared to 92% and 96% in the concordant group (Table 2). There were no statistical differences in pyeloplasty success rates between the two groups.

Conclusion: Pyeloplasty is a safe option in patients with symptoms of UPJO without obvious obstruction on imaging, with success rates similar to patients with concordant findings. These patients should be steered toward surgery with high expectation of success when clinically indicated.

Funding: None

Table 1. Pre-operative & Peri-operative Patient Characteristics

	Symptoms Discordant with NMRS	Symptoms Concordant with NMRS	p-value
n	10	68	-
Age (SD)	31 (15)	34 (21)	0.87
Pyeloplasty Redo			
Yes	1 (10%)	4 (6%)	
No	9 (90%)	64 (94%)	0.62
Type of Pyeloplasty			
Anderson-Hynes	10 (100%)	66 (97%)	
Foley T-J Flap	0 (0%)	2 (3%)	0.58
Crossing Vessel			
Yes	4 (40%)	28 (41%)	
No	6 (60%)	40 (59%)	0.94
Required Ureterolysis for Fibrosis			
Yes	0 (0%)	2 (3%)	
No	10 (100%)	66 (97%)	0.58
Operative Time (SD)	224 min (49 min)	257 min (54 min)	0.19
Post-op Complication (%)	1 (10.0%)	6 (11.0%)	
Clavium Grade 3 or Greater	0 (0%)	3 (4%)	0.78

Standard deviation (SD), Nuclear medicine renal scans (NMRS)

Table 2. Post-operative Outcomes

	2 Months	p-value	12 Months	p-value
n	Symptoms Discordant with NMRS		Symptoms Discordant with NMRS	
	10	-	5	-
Failure	1	0.84	1	0.18
Symptoms	1	0.84	1	0.18
Repeat operation	0	0.65	0	-
Success Rate	90.0%	0.84	80%	0.18

Nuclear medicine renal scans (NMRS)

URETEROPELVIC JUNCTION OBSTRUCTION IN THE ELDERLY: IS PYELOPLASTY A SAFE OPTION?

Isabel Gibson¹, Karishma Gupta^{2,1}, Danly O. Omil-Lima^{2,1}, Shubham Gupta^{2,1}, David Sheyn^{2,1}, Amihay Nevo^{2,1}, Kirtishri Mishra^{2,1}, Kyle Scarberry^{2,1}

¹Case Western Reserve University School of Medicine, Cleveland, OH, ² University Hospitals Cleveland Medical Center, Urology Institute, Cleveland, OH

Introduction: Symptomatic ureteropelvic junction obstruction (UPJO) can occur at any age. Studies assessing pyeloplasty safety in elderly patients are lacking.

Methods: Patients undergoing open (CPT 50400, 50405, 50540) or minimally-invasive pyeloplasty (MIP: robotic/laparoscopic, 50544) from 2010-2018 were identified using the National Surgical Quality Improvement Program (NSQIP) database. Characteristics and complications in elderly patients (≥ 70 years) were compared to adults 18-69 years. Subgroup analysis of elderly MIP and endoscopically-treated UPJO (52342, 52345) was performed using logistic regression.

Results: 1,749 patients age 18-83 years were identified. Elderly pyeloplasty patients (n=185) were more commonly American Society of Anesthesiologists (ASA) score III-IV (52% vs. 22%, $p<0.001$), required shorter operative times (166 vs. 179 minutes, $p=0.03$), and had longer hospitalizations (2.6 vs. 2.1 days, $p<0.001$) compared to the younger cohort. There were no differences in reoperation/readmission, but elderly patients more commonly experienced urinary tract infections (UTIs) (8.7% vs. 4.4%, $p=0.01$). Non-UTI or superficial skin infection (SSI) complication rates were similar (6.0% vs. 4.4%, $p=0.32$). No elderly patient experienced myocardial infarction, pulmonary embolism, or septic shock.

Compared to elderly endoscopic patients (n=101), elderly MIP patients were younger (75 vs. 77 years, $p=0.03$) and less commonly ASA III-IV (50% vs. 74%, $p<0.01$), with similar overall (14.5% vs. 14.9%, $p=0.93$) and non-UTI/SSI complications (5.7% vs. 9.9%, $p=0.20$). Multivariate analysis including age and ASA score did not identify increased risk of complication in elderly patients following MIP or endoscopic repair (OR 1.33, 95%CI 0.63-2.81).

Conclusion: Pyeloplasty is safe in elderly patients with 30-day complications comparable to endoscopic treatment.

Funding: N/A

UROLOGIC SIDE EFFECTS OF SODIUM GLUCOSE CO-TRANSPORTER 2 INHIBITORS

Stephanie Stillings, MD, Irene Crescenze, MD
Ohio State University

Introduction:

Sodium glucose co-transporter 2 inhibitors (SGLT2is) are the newest class of glucose-lowering agents for type 2 diabetes, and thus their side effects are less familiar. Increased risk of genital fungal infections (GFI) is well-documented, but other urologic effects are less clearly defined. SGLT2is inhibit glucose reabsorption in the urine, resulting in glycosuria and diuresis which may provoke overactive bladder symptoms (OAB). We aim to correlate urologic conditions in diabetics with and without SGLT2is.

Methods:

This is a population-based study using the SlicerDicer function on EPIC. Electronic records of diabetics at the Ohio State University from January 9th, 2020 to January 9th, 2021 were screened for SGLT2is. Prevalence of OAB and GFI in patients taking SGLT2is and not taking SGLT2is was compared based on diagnosis codes. Basic demographics were obtained.

Results:

193,849 patients with diabetes were seen within our healthcare system and 10,899 had a SGLT2i prescription. Median age of the diabetic population was 64 (IQR: 53, 74), 51.4% women, and median BMI 32 (27, 38). OAB diagnoses were noted in 8.45% (548/10,351) of diabetics on SGLT2is compared with 3.25% (5,935/177,015) of diabetics not taking SGLT2is (OR: 1.58; CI 1.44, 1.73; $p < 0.001$). GFI occurred in 2.14% (233/10,899) of SGLT2is group compared to 0.53% (967/182,950) of diabetics not on SGLT2is (OR: 4.11; CI 3.56, 4.75; $p < 0.001$).

Conclusions:

The results suggest a higher prevalence of OAB and GFI in diabetics on SGLT2is. Increased knowledge about these side effects assists with counseling, allowing the urologist to better understand contributors to OAB.

Funding: N/A

Gender-Disparities in Renal Surgery Outcomes: A Propensity Score Matched Analysis

Karishma Gupta, MD^{1,2}, Danly Omil-Lima, MD^{1,2}, Julia Liu, BA², Amr Mahran, MD¹, Wade Muncey, MD^{1,2}, David Sheyn, MD^{1,2}, Jonathan Shoag, MD^{1,2,3}

¹Urology Institute, University Hospitals Cleveland Medical Center, Cleveland, OH, ²Case Western Reserve University School of Medicine, Cleveland, OH, ³New York-Presbyterian Hospital, Weill Cornell Medical College, New York, NY

Intro: To evaluate gender-based differences in utilization and outcomes of partial nephrectomy (PN) and radical nephrectomy (RN) in the treatment of localized renal masses.

Methods: A retrospective review of the NSQIP database (2010-2018) was performed to evaluate patients undergoing PN or RN for renal neoplasms. Using a 1:1 propensity-score-matching (PSM) method, we adjusted for preoperative patient differences. Using multivariable logistic regression, we identified gender differences in risks of postoperative complications, readmission, reoperation, and length of stay.

Results: 63,149 patients undergoing surgery were identified. No gender difference was noted in utilization of RN or PN. Following 1:1 PSM, a total of 39,858 balanced patients were included in our analysis (19,929 women and 19,929 men), **Table 1**. Women were found to have an increased risk of superficial surgical site infection ($p=0.002$), urinary tract infection ($p<0.001$), and hemorrhage requiring transfusion ($p<0.001$). Additionally, the risk of any complication was increased in women compared to men (aOR 1.123-1.268). No differences were observed in procedure-related readmission or length-of-stay.

Conclusion: Our study suggests that women undergoing renal surgery experience an increased rate of perioperative complications compared to men. These findings contrast historical series. Further studies are required to assess whether a biological basis explains these disparities or whether changes in postoperative practice can address this gender disparity.

Funding: N/A

	Before DPM			After DPM			p
	Female	Male	2-tailed	Female	Male	2-tailed	
Age (years)	50 (7.1)	50 (7.1)	2.980	50 (7.1)	50 (7.1)	2.980	0.948
Weight (kg)	80.06 (14.4)	84.09 (16.4)	0.000	82.02 (14.1)	82.02 (14.1)	0.999	
Height (cm)	167.08 (7.1)	167.08 (7.1)	0.999	167.08 (7.1)	167.08 (7.1)	0.999	
Time to a distant metastasis	167.08 (18.8)	167.08 (18.8)	0.999	167.08 (18.8)	167.08 (18.8)	0.999	
Time to distant relapse	167.08 (18.8)	167.08 (18.8)	0.999	167.08 (18.8)	167.08 (18.8)	0.999	
Preoperative CA125	167.08 (18.8)	167.08 (18.8)	0.999	167.08 (18.8)	167.08 (18.8)	0.999	
CA125 at 1 month	167.08 (18.8)	167.08 (18.8)	0.999	167.08 (18.8)	167.08 (18.8)	0.999	
CA125 at 3 months	167.08 (18.8)	167.08 (18.8)	0.999	167.08 (18.8)	167.08 (18.8)	0.999	
CA125 at 6 months	167.08 (18.8)	167.08 (18.8)	0.999	167.08 (18.8)	167.08 (18.8)	0.999	
CA125 at 12 months	167.08 (18.8)	167.08 (18.8)	0.999	167.08 (18.8)	167.08 (18.8)	0.999	
CA125 at 24 months	167.08 (18.8)	167.08 (18.8)	0.999	167.08 (18.8)	167.08 (18.8)	0.999	
CA125 at 36 months	167.08 (18.8)	167.08 (18.8)	0.999	167.08 (18.8)	167.08 (18.8)	0.999	
CA125 at 48 months	167.08 (18.8)	167.08 (18.8)	0.999	167.08 (18.8)	167.08 (18.8)	0.999	
CA125 at 60 months	167.08 (18.8)	167.08 (18.8)	0.999	167.08 (18.8)	167.08 (18.8)	0.999	
CA125 at 72 months	167.08 (18.8)	167.08 (18.8)	0.999	167.08 (18.8)	167.08 (18.8)	0.999	
CA125 at 84 months	167.08 (18.8)	167.08 (18.8)	0.999	167.08 (18.8)	167.08 (18.8)	0.999	
CA125 at 96 months	167.08 (18.8)	167.08 (18.8)	0.999	167.08 (18.8)	167.08 (18.8)	0.999	
CA125 at 108 months	167.08 (18.8)	167.08 (18.8)	0.999	167.08 (18.8)	167.08 (18.8)	0.999	
CA125 at 120 months	167.08 (18.8)	167.08 (18.8)	0.999	167.08 (18.8)	167.08 (18.8)	0.999	
CA125 at 132 months	167.08 (18.8)	167.08 (18.8)	0.999	167.08 (18.8)	167.08 (18.8)	0.999	
CA125 at 144 months	167.08 (18.8)	167.08 (18.8)	0.999	167.08 (18.8)	167.08 (18.8)	0.999	
CA125 at 156 months	167.08 (18.8)	167.08 (18.8)	0.999	167.08 (18.8)	167.08 (18.8)	0.999	
CA125 at 168 months	167.08 (18.8)	167.08 (18.8)	0.999	167.08 (18.8)	167.08 (18.8)	0.999	
CA125 at 180 months	167.08 (18.8)	167.08 (18.8)	0.999	167.08 (18.8)	167.08 (18.8)	0.999	
CA125 at 192 months	167.08 (18.8)	167.08 (18.8)	0.999	167.08 (18.8)	167.08 (18.8)	0.999	
CA125 at 204 months	167.08 (18.8)	167.08 (18.8)	0.999	167.08 (18.8)	167.08 (18.8)	0.999	
CA125 at 216 months	167.08 (18.8)	167.08 (18.8)	0.999	167.08 (18.8)	167.08 (18.8)	0.999	
CA125 at 228 months	167.08 (18.8)	167.08 (18.8)	0.999	167.08 (18.8)	167.08 (18.8)	0.999	
CA125 at 240 months	167.08 (18.8)	167.08 (18.8)	0.999	167.08 (18.8)	167.08 (18.8)	0.999	
CA125 at 252 months	167.08 (18.8)	167.08 (18.8)	0.999	167.08 (18.8)	167.08 (18.8)	0.999	
CA125 at 264 months	167.08 (18.8)	167.08 (18.8)	0.999	167.08 (18.8)	167.08 (18.8)	0.999	
CA125 at 276 months	167.08 (18.8)	167.08 (18.8)	0.999	167.08 (18.8)	167.08 (18.8)	0.999	
CA125 at 288 months	167.08 (18.8)	167.08 (18.8)	0.999	167.08 (18.8)	167.08 (18.8)	0.999	
CA125 at 300 months	167.08 (18.8)	167.08 (18.8)	0.999	167.08 (18.8)	167.08 (18.8)	0.999	
CA125 at 31							

Single-Port robotic assisted kidney surgery: 2 years of experience with a novel platform

Marcin Zuberek, M.D.¹, Luca Morgantini, M.D.¹, Jason Huang, M.D.¹, Ashwin Ganesh, B.S.², christopher Dennis, B.S.², Ryan Trippel, B.S.², Simone Francavilla, M.D.¹, Michael Abern, M.D.¹, Simone Crivellaro, M.D.¹
¹University of Illinois Hospital and Clinics, Department of Urology, Chicago, IL., ²University of Illinois Hospital and Clinics, College of Medicine, Chicago, IL.

Intuitive Surgical (Sunnyvale, CA.) has introduced a new Single-Port Robotic Platform (SP) for urologic procedures. In this investigation we provide more than 2 years of data to support the surgical management of renal pathologies with the SP platform.

A retrospective chart review was performed on renal surgeries performed between December 2018 and February 2021 on 60 patients with clinically localized renal masses, infected cysts, or non-functional kidneys. These procedures were performed by two experienced robotic surgeons in either transperitoneal (77%) or retroperitoneal (33%) approach.

Mean estimated blood loss was 118 ±161.76 ml. The mean warm ischemia time was 14.40 ±15.40min. Length of stay average was 1.78 ±2.07 days. There were a total of 5 intraoperative complications, 2 of which necessitated conversion to an open procedure.11 patients (18.3%) experienced postoperative complications. 14% of cases had positive surgical margins. At mean length of follow up 4.21 ±4.31 months, only 1 patient had recurrence and metastases present.

In 60 patients undergoing renal SP interventions we observed satisfactory patient outcomes that were comparable with previously published MP data. We believe that SP renal surgery has earned its place as a technique in the robotic landscape of urology.

Table 1

	Partial	Radical/Simple	Total
#	38	22	60
RENAL score	5.58 ±1.52	9.42 ±1.81	
LOS	1.76 ±2.48 days	1.82 ±1.07 days	
Pain score	2.38 ±2.30	2.88 ±2.78	
Operative time	188 ±57.08 min	212 ±77.00 min	
Blood loss	125.00 ±161.99 ml	107.27 ±160.76 ml	
Ischemia time	23.57 ±14.75 ml	N/a	
Positive margins	4 (10.52%)	1 (4.55%)	5 (8.33%)
Complication rate	7 (18.42%)	5 (22.73%)	12 (20.00%)
Transperitoneal	20	20	40
Retroperitoneal	18	2	20

Funding: N/A

TRAINEE REPORTED EFFICACY OF A ROBOTIC SURGICAL CURRICULUM: A COMPARISON OF PERFORMANCE OF DIFFERENT SIMULATION PLATFORMS AMONG UROLOGY RESIDENTS

Elizabeth Bearrick, MD, R. Houston Thompson, MD, Bridget Findlay, MD, Kevin Hebert, MD, Brian Linder, MD, Aaron Potretzke, MD, Boyd Viers, MD

Department of Urology, Mayo Clinic

Introduction: Robotic surgical simulation is an integral part of competency-based education in urological training. We aim to evaluate trainee perceptions of robotic simulation via cadaveric, live porcine and virtual reality platforms.

Methods: In 2019, trainees from a single urology department completed validated assessment surveys following completion of a porcine, virtual reality, and cadaveric robotic simulation curriculum. Quality of simulation experience was assessed across platforms. Confidence within 6 robotic domains (port placement, endowrist manipulation, camera/clutching, 4th arm integration, tissue manipulation, needle control) was assessed pre- and post-cadaver lab.

Results: 17 residents completed the simulation curriculum. Cadaveric simulation was significantly perceived to meet educational objectives relative to other platforms (**Table 1**). On univariate analysis, year of training and number of prior robotics cases were most likely to impact confidence improvement in port placement, endowrist manipulation, fourth arm integration, and needle handling. Relative to senior residents, junior residents reported significantly greater confidence improvements (scale 1-5) in port placement (mean 1.5 vs 0.3; $p=0.004$), endowrist manipulation (1.1 vs 0.3; $p=0.03$), fourth arm integration (1.1 vs 0.5; $p=0.05$), and needle control (1.4 vs 0.3; $p=0.004$).

Conclusion: Cadaveric simulation appears to be a valuable training tool for robotic surgical education. The biggest impact is seen in inexperienced learners, who have larger increases in confidence than senior residents.

Funding: EERA tier 1

Table 1: Perceptions of urology trainees who agree/strongly agree with efficacy of robotic simulation platform educational objectives

	Mimic (N=17)	PRG (N=17)	Cadaver (N=17)	p value
Debrief and reflection				
Reflecting on and discussing the simulation enhanced my learning	9 (50%)	8 (80%)	17 (100%)	0.02
Clinical Reasoning				
The simulation developed my surgical decision making ability	5 (29%)	5 (50%)	14 (82%)	0.003
The simulation enabled me to demonstrate my surgical skills	9 (53%)	5 (50%)	16 (94%)	0.004
This was a valuable learning experience	11 (65%)	8 (80%)	17 (100%)	0.001
Clinical Learning				
The simulation caused me to reflect on my surgical ability	11 (65%)	8 (80%)	17 (100%)	0.02
The simulation tested my surgical ability	11 (65%)	8 (80%)	17 (100%)	0.009
The simulation helped me to recognize my surgical strengths and weaknesses	9 (53%)	8 (80%)	17 (100%)	0.005

MENTORSHIP NOT MEDICAL SCHOOL PROMOTES PURSUIT OF SEXUAL MEDICINE FELLOWSHIP

NIKI PARIKH, MD, MBA, MSBA, MAZEED ARO-LAMBO, SEVANN HELO, MD, TOBIAS KOHLER, MD, DAVID YANG, MD, JENNIFER VENCILL, PhD, SCOTT COLLINS, MD, ERIN PAGEL, MS, MATTHEW ZIEGELMANN, MD
Mayo Clinic, Urology

Introduction:

Limited data exists regarding influence of sexual health curriculum (SHC) during medical training on specialty and subspecialty selection. We sought to evaluate experiences with SHC in medical school amongst urology trainees, and its contribution to the decision to pursue urology and sub-specialization in sexual dysfunction.

Methods:

SMSNA members completed a questionnaire regarding exposure to SHC during medical school. Specific questions focused on whether there was a required curriculum, topics covered, and whether this exposure influenced the decision to pursue urology.

Results:

94 participants (n=68 males, n=25 females) completed the survey, representing 71 medical schools. Approximately 49% of respondents recalled dedicated SHC during medical school with 71% reporting dedicated time <10 hours. Topics covered included anatomy/physiology (86%), sexual history-taking (80%), sexually transmitted infections (75%), and gender/sexual orientation (64%). Sex toys/tools, pornography, and religion/spirituality were rarely discussed. Only 24% felt medical school provided adequate knowledge to address patient's sexual health concerns, and only 14% felt that exposure to SHC influenced their decision to pursue urology. In comparison, among those pursuing fellowship, 79% felt that having a mentor with expertise in sexual dysfunction was important to their ultimate decision to pursue subspecialty training.

Conclusions:

Strong mentors with expertise appear to be more important in guiding specialty selection than formalized curriculum. However, almost 40% of participants recalled dedicated SHC during medical school, and most residents felt ill-prepared to manage patients with sexual health concerns based on medical school education alone. These data support the need for formal mentorship and SHC.

Funding: N/A

FROM ABSTRACT TO MANUSCRIPT: EVALUATING AMERICAN UROLOGICAL ASSOCIATION MEETING PRESENTATION PUBLICATION RATES

Megan Prunty, MD¹, Noah Yaffe, BS², Stephen Rhodes, PhD, Sarah Markt, PhD³, Lauren Snodgrass, BS⁴, Clint Cary, MD, MPH⁴, Ronald S. Boris, MD, MS⁴, Laura Bukavina, MD, MPH¹, Adam Calaway, MD, MPH¹
¹Case Western Reserve University / University Hospitals Urology, ²Case Western Reserve University School of Medicine, ³Case Western School of Medicine, Department of Population and Quantitative Health Sciences, ⁴Indiana University

Introduction: We analyzed publication rate, time-to-publication, and impact factor (IF) of manuscripts from all oncology-related abstracts from seven years of AUA meetings.

Methods: 6,347 AUA Abstract titles were used to query PubMed for associated manuscripts. An independent rater inferred publication status from title similarity. Logistic regressions predicted publication status of AUA abstracts from the title similarity measure.

Results: 18% of abstracts resulted in publication. By organ system, prostate cancer abstracts were published in higher IF journals than both bladder (p=0.044) and kidney (p=0.005) (Figure 1). Penile cancer had fewer citations per year than bladder (p=0.002), kidney (p=0.002), and prostate (p=0.003). The other categories did not differ from each other (ps > 0.09). Podiums resulted in higher IF journal publications than posters (p=0.0006), without a difference in number of citations per publication (F(1,821)=0.45,p=0.5), publication rate ($\chi^2(1)=0.39$,p=0.53) or time-to-publication (F(1,847)=0.32,p=0.57).

Conclusion: In urologic oncology, only 18% of AUA Abstracts are published as manuscripts, which contributes to academic waste. Prostate cancer abstracts were published in the highest impact journals; penile cancer abstracts had the fewest citations per year.

Funding: N/A

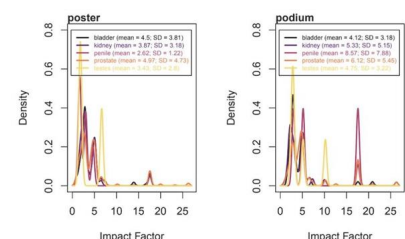


Figure 1. Density plot of journal IF by abstract category and abstract type

THE ACADEMIC FRONT LINE: A SURVEY EVALUATING THE IMPACT OF ANTI-RACISM EVENTS AND SERVICE ON BLACK MEDICAL STUDENTS

Cheyenne Williams, BS¹, Tasha Posid, MA, PhD², Alicia Scimeca, BA², Dinah Diab, BS², Cheryl Lee, MD²

¹*Perelman School of Medicine at the University of Pennsylvania,* ²*Department of Urology, The Ohio State University Wexner Medical Center*

Introduction

Underrepresented physicians have historically shouldered disproportionate academic service related to diversity and inclusion (DI). However, this is not well-reported among underrepresented students. We aim to describe the perceived impact of institutional service related to racial justice on Black medical students during recent periods of racial tension.

Methods

A 39-item survey was distributed to Student National Medical Association members. Survey items measured demographics, time commitments to academic and DI efforts before and after June 2020, acknowledgments for service, and the perceived impact of this participation on wellness and academic performance.

Results

We evaluated 398 surveys including students from 105 medical schools. Participant were 53% female, 97.2% Black, and had a mean age of 24.6 years. Since June 2020, students reported increased time spent on DI activities ($p < 0.001$) and that this limited time spent on coursework ($p < 0.001$). Female students reported that DI activities reduced pursuit of non-DI activities ($p = 0.017$) and thought DI activities were considered less meritorious than non-DI service ($p < 0.001$). Female students also reported receiving no acknowledgments for their work ($p < 0.001$), specifically compared to their male peers who received more external acknowledgment (e.g., leadership, faculty) and experienced greater decline across multiple wellness domains compared to males ($ps < 0.001$).

Conclusions

Black medical students are heavily engaged in institutional service for racial justice, and female students may experience a more deleterious academic impact from this service. As we seek equity in the physician workforce, efforts to acknowledge and reward DI service are necessary to avoid a “minority tax” on female and Black trainees.

Funding: N/A

A PROSPECTIVE TRIAL OF LASER FIBER DEGRADATION AND PERIOPERATIVE OUTCOMES FOLLOWING HOLMIUM LASER ENUCLEATION OF THE PROSTATE UTILIZING MOSES TECHNOLOGY FOR BPH VERSUS REGULAR MODE

Mark Assmus, MD¹, Matt Lee, MD¹, Sivaguru Mayandi, PhD², Deepak Agarwal, MD¹, Tim Large, MD¹, Bruce Fouke, PhD², Amy Krambeck, MD³

¹Indiana University, Indianapolis, Indiana, ²University of Illinois Urbana-Champaign, Carl R. Woese Institute for Genomic Biology, ³Northwestern University, Chicago, Illinois

Introduction:

To compare outcomes for HoLEP between 550um standard laser fibers versus a 550um MOSES 2.0 fiber in BPH mode, with primary outcome of fiber degradation.

Methods:

We prospectively completed 50 consecutive HoLEP cases using 550um MOSES fibers with MOSES 2.0 BPH mode. Outcomes were compared to our historical cohort of fifty 550um standard fibers. Additionally, five 550um standard fibers and five 550um MOSES fibers with controls underwent 3-D microCT postoperatively. Four 2D Line profile analyses were performed for each fiber at its area of maximum damage. Peak to trough ratios for each line profile were performed. Control fibers were assigned a peak to trough ratio of 1.0.

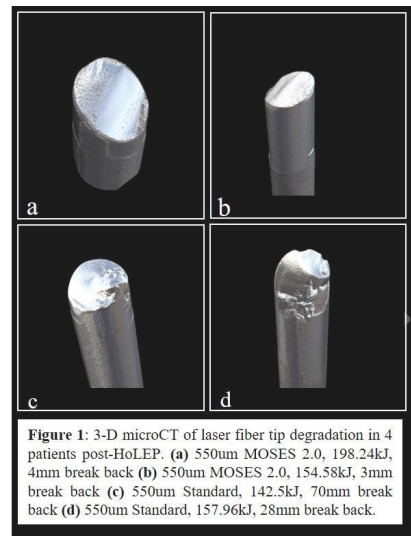
Results:

The standard fibers demonstrated greater degradation than the 550um MOSES fibers with 2.0 BPH mode (2.9cm (IQR 1.7-4.3cm) vs 0.2cm (IQR 0.1-0.4cm), $p < 0.01$). This difference remained significant when comparing degradation per energy, per minute enucleation and per gram enucleated (all $p < 0.05$). Post-operative outcomes were similar between cohorts (dysuria, AUASS, QOL score. All $p > 0.05$). Objective fiber degradation by 2D line profile analysis showed more damage to standard fibers (peak to trough ratio for MOSES versus standard was, 1.35 ± 0.37 vs 1.82 ± 0.80 respectively, $p = 0.026$).

Conclusions:

Use of the 550um MOSES fiber with 2.0 BPH mode resulted in less fiber degradation versus standard.

Funding: N/A



5:20 PM #32

BENCHTOP BLADDER PHANTOM PRESSURE ESTIMATION USING ULTRASOUND CONTRAST AGENTS

Kourosh Kalayeh, PhD¹, J. Brian Fowlkes, PhD², Jake Claflin, MD¹, Mario L. Fabiilli, PhD², William W. Schultz, PhD³, Bryan S. Sack, MD¹

¹Department of Urology, University of Michigan, ²Department of Radiology, University of Michigan, ³Department of Mechanical Engineering

WITHDRAWN

WAVELET SPECTRAL ANALYSES OF CLINICAL URODYNAMICS: A POTENTIAL DIAGNOSTIC AID AND MEASURE OF THERAPEUTIC EFFICACY

Ranveer Vasdev, BS¹, Bhaskar Ravishankar, MS², Gerald W. Timm, PhD^{2,3}, Nissrine A. Nakib, MD³, Sean Elliott, MD³, Dwight Nelson, PhD³

¹University of Minnesota, Department of Biomedical Engineering, Minneapolis MN, ²University of Minnesota, Department of Electrical Engineering, Minneapolis MN, ³University of Minnesota, Department of Urology, Minneapolis MN

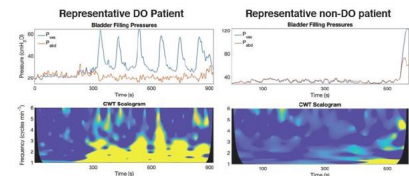
Introduction: Urodynamics study (UDS) is standard clinical practice for evaluating lower urinary tract disorders (LUTDs). Here, we demonstrate the utility of a novel Continuous Wavelet Transform (CWT) based algorithm to visualize temporal changes in bladder pressure spectra during filling from clinical UDS data between Detrusor Overactivity (DO) & non-DO groups.

Methods: UDS data of 5 DO and 5 non-DO patients were extracted from a Laborie Aquarius XTTM multichannel UDS system for analysis. A filter was applied to remove movement and cough artifacts from the data. CWT, using a 'Morlet'-based wavelet, was applied to pre-void vesical and abdominal signals. CWT abdominal spectra were subtracted from CWT vesical spectra for the identification of bladder-specific signals. Algorithm outputs were plotted on a scalogram for frequencies between range 1 to 6 cycles per minute.

Results: CWT captured large detrusor contractions (DCs) in DO patients as several high-intensity events at lower frequencies. Alternatively, scalograms of non-DO patients demonstrated minimal intensity changes in bladder pressure spectra throughout filling.

Conclusion: Using CWT, we successfully visualized temporal changes of bladder pressure spectra from the UDS data of DO and non-DO patients. Quantification of these spectral changes can be used to improve LUTDs diagnostics & assessment of therapeutics.

Funding: N/A



Simulation Session Improves Resident Confidence with Mid-Urethral Sling Placement

Nicholas Beecroft, MD, Iryna Crescenze, MD, Courtenay Moore, MD, Aliza Khuhro, Cheryl T. Lee, MD, Tasha Posid, MA, PhD

Department of Urology, The Ohio State University Wexner Medical Center

Introduction: Simulation is a potential method to provide a baseline level of procedure understanding in conjunction with OR experience. The study objective was to evaluate the impact of simulation on resident comfort with mid-urethral sling placement.

Methods: Participants were residents (N=10: n=6 junior, n=4 senior) in a single urology program participating in a single education session which focused on mid-urethral sling placement. Didactic, discussion, and hands-on simulation components were led by two expert faculty members and the simulation equipment (high fidelity female pelvic models) was provided by Boston Scientific Corporation. A survey was given post-curriculum and asked residents to self-report knowledge of the clinical topic pre- and post-session, and to rate their satisfaction with the curriculum.

Results: Residents demonstrated significant pre- to post-curriculum gains (M=26.7 for juniors, M=30% for seniors) in content knowledge. 100% of residents found each component (didactic presentation, discussion, and hands-on simulation) extremely beneficial for their understanding of the subject matter. Residents felt this curriculum prepared them for upcoming national exams (M=4.9/5), was intellectually challenging (M=4.9/5), increased their knowledge of the subject matter (M=5/5), allowed them to practice the skills taught in the course (M=5/5), increased their problem-solving (M=4.7/5), better prepared them to be in the clinic and operating room (M=5/5), and also would recommend this course to a peer (M=5/5; $p < 0.001$).

Conclusion: Surgical simulation can increase resident understanding and feeling of preparedness with surgical procedures. Mid-urethral sling placement simulation was demonstrated to be effective in achieving these goals at our institution.

Equipment was provided by Boston Scientific, although the authors neither received or provided funding for this education session.

Stimwave® for Pudendal Neuralgia

Ly Hoang Roberts, MD¹, Joshua Volin, BS², Teresa McCartney, RN¹,
Annah Vollstedt, MD¹, Kenneth Peters, MD^{1,2}

¹*William Beaumont Hospital-Royal Oak*, ²*Oakland University William Beaumont Medical School*

INTRODUCTION.

In patients with pudendal neuralgia refractory to traditional therapies, prior studies have shown efficacy in chronic stimulation with Interstim® (Medtronic, Inc., Minneapolis, MN). This study reports on a wireless system to power an implanted lead at the pudendal nerve, StimWave®, to treat pudendal neuralgia.

METHODS.

Retrospective chart review identified patients with a lead placed at the pudendal nerve for neuralgia and powered wirelessly. Clinical outcomes were assessed at post-operative visits and phone calls. Administered non-validated follow-up questionnaire evaluated the GRA, percentage of pain improvement, satisfaction with device, and initial and current settings of the device (hours/day of stimulation).

RESULTS.

Thirteen patients had the StimWave® lead placed at the pudendal nerve, 12 (92%) female and 1 (7.6%) male. Mean age was 50 years (range: 20-58). Failed prior therapies include medical therapy (100%), pelvic floor physical therapy (PFPT) (92%), pudendal nerve blocks (85%), pelvic floor muscle trigger point injections (69%), neuromodulation (30.7%), or surgeries for urogenital pain (23.1%). After the trial period, 10/13 (76.9%) had >50% improvement in pain with 6/13 (46.1%) reporting 100% pain improvement. Nine underwent permanent lead placement. At last post-operative visit (range 6-83 d), 4/9 patients reported >50% pain improvement. Seven patients reached for phone calls (8-734 d) reported symptoms to be "markedly improved" (n=2; 28.6%), "moderately improved" (n=4; 57.1%), or "slightly improved" (n=1; 14.3%). Over half (5/7) reported complications including lead migration (n=2), broken wire (n=1) or non-functioning antenna (n=2).

CONCLUSION.

Complex patients with refractory pudendal neuralgia may benefit from pudendal nerve stimulation via StimWave®.

Funding: N/A

EXPERIENCES AND ATTITUDES TOWARD SURGICAL SIMULATION AMONG UROLOGY RESIDENTS: A FIVE-YEAR SURVEY ASSESSMENT OF PARTICIPANTS IN A MULTI-INSTITUTIONAL, MULTIMODAL SIMULATION WORKSHOP

Daniel Simon, MD¹, Shaan Setia, MD¹, Kristin Baldea, MD², Stephanie Kielb, MD³, Scott Eggener, MD⁴, Simone Crivellaro, MD⁵, Alex Chow, MD¹, Chris Coogan, MD¹

¹Rush University Medical Center, Chicago, IL, ²Loyola University Medical Center, Maywood, IL, ³Northwestern University, Chicago, IL, ⁴University of Chicago, Chicago, IL, ⁵University of Illinois, Chicago, IL

Introduction: Surgical simulation is becoming an increasingly important educational adjunct to overcome the challenges facing contemporary urology residents who must become proficient with a rapidly expanding array of surgical technologies and instrumentation. We evaluated the experiences and attitudes toward surgical simulation among urology residents participating in a multi-institutional, multimodal simulation workshop.

Methods: Between 2016 and 2020, residents from six Chicago-area urology residency programs participated in an annual surgical simulation workshop. During these workshops, participants completed a series of simulated endourological procedures, including ureteroscopy, PCNL, and transurethral vaporization of the prostate while faculty with pertinent expertise provided instruction and verbal feedback. Participants were asked to complete an exit survey after the workshop evaluating their simulation experience and attitudes toward surgical simulation.

Results: Over a five-year period, 120 out of 132 participants completed an exit survey (response rate = 90.9%), including 73 junior residents (60.8%) and 47 senior residents (39.2%). Among respondents, 71.7% (86/120) had prior simulation experience, and 93.3% (112/120) felt that the simulation workshop was a useful exercise. Overall, 52.5% (63/120) believed simulation should be required during residency, and 78.3% (94/120) agreed that simulation is more useful for senior residents than junior residents.

Conclusions: The vast majority of urology residents hold favorable views of surgical simulation, and our survey responses indicate the utility of a multi-institutional, multimodal workshop model for surgical education through simulation. Further, many residents feel simulation should be required in residency and the majority agree that these experiences are most useful in the later years of training.

Funding: N/A

Changing Christ and County's Catheter Culture: A Multi-Institutional Quality Assurance Patient Safety Project Across Urban Chicago

Antoine Ghorayeb, D.O.^{1,2}, Mathew Fakhoury, D.O.^{1,2}, Ryan Powers, D.O.^{1,2}, Florian Stroie, D.O.^{1,2}, Douglas Slakey, M.D.², Parisa Katoozian, BSN, CNOR², Patricia Vidal, M.D.¹, Courtney Hollowell, M.D.¹

¹*Cook County Health, Chicago, IL*, ²*Advocate Christ Medical Center, Oak Lawn, IL*

Introduction

A Foley catheter in the hands of someone other than a Urologist is oftentimes a source of confusion; given different patient presentations, choosing the wrong Foley can directly affect patient outcomes and satisfaction with care. With a long-term goal of reducing urethral trauma, catheter associated urinary tract infections (CAUTIs), and acute kidney injury (AKI) our Urology service implemented a Foley catheter algorithm and administered Foley education for our nurses. Education efficacy was tracked by pre- and post- education examinations.

Methods

Foley catheter education was provided to over 300 nurses at our institutions. This included foley catheter types, indications, and risks when selecting the wrong foley catheter. Education culminated in discussion of algorithm that was created by our department. By following the simple algorithm, any provider will be able to use indication and patient demographics to select the right catheter. Nurses were given a pre- and post- test comprised of 5 questions.

Results

304 nurses completed the pre-education examination and scored an average of 64% correct. 303 nurses completed the post-education examination and scored an average of 93% correct.

Conclusion

Our long-term goal is to decrease urethral trauma, CAUTIs, and AKI at our institutions. We recognize the importance of successfully placing the correct foley catheter for a patient the first time. To reach these goals, we have implemented foley catheter education for our nurses. Results from over 300 nurses revealed that foley catheter knowledge is easily improved and will likely lead to improved long-term outcomes.

Funding: N/A

5:00 PM-6:00 PM

Testis, Scrotum and Infertility – Benign/Malignant Poster Session

Location: Ambassador

Moderators:

Tobias Kohler

Jeffrey Yeaman

RISKS OF PRIMARY ACTIVE SURVEILLANCE OF SMALL TESTICULAR MASSES

Danly Omil-Lima, MD¹, Karishma Gupta, MD¹, Irma Lengu, MD², Rogelio Valdez, BS³, Nannan Thirumavalavan, MD¹, Kyle Scarberry, MD¹

¹Case Western/University Hospitals, ²MetroHealth Medical Center, ³Case Western Reserve School of Medicine

Objectives:

Primary surveillance for small testicular masses (STMs) has previously been described but remains controversial. Here we seek to determine the prevalence and pathologic features of STMs.

Methods:

Using the National Cancer Database testis cancer dataset (2004-2017), we identified patients with incident diagnosis of a testicular mass ≤ 1 cm. Pearson's chi-squared test was used to determine differences in patient characteristics, presenting histology, and staging.

Results:

38,337 patients with newly diagnosed testicular tumors were identified. Of these, 1,614 (4.2%) were STMs, with an average size of 7mm. STM cases demonstrated a higher incidence of ITGCN, fewer mixed germ cell tumors ($p < 0.01$, **Table 1**), and a greater frequency of embryonal, pure teratoma, and Leydig cell histology. Malignant pathologies otherwise mirrored larger masses, with seminoma being most common. Although stage I disease was most common in both groups, some STMs were associated with advanced stage disease. Additionally, clinicopathologic upstaging was also seen at the same rate as larger masses (**Table 1**).

Conclusion:

Active surveillance of small testicular masses should be used with caution, as small masses still harbor malignant pathology. Future studies are required to determine risk-modifying features (e.g. imaging findings, incorporation of novel tumor markers) in order to establish evidence-based guidelines for the utilization of active surveillance in management of STMs.

Funding: N/A

Table 1: Patient and Tumor Characteristics			
		Mass > 1cm	Mass ≤ 1cm
N		3623	1651
Age, Median (IQR)		34 (27, 43)	33 (27, 41)
Race/Ethnicity	White/Caucasian	30226 (82.3%)	1419 (87.9%)
	Black/African American	1125 (3.1%)	39 (2.4%)
	Latino/Hispanic	3379 (9.2%)	102 (6.3%)
	American Indian/Alaskan Native	161 (0.4%)	3 (0.2%)
	East Asian	477 (1.3%)	11 (0.7%)
	Hawaiian/Pacific Islander	93 (0.3%)	1 (0.1%)
	Indian/South Asian	125 (0.3%)	7 (0.4%)
	Other/Unknown	1137 (3.1%)	32 (2.0%)
Testicular Descent			0.56
		Undescended	10099 (77.5%)
		Descended	448 (27.8%)
		Unknown	878 (2.4%)
			45 (2.8%)
Tumor Size (cm), Mean (SD)		4.5 (4.2)	0.7 (0.2)
Tumor Histology			<0.01
			<0.01
		ITGCN	329 (0.9%)
		Seminoma	27 (1.7%)
		Non-seminoma NOS	22394 (61.1%)
		Embryonal Carcinoma	994 (61.7%)
		Yolk Sac Tumor	18 (1.1%)
		Teratoma	185 (11.5%)
		Choriocarcinoma	2 (0.1%)
		Mixed Germ Cell Tumor	53 (2.9%)
		Sex Cord-Stromal Tumor NOS	6 (0.4%)
		Leydig Cell Tumor	253 (15.7%)
		Sertoli Cell Tumor	2 (0.1%)
		Granulosa Cell Tumor	72 (4.5%)
		Variant Histology	6 (0.4%)
			0 (0.0%)
			13 (0.8%)
AJCC Overall Stage			<0.001
		Stage 0	131 (0.4%)
		Stage 1	18 (1.1%)
		Stage 2	1313 (81.2%)
		Stage 3	63 (3.9%)
		Unknown/NA	41 (2.5%)
			4773 (111.8%)
			185 (11.5%)
N Upstaging			0.35
		Absent	36212 (98.6%)
		Present	1596 (98.9%)
M Upstaging			0.78
		Absent	36522 (99.5%)
		Present	1506 (91.5%)
Lymphovascular Invasion			<0.001
		LVI Absent	20112 (70.4%)
		LVI Present	1088 (88.1%)
			8444 (25.6%)
Surgery Performed			<0.001
		Local tumor ablation	1 (<1%)
		Partial Orchiectomy	0 (0.0%)
		Orchiectomy	87 (0.2%)
		Unknown/Unspecified	23 (1.4%)
			36623 (99.7%)
			1589 (98.5%)
Surgical Margins			<0.001
		Negative Margins	12 (<1%)
		Positive Margins	2 (0.1%)
			36201 (98.3%)
			1605 (99.4%)
			9 (0.6%)

Variation in Germ Cell Tumor Histology by Age and Implications for Cancer-Specific Survival Among Pediatric and Adult Males in a National Cohort

Eseosa Aiwerioghene¹, Arnav Srivastava^{2,3}, Elizabeth L. Koehne¹, Sammy E. Elsamra², Saum Ghodoussipour², Eric A. Singer², Thomas L. Jang², Heather N. Di Carlo⁴, John P. Gearhart⁴, Gopal N. Gupta¹, Diana Bowen⁵, Joseph G. Barone³, Hiten D. Patel¹

¹Department of Urology, Loyola University Medical Center, Maywood, IL, ²Section of Urologic Oncology, Rutgers Cancer Institute of New Jersey and Rutgers Robert Wood Johnson Medical School, New Brunswick, NJ, ³Division of Urology, Rutgers Robert Wood Johnson Medical School, New Brunswick, NJ, ⁴The James Buchanan Brady Urologic Institute and Department of Urology, The Johns Hopkins University School of Medicine, Baltimore, Maryland, ⁵Department of Urology, Ann and Robert H. Lurie Children's Hospital of Chicago, Chicago, IL

Introduction: Few studies have quantified differences in histology and implications for survival between male children and adults with germ cell tumors (GCT). We evaluated these differences and associations with cancer-specific survival (CSS) using Surveillance, Epidemiology, and End Results (SEER) cancer registries.

Methods: SEER (1988-2015) was used to identify male patients 0-40 years of age diagnosed with seminoma and non-seminomatous GCT (NSGCT). Demographic and tumor characteristics were tabulated with histology distributions compared by age group (0-4, 12-18, 19-40 years) and CSS evaluated in multivariable Cox proportional hazards regression models.

Results: Among 27,204 patients, 1,538 (5.7%) were pediatric (0-18 year-olds). Seminoma (54.3%) predominated in adult patients (ages 19-40). Among 0-4 year-olds, yolk sac tumor (71.2%) and teratoma (21.5%) were most common. Mixed GCT (52.7%) was most prevalent among 12-18 year-olds with seminoma, embryonal, and teratoma occurring in 12-15% each. Relative to pediatric patients, adult patients had similar CSS for seminoma but worse CSS for NSGCT on Kaplan-Meier survival curves with mean follow-up of 9 years. Choriocarcinoma and yolk sac tumors carried the worst prognosis relative to seminoma for both children (HR 5.7 and HR 11.1, respectively, both $p < 0.01$) and adults (HR 4.6 and HR 4.6, respectively, both $p < 0.01$) adjusted for stage.

Conclusion: Histology of GCTs vary by age with yolk sac tumors and teratoma predominating for male patients aged 0-4 years, mixed GCT for 12-18 years, and a slight majority for seminoma over NSGCT for 19-40 years. Age, stage, and histology impact CSS with worse prognosis for choriocarcinoma and yolk sac tumors regardless of age group

Funding: N/A

EPIDIDYMECTOMY IS AN EFFECTIVE TREATMENT FOR CHRONIC EPIDIDYMAL PAIN

Renee Hanna, B.S., Juan Andino, M.D., Stephanie Daignault-Newton, MS, Mark-Anthony Lingaya, B.S., Susanne Quallich, PhD, Miriam Hadj-Moussa, M.D.

University of Michigan Department of Urology, Ann Arbor, MI, 48103

Introduction

Chronic epididymal pain has traditionally been difficult to manage. We evaluated our institutional experience with epididymectomy to help guide patient selection and counseling.

Methods

Two hundred and twenty-five patients who underwent epididymectomy between 2000-2020 were identified. Patients offered epididymectomy had pain localized to the epididymis, vas deferens, or a sperm granuloma and was not part of a greater constellation of pelvic pain syndromes. The primary outcome measure was change in pain after surgery – cured/improved or no change/worsened. Univariate and multivariate analyses compared the impact of surgical and psychiatric histories on postoperative pain outcomes.

Results

Overall, 162 patients (72%) reported cured/improved pain after epididymectomy. One hundred and seventeen patients (52%) had a prior vasectomy and 69 (31%) had a prior scrotal/inguinal/abdominal surgery other than vasectomy. Additionally, 80% of men who underwent epididymectomy within 1 year of pain onset had cured/improved pain compared to 67% of men with ≥ 1 year history of pain ($p=0.05$).

On multivariate analysis, there was no difference in outcomes based on vasectomy history (OR 0.625, $p=0.3$). Men with pain duration ≥ 1 year (OR 0.46, $p=0.03$), diagnosed psychiatric conditions (OR 0.44, $p=0.04$), or prior scrotal/inguinal/abdominal surgeries other than vasectomy (OR 0.49, $p=0.04$) had decreased odds of pain relief after epididymectomy.

Conclusion

This is the largest report of post-epididymectomy outcomes to date. Among carefully selected men, 72% had pain improvement. Epididymectomy is most effective for men with <1 year of focal epididymal pain, with no history of psychiatric conditions or scrotal/inguinal/abdominal surgery other than vasectomy.

Outcomes for chronic pelvic and genital pain using through an Interdisciplinary Pain Rehabilitation Program

Matthew Ziegelmann, MD, Hannah Betcher, MD, Brian Linder, MD, Sevann Helo, MD, Tobia Kohler, MD, Elizabeth Kacel, PhD, Wesley Gilliam, PhD
Mayo Clinic

Introduction: Chronic pelvic and/or genital pain is a disabling condition and commonly associated with poor quality of life, impaired sexual function and decreased productivity. This study sought to examine treatment outcomes among a cohort of patients diagnosed with refractory pelvic and/or genital pain enrolled in a 3-week interdisciplinary pain rehabilitation program (IPRP).

Methods: A series of with-in subjects ANOVAs (corrected for multiple comparisons) were used to evaluate the effectiveness of IPRP on self-report (pain severity, interference, depressive symptoms, quality of life) and observer-rated outcome (5 minute walk) among 15 treated patients receiving care at the Mayo Clinic IPRP between 2016-2018.

Results: Fifteen patients (5 male, 10 female) were identified. Mean age was 47.0 (range: 24-78) and primary diagnoses were pelvic pain (n=13) and penile pain (n=2). Significant within-subjects effects were detected for all self-report outcomes and the 5-minute walk test (see table 1). Six patients were on opioid therapy (MME = 49mg), and all but one successfully tapered off opioids. In the remaining patient, daily MME decreased from 150 mg to 30 mg.

Conclusions: Intensive outpatient IPRP significantly improves quality of life for patients with treatment-refractory chronic pelvic and/or genital pain. These results support multi-disciplinary treatment paradigms for refractory urogenital pain.

Table 1.

Pre-Treatment and Post-Treatment Changes for Pain Outcome Variables

Outcome Variable	Pre-treatment (M(SD))	Post-treatment (M(SD))	F value	Effect Size (p ²)
Pain Severity ^a	4.62 (7.5)	2.65 (1.67)	32.93*	.70
Pain Interference ^a	4.66 (1.04)	2.55 (1.37)	45.60*	.77
Pain Catastrophizing ^b	23.13 (12.90)	9.95 (8.18)	44.73*	.76
Depressive Symptom ^c	11.53 (5.44)	4.58 (4.17)	37.73*	.73
Physical Health QOL ^d	36.23 (15.87)	76.58 (35.36)	122.52*	.90
Mental Health QOL ^d	33.62 (21.92)	75.73 (31.01)	104.34*	.88
5-Minute Walk	1217.63 (146.07)	1490.40 (246.42)	18.79*	.57

^a = Multidimensional Pain Inventory^b = Pain Catastrophizing Scale^c = Patient Health Questionnaire^d = SF-36 Quality of Life

* p < .007 (Bonferroni corrected alpha) period effect, admissions to immediately posttreatment

Funding: N/A

NOVEL OBSERVATIONS ABOUT EPIDIDYMAL CYSTS FOUND IN A COHORT OF MICHIGAN MEN

Yiqing Dong, MS³¹, Marc Arenas, MD², Karen Cedeno, MD³, George Steinhardt, MD⁴

¹Michigan State University College of Human Medicine, ²Spectrum Health Family Practice, ³Spectrum Health Radiology, ⁴Urologic Consultants

Introduction: Epididymal cysts (EC) are thought to be clinically insignificant, however, their etiology remains unclear. Recent studies show that EC may derive from exposure to endocrine disrupting compounds as surgically removed EC tissue demonstrated significant stimulation of estrogen and lactoferrin receptors. Michigan is a land locked state with a long history of citizen exposure to persistent organo-chloro-compounds (PCB, PBB, DDT, and PFAS) known to have endocrine disrupting toxicities. A recent survey of scrotal ultrasound (SUS) obtained at a children's hospital in Michigan found that 35% of boys older than 15 years of age had EC. This is the highest reported prevalence in the world for this age group. This current study was undertaken to characterize EC in an adult Michigan cohort.

Methods: A retrospective chart review was conducted for 801 men 18-years-of-age and older who underwent SUS within a medical group in Michigan between 2010 and 2015.

Results: 44.6% of the cohort was found to have sonographic evidence of EC. The prevalence of EC significantly increased ($p=0.041$) with increasing age: 18-25 year-olds: 41.9% ($n=160$), 26-35 year-olds: 36.7% ($n=180$), 36-45 year-olds: 46.6% ($n=146$), 46-55 year-olds: 44.1% ($n=127$), 56-65 year-olds: 50.0% ($n=88$), > 65 year-olds: 56.0% ($n=100$). In men with EC, their TTV did not significantly decrease with age ($R^2 = 0.0222$, $p=0.684$).

Conclusion: This geographic cohort of men have the highest prevalence of EC reported in the global literature. Two other novel observations are that EC frequency increases with age and TTV is preserved with age in men with EC.

Funding: N/A

Evaluation of Postoperative Outcomes in Chronic Scrotal Content Pain: Early Results from a Prospective Multicenter Series

Cameron Britton, MD¹, Bridget Findlay, MD¹, Neel Parekh, MD², Premal Patel, MD³, Sevann Helo, MD¹, Sriram Eleswaarapu, MD⁴, Matthew Ziegelmann, MD¹

¹*Department of Urology, Mayo Clinic, Rochester, MN*, ²*Cleveland Clinic, Akron, Ohio*, ³*University of Manitoba, Winnipeg, Manitoba, Canada*, ⁴*UCLA, Los Angeles, CA*

INTRODUCTION:

Surgery for chronic scrotal content pain (CSCP) includes epididymectomy, vasectomy reversal (VR), or microscopic denervation of the spermatic cord (MDSC). Short term follow-up studies demonstrate adequate pain relief and improved quality of life. However, data regarding postoperative outcomes is limited to single-institution series with limited follow-up. We are conducting a multicenter study examining outcomes in patients treated with surgery for CSCP.

METHODS:

We identified patients who underwent MDSC, epididymectomy, or VR for CSCP at three separate institutions. Preoperative spermatic cord block (SCB) was performed in all patients to determine surgical candidacy. Patients with a positive response to SCB (> 50% pain reduction) are deemed candidates for surgical treatment. Preoperative and postoperative chronic orchalgia symptom index (COSI) scores, were obtained to assess treatment success.

RESULTS:

In total, 26 patients underwent MDSC (n=19, 73%), epididymectomy (n=6, 23%), or vasovasostomy (n=1, 4%). Median age was 42 years (range 30-68). Median pain duration 36 months (range 3-240 months). Median pain improvement (percentage) with preoperative SCB was 100% (range 50-100%), and duration of improvement was 8 hours (range 5-48). At median post-operative follow-up of 6 weeks (range 4-13 weeks), the median decrease in COSI-scores was 16 points (range 4-26; p<0.0001), with significant improvements in all sub-domains (pain, sexual symptoms, quality of life). No patient experienced testicular atrophy/loss.

CONCLUSION:

We identified significant short-term improvements in pain, sexual symptoms, and quality of life for patients with CSCP undergoing surgical management. While this data is promising, longer-term follow-up is necessary to determine whether improvements persist.

Funding: n/a

THE ROLE OF HORMONAL ASSESSMENT IN PRE-VASECTOMY REVERSAL WORKUP

Mohamed Ahmed, M.B., B.Ch., Engy Habashy, M.D., Mathew Ziegelmann, M.D., Tobias Kohler, M.D., Sevan Helo, M.D.

Department of Urology, Mayo Clinic, Rochester, MN

Background

Testosterone is a sex hormone produced by Leydig cells and essential for spermatogenesis and fertility. We sought to study hypogonadism in men undergoing vasectomy reversal (VR).

Methods

We reviewed our prospective database of all VRs performed at our institution between 10/1/2019-12/30/2020. Hormonal assessment included total and free testosterone, FSH, LH, and estradiol. Hypogonadism was defined as a total testosterone level <300 ng/dl. Patients were screened for symptoms of hypogonadism, including decreased libido, maintaining weight, fatigue, decreased motivation, erectile dysfunction, depression, difficulty concentrating, and somnolence.

Results

70 patients met our inclusion criteria and had a history of previous paternity. Median time since vasectomy was 6.5 years, median age at VR was 40 years. On pre-VR hormonal assessment, 85.7 % of the patients showed normal testosterone levels (Group A, median testosterone of 457 ng/dl) and 14.3% were hypogonadal (Group B, median testosterone of 263 ng/dl) (Table 1). Group B showed higher rates of libido, somnolence, decreased motivation, and difficulty concentration than group A, at rates of 100% versus 77%, 20% versus 8%, 10% versus 8%, and 10% versus 3% respectively.

Conclusion

Almost 15% of men undergoing VR demonstrated biochemical hypogonadism, of which 80% had associated symptoms. Preoperative workup should include an assessment for hypogonadal symptoms, and if positive, prompt hormonal workup.

Funding: N/A

Table 1: Comparison of patients' demographics and pre-VR labs in group A and B:

	Group A (n=60)	Group B (n=10)	p-value
Patient demographics	Median (IQR) age, years	40 (35.3 – 44)	38.5 (35.8 – 44.3) 0.7239
	Median (IQR) BMI, kg/m ²	28.1 (25.3 – 31.8)	28.5 (23.5 – 29.3) 0.4457
	% of patients with DM, n (%)	3 (5%)	1 (10%) 0.5592
	% of patients with Hypertension, n (%)	8 (13.3%)	1 (10%) 0.7641
Pre-vasectomy reversal workup	% of patients with Hypercholesterolemia, n (%)	8 (13.3%)	2 (20%) 0.5920
	Median (IQR) total testosterone, ng/dl	462.5 (368.3 – 530.3)	263 (198.8 – 284.8) <0.0001*
	Median (IQR) free testosterone, ng/dl	10.9 (9.4 – 11.8)	7.3 (5.3 – 9.6) 0.0003*
	Median (IQR) LH, IU/L	4.7 (3.7 – 6.1)	2.8 (2.2 – 4.4) 0.0017*
	Median (IQR) FSH, IU/L	3.8 (2.9 – 4.9)	3.1 (1.9 – 4.2) 0.1034
	Median (IQR) estradiol, pg/mL	22 (17.6 – 28)	19 (14.7 – 25.3) 0.2747
	Median (IQR) Testosterone/estradiol (T/E2) ratio	21.8 (17.5 – 26.4)	12.3 (9.0 – 15.8) 0.0001*
	% of patients with ≥ 1 Hypogonadism symptom, n (%)	43 (71.7%)	8 (80%) 0.5731

VIDEO VISITS SET THE STAGE FOR NEW, MALE INFERTILITY EVALUATIONS

Juan Andino, MD, MBA, Alex Zhu, DO, Chad Ellimoottil, MD, MPH, James Dupree, MD, MPH
Michigan Medicine Department of Urology

INTRODUCTION:

It remains unknown how telehealth can be used in the evaluation of male infertility since the scrotal exam—a critical part of infertility evaluations—is not possible over video.

METHODS:

We identified video visits completed at our institution from March 2020 - February 2021. We included new infertility evaluations for men > 18 years old. We collected patient demographics and evaluation steps taken during and after these visits.

RESULTS:

There were 93 new patient video visits with a median age of 35 years old (range 21- 67). Most patients were referred by reproductive and endocrinology specialists (49%) or primary care providers (24%). Only 17% of patients were previously examined by a urologist.

The three most common recommendations at initial telehealth visit included a follow-up for a physical examination (58%), additional hormonal testing (47%), and a semen analysis (35%). Between March and May 2020, in-person clinics were limited so six patients were evaluated with scrotal ultrasounds instead of in-person exams, which identified five varicoceles and one testicular mass.

Overall, 37 patients (40%) required an additional in-person exam to complete their infertility evaluation. 21 patients (23%) completed their infertility evaluation through sole use of video visits, due to known female factors or having a previous infertility workup.

CONCLUSIONS:

It is difficult to complete a male infertility evaluation using only a video visit, unless a previous scrotal examination has been documented or relationships with local urologists can be leveraged. However, telehealth can be paired with an in-person exam or scrotal ultrasound to complete infertility workups.

Funding: 1 K08 HS027632-01 for Dr. Ellimoottil to study telehealth

MALE PHYSICIANS AS PATIENTS: HOW DO THEIR SPERM PARAMETERS STACK UP?

NIKI PARIKH, MD, MBA, MSBA, MOHAMED AHMED, MB, BCh,
MARAICA ROBINSON, MD, SARAH MCGRUFF, MD, ELIZABETH OLIVE,
MD, MATTHEW ZIEGELMANN, MD, TOBIAS KOHLER, MD, SEVANN
HELO, MD

Mayo Clinic Urology- Rochester

Introduction: Physician fertility and family planning represent a glaring gap in current medical education. Nearly 1/4 female physicians will suffer from infertility, yet little is known about fertility in male physicians. We therefore sought to compare semen analysis parameters in male physicians versus non-physicians.

Methods: Following IRB approval, a retrospective review of employees who underwent semen analysis from 2013-2019 was conducted. Post-vasectomy patients were excluded. Baseline patient characteristics and comorbidities were recorded. A comparison analysis of semen analysis parameters as defined by WHO 2010 criteria, demographic characteristics, and comorbidities was conducted with p-values <0.05 considered significant.

Results: A cohort of 169 physicians and 438 non-physicians were identified. Physicians were more likely to be older (33.8 versus 32.7 years, $p<0.05$) at time of semen analysis, have lower BMI (median 25.8 vs. 28.0, $p<0.0001$), and were less likely to have depression, ADHD, malignancy, obstructive sleep apnea, history of smoking, and alcohol abuse ($p<0.05$). No differences in incidence of diabetes, hypertension, and hyperlipidemia were noted. Physicians were less likely to have abnormal semen parameters ($p<0.05$). Specifically, physicians had higher total motile sperm counts (125 vs. 86.4 million, $p<0.0001$), and sperm concentrations (68.4 vs. 52.2 million/mL, $p<0.0005$).

Conclusion: This is the first study to report semen parameters of physicians. Despite being older at time of semen analysis, physicians had significantly higher total motile sperm counts which may be attributed to better overall health. As the paradigm shifts from caring for our patients to caring for ourselves, fertility amongst male physicians warrants further investigation.

Funding: N/A

WOMEN IN MEDICINE: PURSUE A CAREER OR RAISE A FAMILY...DO WE HAVE TO CHOOSE?

NIKI PARIKH, MD, MBA, MSBA, MOHAMED AHMED, MB, B.Ch,
MARAICA ROBINSON, MD, SARAH MCGRUFF, MD, ELIZABETH OLIVE,
MD, TOBIAS KOHLER, MD, MATTHEW ZIEGELMANN, MD, SEVANN
HELO, MD

Mayo Clinic Urology- Rochester

Introduction: Historically, women in medicine have felt torn between pursuing a career and having a family. Recent shifts in attitudes have increased attention to fertility issues facing healthcare workers. We sought to compare live birth rates amongst female healthcare and non-healthcare workers presenting with primary or secondary infertility.

Methods: Following IRB approval, a retrospective review of employees and partners who presented for fertility evaluation between 2013-2019 was conducted. Baseline patient characteristics, previous live birth, use of assisted reproductive techniques, female fertility factor, and semen analysis were obtained. Univariate and multivariate logistic regression was conducted to identify factors associated with increased likelihood of live births.

Results: 934 female partners were identified, 445 healthcare and 489 non-healthcare workers. No statistically significant differences between groups were noted for female age, female BMI, smoking status, history of previous live birth, male partner age, male BMI, or semen parameters. Female healthcare workers had a higher live birth rate (76.1 vs. 69.6%, $p < 0.05$), compared to non-healthcare counterparts. A review of male semen parameters revealed at least one abnormality in 45.4% of male partners of healthcare workers vs. 54.6% of non-healthcare workers ($p = 0.203$).

Conclusion: Of women presenting with primary or secondary infertility, healthcare workers had a higher live birth rate despite no differences in age, BMI, rate of female factor infertility, use of assisted reproductive technology, or male partner variables. While this is reassuring, further research is needed to identify subgroups within the healthcare worker population that may be at greater risk for infertility.

Funding: N/A

Pre-Vasectomy Ejaculation and Time to Azoospermia

Advait Deshmukh, Jonathan Demeter, MD, Puneet Sindhwani, MD
University of Toledo Department of Urology

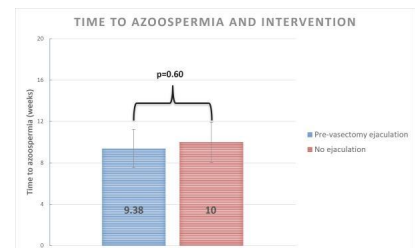
Introduction: Poor compliance with post-vasectomy semen analysis to confirm sterility remains a large problem. A longer time interval to post procedural semen analysis portends a poorer compliance. This study was undertaken to see if immediate pre-vasectomy ejaculation shortens time to azoospermia (TTA).

Methods: Patients were randomized 1:1 in the prospective trial. Study group included patients who ejaculated immediately prior to the procedure and the second group included patients that abstained. Primary outcome measured was TTA(weeks). Secondary outcomes examined compliance, percentage of patients with persistent rare non-motile sperm (PRNMS), and risk factors associated with TTA and PRNMS.

Results: 33 patients enrolled in the study with 29 completing the post-procedure protocol; 87.8% compliance. There was no difference in the time to azoospermia between the intervention and non-intervention groups (9.38 vs. 10 weeks; $p=0.60$). There was no difference in time to azoospermia between patients younger ($n=22$) and older ($n=7$) than 40 years (9.22 vs. 12 weeks; $p=0.76$) and rates of PRNMS (4/22 vs. 4/7; $p=0.067$). There was no difference in time to azoospermia between non-obese ($n=12$) and obese ($n=17$) patients (10.6 vs. 8.72 weeks; $p=0.43$) and rates of PRNMS (2/12 vs. 6/17; $p=0.41$).

Conclusion: Ejaculation immediately prior to vasectomy does not decrease time to azoospermia.

Funding: N/A



ONLINE MARKETING PRACTICES OF VASECTOMY REVERSAL

Masaya Jimbo, M.D., Ph.D., Francis Jefferson, M.D., Garrett Ungerer, M.D., Matthew Ziegelmann, M.D., Tobias Kohler, M.D., M.P.H., Sevan Helo, M.D.

Mayo Clinic, Department of Urology, Rochester, MN

INTRODUCTION

Vasectomy reversal (VR) is rarely covered by insurance. While cost is an immediate concern for patients, surgeon training and experience are essential for a successful outcome. Patients considering VR are likely to seek information online. In this study, we reviewed the characteristics of providers marketing VR online, as well as comprehensiveness of their website content.

METHODS

We identified VR practices in the top 50 metropolitan areas in the United States using Google. Practice websites were reviewed to obtain information including educational background, use of operating microscope, ability to perform vasoepididymostomy if indicated, procedural setting, surgical volume, literature or personal success rates, risks and alternatives of VR, and cost.

RESULTS

Our search returned 107 VR practices including 29 (27%) academic and 78 (73%) private practices. Providers were primarily male (98%) MDs (98%) with median age of 53. Most providers were urologists (93%) with fellowship training (58% andrology, 6% non-andrology). There was low reporting of surgical volume (33%), literature (46%) and personal (21%) success rates, and risks (26%) and alternatives (30%) of VR. Academic practices were more likely to have an andrology fellowship-trained provider (97 vs. 44%, $p<0.05$), but less likely to disclose procedure cost (14 vs. 40%, $p<0.05$), compared to private practices. We noted no differences between practice types in other parameters.

CONCLUSIONS

There is significant lack of transparency and completeness of information among providers marketing VR online. Providers should consider implementation of measures to improve the dissemination of reliable information, such that patients can make informed decisions regarding VR.

Funding: N/A

Poster #13

6-MONTH LHRH FORMULATIONS ARE AN OPTIMAL CHOICE DURING THE COVID-19 PANDEMIC

Jason M. Hafron¹, Stuart N. Atkinson², Deborah M. Boldt-Houle², Richard G. Harris³

¹Michigan Institute of Urology, Troy, MI, ²TOLMAR Pharmaceuticals, Inc., Medical Affairs, Buffalo Grove, IL, ³UroPartners, Melrose Park, IL

Introduction: Achieving and maintaining testosterone(T) suppression to castrate levels is the cornerstone of androgen deprivation therapy(ADT) in advanced prostate cancer(PCa). However, T may rise above castrate level(50 or 20ng/dL) between injections, especially if a dose is delayed. PCa patients are unable to self-administer treatment and need a clinic visit for injections. During COVID pandemic, visits should be minimized. 6-month formulations only require two office visits/year, and therefore, only have two opportunities to be 'late'. We present analyses of PCa patients treated with the 2 most commonly used ADTs.

Methods: Analysis(1/1/07-6/30/16) of US oncology/urology electronic medical records of PCa patients who received leuprolide acetate(LA): in situ gel technology(Gel-LA, subcutaneous) or microsphere technology(Msphere-LA, intramuscular). Mean late doses/year for 1,3,4,6-month LHRH agonist formulations were calculated. Late dose was defined as occurring after days 33,98,129,195, respectively. Mean T and rate of T-tests >50 and 20ng/dL were evaluated.

Results: Mean late doses/year for 1,3,4,6-month LHRH agonists formulations were 5.4,0.8,0.8,0.6, respectively. With late dosing, mean T was 48ng/dL(6-month Gel-LA) vs. 76ng/dL(6-month Msphere-LA). 18%(6-month Gel-LA) vs. 25%(6-month Msphere-LA) of T values were >50ng/dL, and 34%(Gel-LA) vs. 44%(Msphere-LA) of T values were >20ng/dL. All three analyses were statistically significant(p<0.05).

Conclusions: 6-month formulations had the least late doses/year vs.1,3,4-month formulations. Of 6-month formulations, when doses were late, subcutaneous Gel-LA had a significantly lower mean T and percent of T-tests >50 and 20ng/dL than intramuscular Msphere-LA. Clinicians should consider using 6-month formulations that demonstrate/maintain efficacy through the end of the labeled dosing interval.

Funding: TOLMAR Pharmaceuticals, Inc.

Modernization of Prostate Biopsy - Does Biopsy Type Affect Management Selection?

Brandon Levin, Daniel Lama, Tianyuan Guan, Jonathan Sussman, Marepalli Rao, Sadhna Verma, Juliana Tobler, Abhinav Sidana
University of Cincinnati

Introduction: Multiparametric magnetic resonance imaging (mpMRI) targeted biopsy has emerged as an augmentation to systematic prostate biopsy with improved diagnostic accuracy. The purpose of this study was to determine whether biopsy modality impacted subsequent management of prostate cancer (PCa).

Methods: We performed an institutional retrospective review of patients diagnosed with PCa between January 2014 and December 2020. Biopsies were performed utilizing either systematic transrectal ultrasound-guided 12-core biopsy (SBx), or SBx and ≥ 1 targeted mpMRI fusion biopsy cores (FBx) for patients with $\geq$ prostate imaging and reporting system v2 (PI-RADS) 3 lesions. Patients were subdivided based on management: active surveillance, radiation therapy +/- androgen deprivation therapy, or radical prostatectomy. Logistic regression analysis was completed using demographics and clinicopathologic factors.

Results: We identified 597 patients (292 received SBx and 305 received FBx) for analysis. On multivariate logistic regression of all patients, method of biopsy was not a significant predictor of management selection (odds ratio [OR] 0.99; 95% confidence interval [CI] 0.65–1.53, $p = 0.975$), nor was it a predictor when stratified for patients who were biopsy naive (OR 1.09; 95% CI 0.69–1.74; $p = 0.713$) or had history of prior negative biopsy (OR 0.40; 95% CI 0.11–1.46; $p = 0.165$). Age and Gleason score were significant predictors of subsequent management ($p < 0.001$).

Conclusion: SBx or FBx did not impact management approach for patients with new diagnosis of PCa. Despite paradigm shifts in obtaining tissue diagnosis, age and Gleason score remain valuable indices for shared decision-making and decision to pursue treatment.

Funding: N/A

**MODERATE DELAY IN RADICAL PROSTATECTOMY
DOES NOT IMPACT ONCOLOGICAL OUTCOMES OF
HIGH-RISK PROSTATE CANCER: RESULTS FROM THE
MICHIGAN UROLOGICAL SURGERY IMPROVEMENT
COLLABORATIVE (MUSIC)**

Colton Walker, MD¹, Udit Singhal, MD¹, Ji Qi², Kevin Ginsburg, MD²,
Michael Cher, MD², Brian Lane, MD², James Montie, MD¹, David Miller,
MD¹, Arvin George, MD¹

¹Department of Urology, University of Michigan, ²Michigan Urological
Surgery Improvement Collaborative

Introduction: We aimed to determine the impact of delays in the treatment of prostate cancer (PCa), as those expected to occur as a result of the COVID-19 pandemic, on oncologic outcomes.

Methods: Between January 2012 and February 2020, patients diagnosed with intermediate- or high-risk PCa who underwent radical prostatectomy (RP) within one year of diagnosis were captured in the MUSIC registry. Patients were classified into immediate (<3 months) or delayed RP groups (3.1-6 months, 6.1-9 months, 9.1-12 months). Our primary outcomes were adverse pathology (AP) at RP (defined as EPE, SVI, or pN1) and time to biochemical recurrence (BCR, defined as postoperative PSA $\geq$ 0.2). Within each risk group, multivariable regression models were performed to compare outcomes between immediate and delayed patients.

Results: Among 8355 intermediate-risk patients, 5014 (60.0%), 2809 (33.6%), 382 (4.6%), and 150 (1.8%) underwent RP <3 months, 3.1-6 months, 6.1-9 months, and 9.1-12 months following diagnosis. Among 2774 high-risk patients, the distribution was 1977 (71.3%), 721 (26.0%), 57 (2.1%), and 19 (0.7%). For intermediate-risk patients, only delays of 6-9 months resulted in increased risk of AP (OR 1.31, p=0.03), and only delays of 9-12 months resulted in increased risk of BCR (HR 1.76, p=0.02). For high-risk patients, delaying surgery up to 12 months showed no significant difference in risk of AP; delaying surgery up to 6 months showed no significant difference in time to BCR.

Conclusion: A delay of treatment <6 months from the time of diagnosis was not associated with an increase in AP at RP or BCR.

Funding: Blue Cross Blue Shield of Michigan

THE EFFICACY OF PI-RADS 5 IN PREDICTING DETECTION OF CLINICALLY SIGNIFICANT PROSTATE CANCER ON MRI-FUSION BIOPSY

Farzaan Kassam, Brandon Levin, Juliana Tobler, Sadhna Verma, Abhinav Sidana

University of Cincinnati College of Medicine

Introduction: PI-RADS demonstrates clinically significant (CS) cancer risk on prostate mpMRI. PI-RADS 5 lesions are highest risk for CS cancer. Not all PI-RADS 5 lesions demonstrate CS cancer on FBx. We evaluated common reasons for benign or non-CS cancer on FBx of PI-RADS 5 lesions.

Methods: Reviewed patients who underwent FBx from 01/2014-03/2020. Patients with PI-RADS 5 score on MRI were included. CS cancer deemed Gleason score 7+. Patients without CS biopsy were reviewed for potential causes. A logistic regression analysis was completed.

Results: 665 patients underwent FBx. 176 had PI-RADS 5 lesions on MRI. CS cancer found in 135 patients. Of remaining 41 patients, 34 had true PI-RADS 5 lesions. 26 had false positives (no CS cancer on follow-up standard template biopsy). Causes for false positives included chronic inflammation, benign biopsy, acute inflammation/prostatitis, and atrophy of prostate. Gleason 6 found in 12 patients. In patients with true PI-RADS 5 lesions, 8 had FBx registration errors. Logistic regression analysis showed significant predictors for false positives: younger age ($p=0.011$), lower PSA values ($p=0.001$), greater prostate volume ($p=0.002$).

Conclusion: Our study showed 76.5% of patients with confirmed PI-RADS 5 lesions and negative biopsy, had no CS cancer. Additional research may determine further parameters to help rectify these patients and avoid unnecessary biopsy.

Funding: N/A

Total Pts	41
Total MRI Misread	7 (17.1%)
Total Correct PIRADS 5	34 (82.9%)
Total FBx Registration Errors (n = 34)	8 (23.5%)
Total False Positives (n = 34)	26 (76.5%)
Causes for Benign or Non-CS Findings on FBx (n = 26)	
True Gleason 6	12 (46.2%)
Chronic Inflammation/Prostatitis	6 (23.1%)
Benign Biopsy	6 (23.1%)
Acute Inflammation/Prostatitis	4 (15.4%)
Atrophy	4 (15.4%)
Therapy Related Changes	1 (3.8%)
Atypical Small Acinar	0 (0%)
Proliferation/Atypical Glands	0 (0%)
Prostatic Intraepithelial Neoplasia	0 (0%)

Table 1. All findings were in location of target biopsy. Some patients demonstrated multiple findings.

Index Prostate Lesion Density Does Not Improve the Diagnostic Performance of Detecting Clinically Significant Prostate Cancer

Mohammed Said, MD¹, Maheen Rajput, MD², Catherine Metz, MD², Paul Gellhaus, MD¹, Chad Tracy, MD¹, Ryan Steinberg, MD¹

¹*Department of Urology, University of Iowa Hospitals and Clinics,* ²*Department of Radiology, University of Iowa Hospitals and Clinics, Iowa City, Iowa*

WITHDRAWN

Assessment of modern 3T prostate MRI's ability to stage prostate cancer and implications for surgical outcomes

Austin Kazarian, Brian Barnes, MD, James Brown, MD
University of Iowa Department of Urology

Purpose: Recent advances in multiparametric prostate MRI have been thought to improve accuracy of staging prior to radical prostatectomy (RP).

Methods: After implementing MRI-targeted biopsies (MRI-TB) at a single center we retrospectively reviewed patients that went on to RP after MRI-TB between 2017 and 2020 to determine the ability of MRI and other patient factors to predict seminal vesical invasion (SVI) and extraprostatic extension (EPE) and resultant surgical margins.

Results: 114 patients proceeded to RP. 5 patients (4%) had (SVI) on final surgical pathology, none of which were detected on MRI. 25 patients (22%) had (EPE) on final pathology, but of these only 13 (52%) had mention of EPE or capsular abutment/bulge on MRI. Prior to 2019, 5 of 15 had any MRI EPE concern. In 2019 and 2020, 8 of 10 cases had MRI EPE concern. Of those with EPE, 11 (44%) had a positive margin. The positive margin rate was 38% (5 of 13) for patients with MRI EPE concern and 50% (6 of 12) for patients without. 10 of 13 (77%) patients with MRI EPE concern had a non-nerve sparing procedure as opposed 83% of patients without MRI EPE concern. Neither age, PSA level, prostate volume, PSA density, Gleason score on biopsy were predictive of EPE or SVI.

Conclusions: Despite MRI advances, clinicopathologic factors remain critical for surgical decision making at the time of RP. MRI appears to more reliably identify EPE after radiology experience.

Funding: N/A

**NATIONAL CANCER DATABASE ANALYSIS
ASSESSING THE IMPACT OF TREATMENT
MODALITIES ON SURVIVAL OUTCOMES IN
LOCALIZED NEUROENDOCRINE PROSTATE
ADENOCARCINOMA**

Chandler Bronkema, BS¹, Nicholas Corsi, BS², Sohrab Arora, MD¹, Jacob Keeley, MS¹, Nikola Rakic, BS¹, Akshay Sood, MD¹, Maxwell Stricker, BS³, Phil Olson, BS¹, Craig Rogers, MD¹, Mani Menon, MD¹, Firas Abdollah, MD¹

¹Vattikuti Urology Institute (VUI), Henry Ford Hospital, Detroit, MI, ²Wayne State University School of Medicine, Detroit, MI, ³VCORE (VUI Center for Outcomes Research, Analytics and Evaluation)

Neuroendocrine (NEC) adenocarcinoma is a rare histological variant of prostate adenocarcinoma (PCa). Optimal treatment strategies for men with nonmetastatic NEC PCa is unknown. We evaluated the impact of initial surgery, radiotherapy (RT), systemic therapy (ST) and observation on overall survival (OS) in men with nonmetastatic NEC PCa.

We selected 456 cases of localized NEC PCa diagnosed between 2004-2015 within the National Cancer Database. Covariates included age, race, Charlson comorbidity score, clinical T stage, clinical lymph node stage, serum prostate specific antigen (PSA), and income. Cox regression analysis tested the impact of treatment on OS after adjusting for all covariates. Adjusted Kaplan-Meier estimates visualized the impact of treatment modality on OS.

The median age and PSA was 70 years and 5.3 ng/mL. Advanced local stage ($\geq$ cT3a) was most frequently observed in patients treated with ST (52.6%), followed by those treated with RT (40.2%), observation (20.0%) and surgery (15.9%, $p < 0.001$). PSA at presentation was highest in the ST cohort, followed by the surgery and observation cohorts. Estimated 5-year OS was highest in the surgery cohort (58.1%), followed by the RT (33.8%), observation (13.6%) and ST cohorts (7.9%; all $p < 0.001$). Multivariable analysis showed that compared to surgery, OS was significantly lower for patients under observation (HR 5.2; 95% CI: 2.5-10.6); however, OS was not significantly different for patients receiving RT or ST.

Initial surgical treatment is associated with more favorable OS outcomes compared to observation, but not RT or ST. Our findings should be interpreted within the framework of a retrospective study design.

Funding: N/A

Is Gland Size Protective in Prostate Cancer? Modeling Oncologic Outcomes Based on Prostate Weight

Zain A. Abedali, MD, Andre Woloshuk, Michael O. Koch, MD, Chandru P. Sundaram, MD, Clint Cary, MD, Ronald S. Boris, MD
Indiana University School of Medicine, Department of Urology

Introduction: The impact of prostate size on prostate cancer outcomes is poorly understood. We created a statistical model to test our hypothesis that gland size harbors a protective oncologic effect in men who underwent robotic radical prostatectomy.

Methods: A retrospective review of robotic prostatectomy patients from 2009 to 2020 was performed. Demographics and preoperative characteristics were used as predictors in logistic regression models, univariate and multivariate cox analyses.

Results: For the overall cohort of 3425 patients, increasing prostate size predicted lower rates of positive margins and recurrence but not T3 disease. When individualizing by Gleason score, T3 disease and positive margins rates were significantly lower in larger glands for Gleason 6 disease. Additionally for Gleason 7 disease, positive margins rates were lower in larger glands. Paradoxically, patients with Gleason 8 and greater disease had higher rates of T3 disease with increasing gland size.

Conclusions: Increased prostate volume predicts lower positive margins rates in robotic prostatectomy with greatest benefit in lower grade disease. Size was also significantly associated with recurrence. This oncologic protection appears lost with increased gland size predicting worse outcomes in higher grade disease. Men with low grade cancer with smaller glands may be worse candidates for active surveillance due to increased risk of unfavorable oncologic outcomes.

Funding: n/a

Outcome	Factor	OR	95% CI	p
T3 Pathologic Staging	Age	1.053	(1.039, 1.065)	<0.001
	Gleason	3.288	(2.857, 3.812)	<0.001
	PSA density	23.572	(13.291, 43.011)	<0.001
	Prostate Size	0.997	(0.993, 1.001)	0.121
	Gleason <=6	0.979	(0.959, 0.997)	0.034
	Gleason = 7	0.997	(0.964, 1.005)	0.161
	Gleason >=8	1.04	(1.016, 1.068)	0.002
	BMI	1.015	(0.987, 1.043)	0.277
	Race	1.602	(0.164, 1.660)	0.672
Positive Margin	Age	1.004	(0.991, 1.017)	0.547
	Gleason	1.624	(1.458, 1.810)	<0.001
	PSA density	1.433	(1.051, 2.049)	0.047
	Prostate Size	0.99	(0.984, 0.994)	<0.001
	Gleason <=6	0.982	(0.965, 0.996)	0.03
	Gleason = 7	0.983	(0.976, 0.989)	<0.001
	Gleason >=8	1.008	(1.001, 1.019)	0.078
	BMI	1.033	(1.004, 1.063)	0.026
	Race	1.3	(0.002, 9.936)	0.975
Biochemical Recurrence	Age	0.98	(0.989, 1.015)	<0.001
	Gleason	1.156	(1.323, 1.588)	0.001
	PSA density	1.088	(1.080, 1.181)	<0.001
	Prostate Size	1.003	(1.006, 1.012)	0.009
	Gleason <=6	0.9974	(0.990, 1.005)	0.472
	Gleason = 7	1.0029	(0.998, 1.008)	0.23
	Gleason >=8	1.0029	(0.999, 1.006)	0.095
	BMI	1.006	(0.974, 1.037)	0.721
	Race	2.124	(0.000, 9999)	0.995
	T3 status	1.914	(2.239, 3.290)	<0.001
	Margin status	1.548	(1.365, 1.930)	<0.001

MULTIPARAMETRIC MAGNETIC RESONANCE IMAGING VS TRANSRECTAL ULTRASOUND TO CALCULATE PROSTATE VOLUME AND PROSTATE-SPECIFIC ANTIGEN DENSITY: IMPACT ON PROSTATE CANCER DETECTION

Shawn Choe, BS. MA.¹, Hiten Patel, MD MPH¹, Yudai Okabe, BS¹, Elizabeth Koehne, MD¹, Steven Shea, PhD², Alex Gorbonos, MD¹, Marcus Quek, MD¹, Robert Flanigan, MD¹, Ari Goldberg, MD. PhD², Gopal Gupta, MD¹

¹Department of Urology, Loyola University Medical Center, Maywood, IL, ²Department of Radiology, Loyola University Medical Center, Maywood, IL

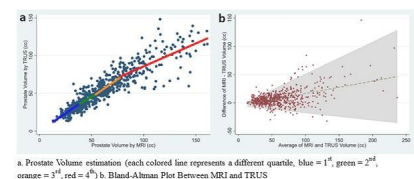
Introduction: Multiparametric magnetic resonance imaging (mpMRI) and transrectal ultrasound (TRUS) are used to estimate prostate volume and prostate specific antigen density (PSAD) in men with clinical suspicion of prostate cancer (PCa). Whether discordant measurements impact PCa detection is unknown.

Methods: Patients referred for mpMRI prior to mpMRI-TRUS fusion-guided prostate biopsy between 2015 and 2020 were identified. Volume and calculated PSAD by mpMRI and TRUS were compared. Associations with presence of Gleason $\geq 3+3$ and Gleason $\geq 3+4$ PCa were evaluated using linear regression (interaction by volume quartile), logistic regression, and receiver operating characteristics.

Results: Among 640 men, TRUS underestimated prostate volume relative to mpMRI (median 49.2cc vs. 54.1cc) with 8% lower volume per cc up to 77.5cc (1st-3rd quartile) and 39% lower volume per additional cc above 77.5cc (4th quartile). mpMRI PSAD had slightly higher odds vs. TRUS PSAD for detecting Gleason $\geq 3+3$ (OR 2.94 and OR 2.78, both $p < 0.001$) or Gleason $\geq 3+4$ PCa (OR 4.20 and OR 4.02, both $p < 0.001$). AUC improvements were of borderline significance for mpMRI vs. TRUS PSAD for Gleason $\geq 3+3$ (0.689 vs. 0.675, $p = 0.05$) and not significant for Gleason $\geq 3+4$ (0.732 vs. 0.722, $p = 0.20$).

Conclusions: TRUS underestimates prostate volume relative to mpMRI. PSAD based on mpMRI may be better associated with detection of PCa but clinical significance is minimal.

Funding: Efforts to support data extraction and maintenance of The Prospective Loyola University mpMRI Prostate Biopsy Cohort database is supported by funding from Siemens Medical Solutions USA, Inc.



Racial disparity in prostate cancer diagnosis for men undergoing varying intensity of prostate-specific antigen (PSA) screening in a large, racially diverse healthcare system

Deepansh Dalela¹, Marcus Jamil¹, Akshay Sood¹, Jacob Keeley¹, Patrick Etta¹, Brett Friedman², Mani Menon¹, Craig Rogers¹, Firas Abdollah¹

¹Department of Urology, Henry Ford Health System, ²Oakland University, William Beaumont School of Medicine

Introduction

It is unknown if varying intensity of PSA screening has a differential impact on prostate cancer (PCa) diagnoses in Black vs White men.

Methods

Henry Ford Health System is a large, racially diverse integrated healthcare system in Southeast Michigan, USA. Men aged 45+ who self-identified as Black or White, without a prior PCa diagnosis, who underwent PSA screening from 1995-2019 were included. Screening intensity was defined as routine screening (at least one PSA test q1-2 years), occasional (at least one test q3 yearly) and sporadic (no test for three consecutive years). Outcomes: time to diagnosis of PCa, PSA and incidence of clinical nodal and metastatic disease at diagnosis.

Results

Overall, 46,693 (34.5%), 44,790 (33.1%) and 44,015 (32.5%) men were included in the sporadic, occasional and routine PSA screening groups, respectively, of which 34,623 (25.6%) were Black. For white men in occasional vs. sporadic groups, median PSA at diagnosis was 5.6 and 6.3 ng/mL, clinical N+ 1.5% vs. 3.5% and metastatic disease 9.1% vs. 13% (all $p < 0.01$). However, for black men in these groups, median PSA was 6.8 vs. 8.8 ng/mL, clinical N+ 2.1% vs. 4.2% and metastatic disease 9.9% vs. 17.7% (all $p < 0.001$).

Conclusions

Data from large, equal access, racially diverse US-based healthcare system show that over a nearly 25-year period, black men who underwent occasional or sporadic PSA screening were diagnosed with more aggressive PCa than their White counterparts with similar intensity of PSA screening, suggesting the role of intrinsic differences in tumor biology between Black vs White men.

Funding: n/a

PATIENT REPORTED OUTCOMES OF URINARY INCONTINENCE RATES USING VIABLE CRYOPRESERVED UMBILICAL TISSUE OVER NEUROVASCULAR BUNDLES DURING ROBOTIC ASSISTED RADICAL PROSTATECTOMY

Samantha Kraemer, MD¹, Mit Shah, MD¹, Chirag Dave, MD¹, Ji Qi, PhD², Fiona Sun³, Sugandh Shetty, MD¹, Brian Seifman, MD¹, Jason Hafron, MD¹

¹Beaumont Health, Royal Oak, MI, ²University of Michigan, Ann Arbor, MI,

³Oakland University William Beaumont School of Medicine, Royal Oak, MI

Introduction: Incontinence remains a side effect from robotic assisted radical prostatectomy (RAP) for prostate cancer despite nerve sparing (NS) techniques. Use of growth factors and anti-inflammatory substances over neurovascular bundles is an emerging technique to enhance recovery of continence and potency. Viable cryopreserved umbilical tissue (vCUT) is FDA approved for homologous use in surgery. The objective is to determine if vCUT use in NS-RAP accelerates return to continence.

Methods: Retrospective review of 176 patients who underwent NS-RAPs from October 2015 through July 2020 were identified through the Michigan Urological Surgery Improvement Collaborative (MUSIC). Return to social urinary continence (0-1 pads per day) at 3 months postoperatively was evaluated using MUSIC patient-reported outcome (PRO), a validated questionnaire to assess urinary and sexual issues at baseline and after treatment. Multivariable logistic regression model was used to assess association between the use of vCUT as social continence.

Results: We identified 112 vCUT patients and 64 non-vCUT patients who underwent NS-RAP during our time frame. Based on MUSIC-PRO data, continence was achieved by 3 months post-op in 87% (97/112) of v-CUT patients versus only 72% (46/64) in non-vCUT patients ($p=0.016$). On multivariable analysis (controlling for age, BMI, diabetes, and baseline continence), although not reaching conventional statistical significance, vCUT patients were more likely to achieve continence than non-vCUT patients ($OR=2.29$, $p=0.06$).

Conclusion: Using vCUT during NS-RAP may promote quicker return to social urinary continence. Further larger studies with longer follow up are required to evaluate effectiveness of vCUT to enhance return of continence and potency.

Funding: N/A

THE ASSOCIATION OF ELIGIBILITY CRITERIA WITH PROSTATE CANCER CLINICAL TRIAL FAILURE

Kristian Stensland, MD, MPH¹, Samir Hafez¹, Lucas Clarke², Sam Kaffenberger, MD¹, Brent Hollenbeck, MD, MS¹, Ted Skolarus, MD, MPH¹
¹University of Michigan, ²Harvard University

Introduction: Poor enrollment is the primary barrier to successful clinical trials, yet root causes remain under studied. Restrictive eligibility criteria may lead to poor enrollment by limiting the eligible patient pool. For these reasons, we identified associations of phase 3 prostate cancer clinical trial eligibility criteria with trial enrollment and completion.

Methods: We queried ClinicalTrials.gov for completed or terminated phase 3 prostate cancer trials registered since 2007. We manually coded eligibility criteria and trial failure reason. We compared trial failure and enrollment sufficiency between trial types using Fisher's exact test.

Results: We identified 250 trials, of which 227 (91%) were completed, 4 (2%) ended early for toxicity/efficacy, and 19 (8%) failed. Of all trials, 30% had any kidney eligibility criteria, and 30% had any liver eligibility criteria. Most trials (61%) had a performance status requirement. Eligibility criteria were nearly identical in failed and successful trials ($p \approx 1$ for each comparison).

Conclusions: Successful and unsuccessful phase 3 prostate cancer clinical trials had similar eligibility criteria. The extent to which eligibility criteria reflect or restrict eligible patient populations for trials warrants further study given poor overall enrollment. Better understanding how aspects of existing trials, such as eligibility criteria, lead to trial success will lay the groundwork for improving ongoing and future clinical trials.

Funding: Dr. Stensland is supported by the National Cancer Institute T32 CA180984.

TABLE: Characteristics of included trials

	Successful Trials (n=227)	Failed Trials (n=19)	p value
Primary Intervention			0.45
Drug	151 (65%)	14 (74%)	
Diagnostic	34 (15%)	2 (11%)	
Radiation	20 (9%)	0	
Behavioral	9 (4%)	0	
Surgery	6 (3%)	1	
Other	11 (5%)	2 (4%)	
Kidney Eligibility Criteria			0.77
GFR > 60	7 (3%)	0	
GFR > 45	38 (17%)	5 (22%)	
GFR > 30	16 (7%)	0	
GFR > 15	3 (1%)	0	
"Adequate"	5 (2%)	0	
No requirement	162 (70%)	14 (78%)	
Liver Eligibility Criteria (Any)	70 (30%)	6 (32%)	1
Performance Status Eligibility Criteria			0.82
ECOG <= 3	6 (2%)	1 (4%)	
ECOG <= 2	67 (30%)	7 (30%)	
ECOG <= 1	64 (28%)	5 (22%)	
ECOG 0	1 (0.4%)	0	
Other	2 (0.9%)	0	
No restriction	87 (38%)	10 (44%)	

INITIAL SAFETY AND EFFICACY RESULTS OF TRANSURETHRAL VAPOR ABLATION (TUVA) FOR PATIENTS WITH INTERMEDIATE RISK PROSTATE CANCER

Christopher Warlick, MD, PhD¹, Richard Levin, MD, FACS, CPI², Christopher Cantrill, MD³, Mikhail Regelman, MD⁴, Michael White, DO³, Aaron Milbank, MD⁴, Benjamin Spilseth, MD, MBA¹, Christopher Dixon, MD^{5,6}

¹University of Minnesota, ²Chesapeake Urology, ³Urology San Antonio, ⁴Minnesota Urology, ⁵Good Samaritan Hospital, ⁶Bon Secours Medical Group

Introduction:

Traditional therapy of prostate cancer (PCa) risks impacting QOL. Vapor ablation, a potentially less morbid option was proven to treat BPH. We report initial safety and efficacy results of TUVA with an investigational device treating intermediate risk PCa.

Methods:

Subjects with mpMRIs and biopsies demonstrating unilateral, GG2 PCa with prostates between 20-80cc were treated with TUVA at four US centers. Cystoscopy and transrectal ultrasound guidance was used to deliver vapor to transition, central and peripheral zones to achieve hemiablation. Adverse events were assessed via Common Terminology Criteria for Adverse Events (CTCAE) and QOL data was collected. mpMRIs were completed 7-days and 6-months post-procedure to assess ablation extent. Prostate biopsies were completed at 6-months.

Results:

Fifteen subjects aged 49-78 years completed the procedure. Median PSA was 4.7ng/ml (IQR 3.6-5.5) and median prostate size 42.6cc (24.8-77.0). No serious adverse events occurred. Seven subjects reported grade 1 or 2 adverse events, the most frequent being re-catheterization in 4 patients. One patient reported new ED.

TUVA resulted in a mean 91% (70-100%) hemiablation with 14/17 (82%) PI-RADs ≥ 3 lesions in the ablation zone on 7-day mpMRI. mpMRI at 6 months (n=4) showed mean volume reduction of 46% and median PSA reduction of 73%. None of the 4 patients biopsied to date at 6-months had >GG2 cancer. Two subjects had no cancer; 2 showed GG1 (3% and 5% of 1 core respectively).

Conclusion:

TUVA appears safe with promising short-term outcomes for patients with intermediate risk PCa. Additional 6-month biopsies seek to confirm these

results.

Funding: Francis Medical, Maple Grove, MN

ASSESSING THE DIAGNOSTIC PERFORMANCE OF SYSTEMATIC FREEHAND TRANSPERINEAL PROSTATE BIOPSY: COMPARISON OF OBSERVED OUTCOMES TO PBCG NOMOGRAM PREDICTIONS

Shaan Setia, MD¹, Jamaal Jackson, MD¹, Demetri Cendo, BS², Michael Gorin, MD³, Matthew Allaway, DO³, Srinivas Vourganti, MD¹

¹*Rush University Medical Center, Department of Urology, Chicago, Illinois,*

²*University of Maryland, College Park, Maryland,* ³*Urology Associates, Cumberland, Maryland*

Objective

We assessed the diagnostic performance of freehand systematic transperineal biopsy (fTPb) by using the Prostate Biopsy Collaborative Group (PBCG) nomogram, which is a contemporary update to the PCPT nomogram.

Methods

From 1/2012 to 12/2018, fTPb was performed on consecutive men with clinical suspicion of prostate cancer. Patients had no previous diagnosis of prostate cancer, PSA between 2.5 ng/ml and 20 ng/ml, and underwent at least 12 core biopsies. In addition, those men who underwent pre-biopsy multiparametric MRI of the prostate were considered separately from those without prebiopsy imaging. Biopsies were performed by a single urologist who developed the needle guidance device used in the procedure. We compared observed biopsy outcomes with those predicted by PBCG nomogram utilizing chi-square statistical analysis.

Results

Systematic fTPb (without pre-biopsy MRI) was performed in 301 men (median age 67, mean PSA 6.9 ng/mL). Clinically significant cancer (ISUP 2 or greater) was found in 33.9% of men. In men without pre-biopsy MRI, we found no significant difference between the expected and observed number of clinically significant cancer (96 vs 102; $p = 0.09$). 73 men (median age 67, mean PSA 7.8 ng/ml) underwent pre-biopsy MRI imaging. Clinically significant cancer was found in 49.3%. Using the PBCG Nomogram, in the men with pre-biopsy MRI we found clinically significant cancer in significantly more men than was expected by PBCG nomogram predictions (36 vs 20; $p = <0.01$).

Conclusion

We found that pre-biopsy mpMRI resulted in greater than expected detection of clinically significant cancer when utilizing this technique.

Funding: N/A

6:00 PM-7:00 PM

Young Urologists Mixer

6:00 PM-7:00 PM

Young Urologist Mixer

Location: Millennium Room (Lobby Level)

THURSDAY, OCTOBER 7, 2021

6:00 AM-5:00 PM

Registration/Information Desk Hours

Location: International Foyer (Level 2)

6:00 AM-5:00 PM

Speaker Ready Room Hours

Location: Royal Room (B2 Level)

6:00 AM-7:30 AM

Breakfast

Location: International Foyer (Level 2)

6:30 AM-7:30 AM

Oncology Video Session

Location: State

Moderators:

Paul Gellhaus

Courtney Hollowell

Video #1

Robotic Radical Prostatectomy Using Umbilical Tissue to Improve Cavernosal Nerve Function

Joshua Volin, BS¹, Brett Watson, MD², Lior Kopel, BS¹, Samantha Kraemer, MD², Jason Hafron, MD^{1,2}

¹*Oakland University William Beaumont School of Medicine*, ²*William Beaumont Hospital- Royal Oak*

Funding: N/A

Video #2

ROBOTIC RETROPERITONEAL SURGERY: POSITIONING, ACCESS, AND PORT PLACEMENT

Elizabeth Koehne, M.D., Michael Felice, M.D., Nicholas Elliott, M.D., Andrew Radtke, M.D., Gopal Gupta, M.D.

Loyola University Medical Center

Funding: N/A

Video #3

Robotic-Assisted Laparoscopic Partial Nephrectomy Utilizing Cold Ischemia

Meredith Meyer¹, Hannah Wang², Daniel Lama, M.D.², Abhinav Sidana, M.D.²

¹*University of Cincinnati College of Medicine*, ²*University of Cincinnati Medical Center, Division of Urology*

Funding: N/A

Video #4

A Novel Renorrhaphy Closure For Complex Endophytic Tumor

Jennifer Espinales, MD, Firas Petros, MD
University of Toledo Medical Center, Toledo, Ohio

Funding: N/A

Video #5

Single Port Simple Prostatectomy

Susan Talamini, Simone Crivellaro
University of Illinois at Chicago, Department of Urology

Funding: N/A

Video #6

Single-Port Removal of Eroded Penile Prosthesis Reservoir and Fistula Repair

Daniel Simon, MD¹, Scott Brockman, MD¹, Adam Beer, MD², Alexander Chow, MD¹
¹*Rush University Medical Center, Division of Urology, Chicago, IL*, ²*Rush Medical College, Chicago, IL*

Funding: N/A

6:30 AM-7:45 AM

Pediatrics Podium Session

Location: Gold
Moderators:
Douglas Storm
Ruthie Su

THE UTILITY OF RENAL SONOGRAPHIC MEASUREMENTS IN DIFFERENTIATING CHILDREN WITH HIGH GRADE CONGENITAL HYDRONEPHROSIS

Tomas Lence, B.S., Gina Lockwood, M.D., Douglas Storm, M.D.,
Christopher Cooper, M.D.
University of Iowa

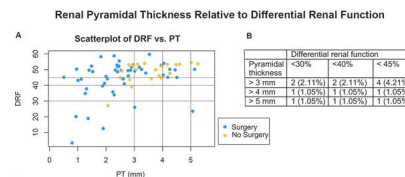
Introduction: Current grading systems for hydronephrosis include a subjective determination of parenchymal 'thickness' and suffer from poor reliability. Use of more objective ultrasonographic measurements including medullary pyramidal thickness (PT), renal length, and anteroposterior pelvic diameter (APD) may augment current grading systems by decreasing subjectivity and enhancing prognostic ability.

Methods: We retrospectively reviewed 110 children with SFU grade III and IV hydronephrosis. Median age (IQR) at presentation was 1.7 months (0.6-5.2) and follow-up was 28 months (18.3-44.6). Sixty-two kidneys were followed without operative intervention while 63 underwent pyeloplasty. Median age at pyeloplasty was 5.7 months (2.8-13.7). The PT, APD, and renal length were measured on sonographic images.

Results: PT was strongly associated with differential renal function ($p=0.0005$) and also predictive of subsequent pyeloplasty ($AUC=0.781$). Only 2% of kidneys had a relative renal function less than 40% with a PT > 3mm (see figure). A novel PPS using only objective measurements including PT, APD, and differential renal length was more accurate than a PPS incorporating the more subjective SFU grade (AUC of 0.866 and 0.885, respectively).

Conclusions: PT is a useful measurement to characterize the hydronephrotic kidney parenchyma and we recommend utilization of PT < 3mm as a criterion for 'thinned parenchyma' in the SFU, UTD, and other hydronephrosis grading systems.

Funding: Tyrone D. Artz Chair in Pediatric Urology



EFFECTIVENESS OF A PRACTICAL, AT-HOME REGIMEN OF PARASACRAL TRANSCUTANEOUS ELECTRICAL NERVE STIMULATION IN PEDIATRIC OVERACTIVE BLADDER

Kristin Ebert, Heather Terry, Christina Ching, Daniel Dajusta, Molly Fuchs,
Daryl McLeod, Rama Jayanthi, Seth Alpert
Nationwide Children's Hospital

Introduction: Studies showing success with parasacral transcutaneous electrical nerve stimulation (TENS) for pediatric overactive bladder (OAB) generally used time-intensive, at-home sessions or required patients to come to clinic. We describe and evaluate efficacy of a more practical, at-home regimen.

Methods: We prospectively enrolled patients with OAB. Inclusion criteria: age 5-13 years and willingness to try TENS. Exclusion criteria: urinary tract anatomic abnormalities, current use of OAB medications, neurologic condition, and elevated post-void residual. Patients were instructed to complete 20-minute sessions 2x/day for one month.

Patients completed the Vancouver Symptom Score (VSS) and 48-hour frequency-volume chart before/after treatment. Compliance was assessed with a daily log. We recorded patient-reported improvement. Primary outcome was difference in VSS before/after treatment; secondary outcomes included: differences in frequency of voids/24 hours, max voided volume in 48 hours (%EBC), mean voided volume (%EBC), and mean number incontinence episodes/24 hours.

Results: We enrolled 21 patients (3 male, 18 female; median age 9.9 years). We had complete VSS data on 17 patients and frequency-volume chart data on 12 patients. Median % of TENS sessions completed was 98%.

8/17 patients reported subjective improvement. There was a significant difference between pre- and post-TENS VSS (median score: 23 pre-TENS and 21 post-TENS, $p=0.009$). There were no differences in secondary outcomes before/after treatment.

Conclusion: In our cohort of medically-refractory OAB pediatric patients, nearly half reported subjective improvement with our regimen, despite modest objective improvement. Our compliance rates suggest this regimen is practical but may be best used as an adjunct to other therapies.

Funding: N/A

THE IMPACT OF OBSERVATIONAL MANAGEMENT ON CLINICAL OUTCOMES IN CHILDREN WITH DUPLEX SYSTEM URETEROCELES: A SINGLE INSTITUTION EXPERIENCE

Kelvin Lim, MS¹, Michael Levin, MD², John Schwabe, MD², Brian Roelof, MD^{3,4}, David Weatherly, MD^{3,5}, Ted Barber, MD^{3,5}, George Steinhardt, MD^{3,5}

¹Michigan State University College of Human Medicine, ²Wayne State University Urology, ³Urologic Consultants, ⁴Helen DeVos Children's Hospital, ⁵Helen DeVos Children's Hospital

Background: Most ureterocele deformities are diagnosed fetally. Initial management has evolved from open repair to transurethral incision to observation in select patients with simplex systems or multicystic dysplastic moieties. Duplex system ureterocele (DSU) are more likely to be treated aggressively neonatally, especially with significant upper or lower pole hydronephrosis. Observational management for all ureterocele patients, including DSU, was initiated at our hospital in 2003.

Methods: All patients with DSU between 2003 and 2020 were retrospectively reviewed. Demographics, imaging results, incidence of febrile urinary tract infection (fUTI), timing and type of surgical intervention as well as the need for repeat interventions were tabulated.

Results: 64 patients with DSU were identified. 39 patients (60%) required no intervention with a Median follow up of 70 months. 25 underwent surgical intervention as follows: 14 transurethral incision (TUI), 6 ureteroureterostomy, 3 ureteral reimplant, 2 heminephrectomy. 8 patients required repeat intervention, all initially underwent TUI. Indication for repeat intervention was fUTI in 5 patients, and large ureterocele in 3. Average age at first intervention was 19.5 months. fUTI was the indication for intervention in 10 patients. 30 total patients were experienced a fUTI. 7 patients experienced fUTI after TUI. 11 patients required hospitalization for fUTI. 4 of these had previously undergone intervention for their ureterocele.

Conclusion: Observational management of DSU is well tolerated in duplex systems. A majority do not require intervention and the incidence of febrile UTI is low. Parents should be counseled on the importance of follow up with interval imaging.

Funding: N/A

NEONATAL CIRCUMCISION AVAILABILITY IN THE UNITED STATES: A PHYSICIAN SURVEY

Ushasi Naha, BA¹, Hans C. Arora, MD, PhD^{2,3}, Ryan F. Walton², Ilina Rosoklija, MPH², Lindsay M. Skibley, MD⁴, Emilie K Johnson, MD, MPH^{2,3,5}

¹University of Illinois College of Medicine, ²Division of Urology, Ann & Robert H. Lurie Children's Hospital of Chicago, ³Department of Urology, Northwestern University Feinberg School of Medicine, ⁴Department of Pediatrics, Northwestern University Feinberg School of Medicine, ⁵Center for Health Services and Outcomes Research, Northwestern University Feinberg School of Medicine

A significant proportion of boys present later in childhood for operative circumcision despite the higher procedural risks. This study aims to assess physician perspectives on access to neonatal circumcision (NC) and identify potential reasons for disparities in access.

A cross-sectional survey was electronically distributed to members of the Societies for Pediatric Urology and the American Academy of Pediatrics Section on Hospital Medicine. Associations between NC availability and hospital characteristics were evaluated by chi-square tests and multivariable logistic regression. Qualitative analyses of free-text survey comments were performed.

In total, 367 physicians responded (129 urologists [41%], 188 pediatric hospitalists [59%]). 86% of respondents reported institutional NC availability. On univariate and multivariate analysis, hospitals not offering NC were more likely in the Western region (odds ratio [OR]=8.33; 95% confidence interval [CI]=3.1-25 vs Midwest), and urban areas (OR=4.2; 95% CI=1.6-10 vs suburban/rural), compared with hospitals that offered NC. Most common reasons for lack of availability included not a birth hospital (47%), lack of insurance coverage (17%), and low insurance reimbursement (15%). Institutional, regional, or provider availability (68%), insurance/payment (12.4%), and ethics (12.4%) were common themes in the qualitative comments (Table 1).

NC availability varies based on hospital characteristics, including geography. This survey data will inform development of interventions designed to offer NC equitably.

Funding: N/A

Table 1: Themes of Respondents' Free-Text Comments (N = 105)

Theme	Frequency	Representative Quotation
Circumcision availability at institution or region	41 (39.0%)	<i>"If a family wants to have it done it is easy to get it performed"</i> <i>"There are no in-hospital postpartum circumcisions in the state of Nevada"</i>
Provider availability	30 (28.6%)	<i>"Providers can opt out of requested circumcision. This is increasing and parents are left to find circumcision services"</i> <i>"I get a lot of outpatient referrals because the rounding OB wasn't comfortable performing circs or logistically there wasn't time to have it done before the family was discharged"</i>
Insurance and payment	13 (12.4%)	<i>"The major limitation is financial - may families can not afford to self-pay and Medicaid and most private insurances do not cover neonatal circumcisions in our state"</i> <i>"...we accept Medicaid reimbursement so patients then don't have to pay anything. We really [don't] let it [be] known too much that we do [them] in the office and don't charge Medicaid because it would be too many coming"</i>
Ethics and personal opinions	13 (12.4%)	<i>"If this is being performed for cosmetic reasons only, it should not be permitted"</i> <i>"Just laying out my own bias that we should not do these (routine elective) procedures anymore. Sure there are indications and personal/cultural reasons but they could be outpatient"</i>
Circumcision eligibility	11 (10.5%)	<i>"Excluded if family refuses Vitamin K at birth"</i> <i>"Some OBs will not do the circumcision, for prematurity (arbitrary cutoff), if the penis is too small, or if they are NICU"</i>
Uncertainty about circumcision practices	6 (5.7%)	<i>"Unfortunately, not sure of exact weight limit at my institution"</i> <i>"Unsure what the practice is for premature infants at my institution"</i>

USEFULNESS OF WWW.NEOCIRC.ORG - A MULTIDISCIPLINARY KNOWLEDGE RESOURCE FOR NEONATAL CIRCUMCISION PROVIDERS

Max Maizels¹, Edwin A. Smith², Emily Blum², Paola Fliman³, Elizabeth Goetz⁴, Walid Farhat⁴

¹*Lurie Children's Hospital*, ²*Children's Health Care of Atlanta*, ³*SSM Health*, ⁴*University of Madison Healthcare*

INTRODUCTION AND OBJECTIVE: About 5% of boys have surgical repair of neonatal circumcision complications. This causes parents unexpected burdens and drains our healthcare. We looked to reduce this incidence. We hypothesized that complications are rooted in differences in knowledge of circumcision across specialties. We built a model, www.NeoCirc.org, to promote consistent knowledge across specialties. We tested the model for usefulness, defined broadly, as users' opinions which regard model content as showing benefit.

METHODS: Model design began in April, 2020 by holding circumcision provider focus groups which provided survey data used to build www.NeoCirc.org as knowledge required **before** (i.e., assess anatomy), **at** (i.e., mark circumcision site), or **after** (i.e., home care instructions) circumcision. We assessed model usefulness by survey.

RESULTS: A total of 46 focus group members from Pediatrics/Neonatology, Obstetrics, and Pediatric Urology contributed data to **build** www.NeoCirc.org. Next, online **launch** showed 747 logins: pediatricians (482), obstetricians (122), pediatric urologists (112), nurses (21) and trainees (10) and represented 332 unique users. Data on usefulness was collected from 66/332 (20%) users from: Pediatrics (31), Obstetrics (24), Family Practice (6), or Urology (5). There were 188/197 (95%) opinions showing they found the learning was "effective" (63/66), made understanding of circumcision "significantly better" (62/65), and worthy so "would recommend to a colleague" (63/66).

CONCLUSIONS: www.NeoCirc.org, is a useful knowledge resource to providers in multiple specialties it is: an effective learning tool, increases understanding, and is worthy of referral to a colleague. We expect that sharing this knowledge across specialties will reduce the incidence of complications.

Funding: na

PERSPECTIVES ABOUT PEDIATRIC UROLOGY TELEMEDICINE VISITS BEFORE AND AFTER COVID- 19-DRIVEN RAPID IMPLEMENTATION

Hans Arora, MD, PhD^{1,2}, Ryan Walton¹, Ilina Rosoklija, MPH¹, Earl Cheng, MD^{1,2}, Emilie Johnson, MD, MPH^{1,2}

¹Ann & Robert H. Lurie Children's Hospital of Chicago, Chicago, IL, ²Northwestern University Feinberg School of Medicine, Chicago, IL

Introduction: Prior studies report use of telemedicine in pediatric urology, but parent/patient perspectives are lacking. We compared perceptions of telemedicine pre- and post-pandemic-related implementation.

Methods: Parents/caregivers of pediatric urology patients were surveyed at clinic (Phase-I; January-March, 2020) and—following rapid implementation—telemedicine visits (Phase-II; April-July, 2020).

Results: Response rates were 83.4% (Phase-I) and 32.5% (Phase-II). Overall, 37.9% of respondents were college educated with private insurance (70.5%). Patients were mostly white (73.6%), 22.7% were Hispanic. Median patient age was 39 months (range 1 – 385). Cohorts had no demographic differences.

Phase-I: Most (83.5%) were Somewhat/Very Willing to participate in new, follow-up, or post-operative telemedicine visits, and discuss: labs (93.2%), imaging (93.2%) and symptoms (78.2%). Respondents whose child missed school for appointments were significantly more willing to participate in telemedicine ($p=0.041$). There were no significant differences in willingness based on computer/internet technology or demographics.

Phase-II: were more likely to be return patients ($p=0.0054$). Parents indicated that telemedicine met their needs (87.7%) and the interaction was similar to in-person (60.7%). Phase-II more frequently strongly agreed that telemedicine is as private, secure, and complete as in-person visits versus Phase-I (Table 1).

Conclusion: Perceptions of telemedicine were positive, with increasing confidence after participation. These data support continued telemedicine access and coverage beyond the pandemic.

Funding: N/A

Table 1. Telemedicine Perceptions of Phase-I vs. Phase-II Respondents

	Phase-I (N=206)	Phase-II (N=89)	p-value*
As Private as in-person?			<0.001
Strongly Disagree	2.5%	5.6%	
Somewhat Disagree	6.4%	0.0%	
Neither	6.4%	1.1%	
Somewhat Agree	33.2%	15.7%	
Strongly Agree	51.5%	77.5%	
As Secure as in-person?			0.018
Strongly Disagree	1.9%	4.5%	
Somewhat Disagree	8.9%	2.3%	
Neither	8.4%	4.5%	
Somewhat Agree	31.2%	22.5%	
Strongly Agree	49.5%	66.3%	
As Complete as in-person?			0.021
Strongly Disagree	3.9%	5.7%	
Somewhat Disagree	15.4%	13.6%	
Neither	12.4%	4.6%	
Somewhat Agree	35.2%	25.0%	
Strongly Agree	33.2%	51.1%	

*Fisher's Exact Test

PEDIATRIC SEDATION UNIT REDUCES COST AND LEADS TO PARENTAL SATISFACTION IN MINOR UROLOGIC PROCEDURES

Marissa Falkiewicz, MD, Megan Peters, MD, Susan Jones, Walid Farhat, MD

University of Wisconsin

Introduction: Pediatric sedation units (PSU) have proven both effective and safe at providing procedural sedation for children. However, there is limited data available regarding application in pediatric urology procedures.

Objective: To evaluate the outcome, cost-saving and parental satisfaction of performing pediatric urology outpatient procedures in a PSU.

Methods: Urology procedures performed in the PSU were prospectively recorded between August 2019 and January 2021. Type and duration of procedure, depth of sedation, and complications were collected. A prospective survey was completed by phone to measure parental satisfaction on several measures. Cost of the various procedures performed at the PSU was compared to the cost when performed in the operating room.

Results: Sixty-one patients aged 6 months to 17 years underwent minor urologic procedures [meatotomy/meatoplasty (22), lysis of penile adhesions and skin bridges (33), other minor procedure (6)] during this time period. Ten procedures were performed under mild to moderate sedation and analgesia (16%), and 51 procedures were managed with deep sedation and analgesia (84%). Thirty parents (49%) completed the follow-up survey with mean overall satisfaction scores of 4.7 on a scale from 1 to 5. 83% of parents “strongly agreed” that they were satisfied with the care, and 86% would “strongly recommend” the PSU for similar procedures. There was at least 36% cost reduction when performing these procedures in the PSU versus the operating room.

Conclusions: Sedation for pediatric urology procedures outside the operating room is a cost-effective option. Furthermore, the PSU provides a safe and satisfactory parental experience.

Funding: n/a

THE EFFECT OF OPIOID PRESCRIBING ON CONSUMPTION AFTER COMMON PEDIATRIC UROLOGY PROCEDURES

Robert Thinner, Gina Lockwood, MD, Christopher Cooper, MD, Patrick Ten Eyck, PhD, Denise Juhr, Douglas Storm, MD
University of Iowa

Introduction: Some studies in adults suggest that the number of narcotics prescribed postoperatively correlates with patient consumption. To date, minimal such data exists for pediatric patients. We sought to determine if a greater number of narcotics prescribed after undergoing common pediatric procedures is associated with greater utilization.

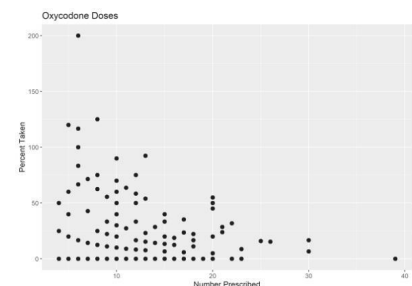
Methods: Parents of a child undergoing a pediatric urology procedure were eligible. Over a one-week period, parents received a daily text message with a link to a survey, evaluating their child's pain and recording the number of doses of narcotic utilized over the previous 24 hours. The data was then analyzed using the Spearman correlation.

Results: 162 participants were enrolled with a mean age of 41 months (10 - 54 months). 55 patients underwent circumcision, 54 underwent orchiopexy, 31 underwent hypospadias repair, and 22 underwent inguinal hernia repair. 157 patients were prescribed oxycodone in excess of what they consumed. The number of doses of oxycodone prescribed did not correlate with an increased consumption of narcotics ($p = 0.06$). Instead, as depicted in Figure 1, a larger prescription was marginally associated with lower proportional use (Sample Correlation -0.15).

Conclusions: Prescription of a greater number of weight-based doses of narcotics was not associated with an increased consumption in children undergoing common pediatric urology procedures.

Figure 1

Funding: N/A



COMPARATIVE OUTCOMES OF DOUBLE-J (DJ) AND CUTANEOUS PYELOURETERAL (CPU) STENTS IN PEDIATRIC ROBOTIC-ASSISTED LAPAROSCOPIC PYELOPLASTY

Alyssa Lombardo¹, Tiffany Toni¹, Ciro Andolfi, M.D.^{2,3}, Mohan S. Gundeti, M.D.²

¹The University of Chicago Pritzker School of Medicine, Chicago, IL, ²The University of Chicago, Dept of Surgery, Chicago, IL, ³The MacLean Center for Clinical Medical Ethics, Chicago, IL

Introduction

Comparative outcome studies investigating Double-J (DJ) and externalized stents have primarily been performed in open and laparoscopic pyeloplasty, with a paucity of literature regarding robotic-assisted laparoscopic pyeloplasty (RALP). Outcomes of pediatric RALP, utilizing a modified Salle nephroureteral stent, termed cutaneous pyeloureteral stent (CPU), placed percutaneously to transverse the anterior renal pelvis to the mid-ureter, remain unexamined.

Methods

A retrospective analysis identified pediatric patients who underwent primary RALP between 12/2007 and 11/2019 at a single tertiary care center, where CPU stents were introduced 06/2012. Operative success was defined as improved or stable hydronephrosis without need for redo pyeloplasty. Secondary outcomes included stent reinsertion, anesthesia requirements, opioid administration, and bladder spasm.

Results

103 pediatric primary RALP procedures were analyzed (DJ=70, CPU=33). Operative success (DJ=95.7%, CPU=100%, $p=0.55$) and SFU grade improvement (DJ= 1.6 ± 1.1 , CPU= 1.3 ± 1.1 ; $p=0.13$) were comparable. Accidental stent expulsion occurred exclusively among CPU stents (CPU=9%, $p=0.031$). Intracorporeal stent migration occurred more frequently in CPU stents (DJ=4%, CPU=15%, $p=0.033$). Stent reinsertion was required in 3 DJ (4%) and 3 CPU (9%) stents ($p=0.38$). DJ stents had increased general anesthesia (DJ=99%, CPU=3%; $p<0.001$), IV opioid (DJ=27%, CPU=9%; $p=0.04$) requirements and nonsignificant increased bladder spasm requiring oral anti-spasmodics (DJ=26%, CPU=9%, $p=0.07$).

Conclusion

DJ and CPU stents are equivocal in pediatric primary RALP success with similar stent reinsertion rates. Stent migration and accidental stent expulsion were increased among CPU stents. DJ stents had increased general anesthesia, IV opioid administration, and bladder spasm requiring oral anti-spasmodics.

7:06 AM #47

'Extended experience with the Ulaanbaatar principle for proximal hypospadias repair'

Kristin Ebert¹, Seth Alpert¹, Christina Ching¹, Molly Fuchs², Daryl McLeod¹, Rama Jayanthi¹

¹Nationwide Children's Hospital, ²Nationwide Children's Hospital

INTRODUCTION: Classic two-stage proximal hypospadias repair involves laying penile skin/graft within a split glans, followed by glanuloplasty at the second stage. Complication rates in large-scales studies have been reported as high as 66%. We report our updated experience with the Ulaanbaatar procedure, where the glanular urethra is constructed at first stage.

METHODS: We retrospectively reviewed all patients who underwent this procedure at our institution. Technique of the first stage involves correction of curvature, followed by mobilization/tubularization of an island flap of preputial skin to create the glanular urethra. Penile skin is then placed between the native meatus and the reconstructed urethra. The second stage is performed 6 months later and involves tubularizing the penile skin between the two meatuses. Primary outcome was reoperation rate.

RESULTS: Fifty-six patients underwent both stages. Fifty of fifty-six received preoperative hormones. Mean age at first stage was 16.1 months. Curvature was managed with urethral plate transection in 6, dorsal plication in 17, and ventral grafting in 33. Forty-one patients had the neourethra tunneled through the glans, and 15 had the glans split followed by glanuloplasty. Twelve patients (21%) required reoperation: 4 diverticulua, 1 diverticulum/fistula, 5 fistulas, and 2 distal breakdowns.

CONCLUSIONS: Studies on staged proximal hypospadias repair with reconstruction of the distal urethra at first stage have reported complication rates of 8.5-15%; our reoperation rate at 21% is similarly low. Distal urethral reconstruction at first stage may reduce complication rates compared to classic two-stage hypospadias repair, perhaps due to the single operation on the glans.

Funding: none

Postoperative Hydronephrosis in Pediatric Patients with Vesicoureteral Reflux: Clinical Significance and Importance of Ureteral Reimplantation Technique and Experience

Rilwan Babajide¹, Ciro Andolfi¹, Diboro Kanabolo², Joel Wackerbarth¹, Mohan Gundeti¹

¹University of Chicago, ²University of Washington

Introduction: Though common, postoperative hydronephrosis (POHN) following ureteroneocystostomy raises concern for surgeons fearing an underlying silent obstruction. We aimed to determine the natural progression and clinical significance of POHN in children undergoing open (OUR) or robotic (RALUR) ureteral reimplantation.

Methods: We retrospectively reviewed records of patients with primary vesicoureteral reflux (VUR) operated between 2008 and 2019. Baseline characteristics, operative outcomes, and trends in POHN were assessed for OUR and RALUR.

Results: Altogether, 93 patients (127 ureters) underwent RALUR and 19 patients (26 ureters) underwent OUR. POHN was found in 27.6% and 30.8% of ureters after RALUR and OUR, respectively. Rate of and time to spontaneous POHN resolution for RALUR (91.4%, 112 days) and OUR (75%, 211 days) were similar. Odds of POHN after RALUR were directly related with preoperative VUR grade (Range OR: 2.82[2.26-3.52]) and surgical experience, in number of cases over time (Range OR: 8.88[7.16-11.02]). Surgical experience was inversely related with odds of VUR recurrence (Range OR: 0.41[0.32-0.54]).

Conclusion: Incidence and resolution rate of POHN after OUR and RALUR were similar, with return to baseline within a year. Higher VUR grades were independently associated with increased odds of POHN after RALUR. Increasing RALUR experience and technical skills improved VUR resolution rate at the cost of increased odds of POHN.

Funding: N/A

Table 2. POHN details

	OUR (n = 26)	RALUR (n=127)
Total ureteral units w/ POHN (%)	8 (30.8)	35 (27.6)
Bilateral ureteral units w/ POHN (%)	4 (50.0)	18 (51.4)
Ureteral units w/ spontaneous POHN resolution (%)	6 (75.0)	32 (91.4)
Time to POHN resolution, days (Median, IQR)	211 (85-504)	112 (59-183)
Probability of resolution at POD* 90 [95% C.I.]	0.17 [0.04, 0.48]	0.35 [0.24, 0.49]
Probability of resolution at POD* 180 [95% C.I.]	0.35 [0.14, 0.63]	0.66 [0.52, 0.78]
Probability of resolution at POD* 360 [95% C.I.]	0.57 [0.28, 0.81]	0.88 [0.76, 0.95]
Probability of resolution at POD* 720 [95% C.I.]	0.77 [0.41, 0.94]	0.98 [0.91, 0.99]

POD: Post-Operative Day

CLOSTRIDIUM DIFFICILE INFECTION: WHAT IS THE RISK?

Esther Liu, DO¹, Janae Preece, MD², Yegappan Lakshmanan, MD², Kristina Suson, MD²

¹*Detroit Medical Center Urology, Detroit, MI*, ²*Children's Hospital of Michigan, Detroit, MI*

Introduction: One rationale for improving antibiotic stewardship is decreasing the risk of *Clostridium difficile* infections (CDI). We studied CDI following urologic procedures in pediatric patients.

Methods: The American College of Surgeons National Surgical Quality Improvement Program pediatric data file was queried for children undergoing surgery with pediatric urology or urology between 2015 and 2017. Students T-test and Chi-square analyses were applied to detect differences between those with CDI and those without CDI.

Results: Of the 27,193 patients, 36 (0.13%) were diagnosed with CDI. Patients with CDI were more likely to be female (50% vs 28%, $p=0.003$) and inpatients (78% vs 34%, $p=0.001$) than those without. There was no difference in mean age (2026 ± 295 CDI vs 1886 ± 11 no CDI days). Children with CDI had higher ASA classifications ($p<0.001$). Their mean operative times were longer (156.1 ± 19.6 vs 105.2 ± 0.6 min, $p<0.001$), as were their mean lengths of stay (4.6 ± 0.8 vs 1.3 ± 0.0 days, $p<0.001$). CDI patients were more likely to have other complications (44% vs 8%, $p<0.001$). There was no difference in reoperation rate, but more required readmission (56% vs 4%, $p<0.001$). A third of children with CDI had undergone vesicoureteral reflux correction, comprising 0.3% of the same CPT codes. Over 11% of children with CDI had undergone nephrectomy, comprising 1.1% of the same CPT codes. No CDI patients underwent surgical correction of hypospadias.

Conclusion: Occurring rarely, CDI is associated with significant morbidity. Although most children with CDI had undergone anti-reflux surgery, the rate following this surgery is low, occurring most commonly after nephrectomy.

Funding: N/A

VOIDING CYSTOURETHROGRAMS (VCUG) IN INFANTS WITH ANTENATAL HYDRONEPHROSIS (ANH): WHO ORDERS THEM, AND WHAT IS THE CLINICAL SIGNIFICANCE OF VESICoureTERIC REFLUX (VUR)?

Jeremy Goodman, MD¹, Matthew Harer, MD¹, Ryan Mcadams, MD¹, Fardod O'Kelly, MD², Kara Gill, MD¹, Walid Farhat, MD¹

¹University of Wisconsin, ²Beacon Hospital

Introduction:

The role of the post-natal VCUG is to look for VUR or structural anomalies of the urinary tract. We examined VCUG inter-departmental ordering practices, and subsequent VUR rates in infants with ANH.

Methods:

A tertiary academic center database was used to identify all infants with documented ANH that underwent a VCUG in the first 6 months of life. The natural history of infants with confirmed VUR was examined.

Results:

Of 627 infants with ANH and a VCUG obtained between 2015-2019, 143 had VUR. The degree of postnatal hydronephrosis and reflux is listed in Table 1.

The ordering services for VCUG were pediatric urology (70%), nephrology (10%), pediatrics (9%), neonatology (8%), and family medicine (2%). For infants with low grade hydronephrosis – 60% of the VCUGs were order by pediatrics, 18% by pediatric urology, 12% by nephrology, and 10% by family medicine.

Subsequent VCUG was carried out in 100/143 within 1-4 years. In those with VUR and a follow-up VCUG, 30/100 resolved spontaneously, 21/100 underwent operative interventions, and 46/100 were managed with no surgical intervention.

Conclusion:

VCUGs are obtained in infants diagnosed with ANH, with pediatricians more likely to order for lower grade hydronephrosis. We recommend abstaining from requesting VCUGs in asymptomatic ANH and to follow a shared decision-making model.

Funding: N/A

Table 1

Distribution of VUR reflux in relation to ANH grade
Please note that there were 207 bilateral ANH and 66 bilateral VUR

VUR Grade	ANH 1	ANH 2	ANH 3	ANH 4	Total
1	4	17	8	2	31
2	12	16	1	0	29
3	8	15	4	4	31
4	3	14	6	1	24
5	5	10	6	7	28
Total	32(137(23%))	72(314(23%))	25(125(20%))	14(51(27%))	143(627(23%))

VUR= Vesicoureteral Reflux
ANH= Antenatal hydronephrosis

AND THEN THERE WAS ONE...INCISION. FIRST SINGLE-PORT PEDIATRIC ROBOTIC CASE SERIES

NIKI PARIKH, MD, MBA, MSBA, CANDACE GRANBERG, MD, PATRICIO
GARGOLLO, MD
Mayo Clinic Urology- Rochester

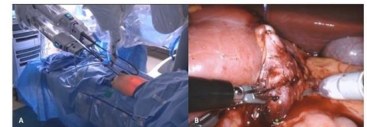
Introduction: Pediatric surgery began with single-incision surgery evolving to standard multi-port laparoscopic and robotics. Technological advances in single-port (SP) robotics have allowed for transition back to single-incision surgery.

Methods: Seven patients (22mo-14y) underwent surgery using the daVinci SP Surgical System. Six (2F, 4M) were diagnosed with ureteropelvic junction obstruction and underwent SP robotic-assisted pyeloplasty while one male patient with neurogenic bladder underwent SP Mitrofanoff. 2.5cm incision for the 25-mm multichannel port was made in a HIdES fashion (within Pfannenstiel line) for the pyeloplasties, while prior gastrostomy tube site was used for the Mitrofanoff. 12x10mm articulating robotic camera and two 6mm articulating robotic instruments were utilized.

Results: All surgeries were completed successfully through SP without complications, need for additional ports, or conversion. Median operative time was 120 minutes and estimated blood loss was less than 25cc. Patients dismissed in <24 hours, and none required opioids. There were no issues with instrumentation in older patients; however, shorter working distance in the 22-month-old pyeloplasty limited instrument-wristing, increasing difficulty of the case.

Conclusions: Single-port surgery is feasible in pediatric patients. Patient selection is key. To optimize use, 10-cm working distance must be maintained, limiting use to older children. Future development of the SP platform is needed to broaden application to smaller patients.

Funding: N/A



THE IMPORTANCE OF FERTILITY PRESERVATION IN THE TRANSGENDER POPULATION

NIKI PARIKH, MD, MBA, MSBA¹, PATRICIO GARGOLLO, MD¹, ASMA CHATTHA, MD², DAVID WALKER³, CANDACE GRANBERG¹

¹Mayo Clinic Urology- Rochester, ²Mayo Clinic Division of Pediatric Gynecology- Rochester, ³Mayo Clinic Reproductive Endocrinology and Fertility Laboratory- Rochester

Introduction:

The transgender population has long been marginalized by society. Societal stigmata, fear to seek care, and dearth of provider knowledge regarding transgender health issues has caused disparities to widen. The purpose of this case study is to call to attention the often-overlooked aspect of pediatric transgender care: the importance of fertility preservation prior to instituting gender-affirming therapy.

Methods:

Six genetically XY females, followed by their multidisciplinary transgender care teams, were interested in starting hormone therapy due to impending onset and/or progression of puberty. Fortunately for these patients, their physicians were aware of fertility struggles after undergoing hormone therapy.

Results:

Sperm cryopreservation via open gonadal biopsy, testicular tissue cryopreservation (TTC), and semen sample (when age/maturity-appropriate) were discussed. Though requiring surgery, biopsy/TTC relieves patients of the psychological impact of semen sample production. Under IRB approval, 5 patients (median age 12 years, range 10-14 years) underwent TTC. One patient (age 16 years) opted for semen sample. TTC was uncomplicated, with genetic material cryopreserved for future patient use.

Conclusions:

Gender affirming procedures and hormone therapy affect the long-term reproductive potential of transgender individuals. Fertility preservation discussions are essential prior to instituting hormone therapy. TTC can be safely done in pediatric populations, though research is necessary to expand beyond current experimental stage of tissue-development.

Funding: N/A



6:30 AM-7:30 AM

Male Incontinence and Sexual Dysfunction Podium Session

Location: International Ballroom

Moderators:

Nicholas Tadros

Yooni Yi

6:30 AM #53

WHAT IS A NORMAL TESTOSTERONE FOR YOUNG MEN? RETHINKING THE 300ng/dL CUTOFF FOR HYPOGONADISM

Alexander Zhu, DO, Juan Andino, MD MBA, Stephanie Daignault-Newton, MS, Zoey Chopra, BA, Aruna Sarma, PhD, James M. Dupree, MD MPH
University of Michigan

Introduction: There is an age-related decline in male testosterone production. It is therefore surprising that younger men are evaluated for hypogonadism with the same cutoff of 300ng/dl that was originally developed from samples of older men. Our aim is to describe normal testosterone levels in 20-44 year old men from a national survey. Our findings will help clinicians counsel younger men evaluated for hypogonadism.

Methods: We used the 2011–2016 National Health and Nutrition Examination Surveys (NHANES), which is run by the Centers for Disease Control and surveys a nationally representative sample of US residents. Men between 20-44yo were identified. We segregated men into five-year age intervals and evaluated the morning testosterone levels for men of each age group. Men on hormonal medications or with a history of testicular cancer were excluded.

Results: 1,486 men 20-44yo had morning testosterone levels available for review, which represent a weighted sample of 22,496,685 US men. Testosterone levels are described in Table1.

Conclusion: This is the first study to evaluate testosterone levels for men <45yo from a nationally representative US sample. We provided age-adjusted “normal” testosterone values for clinicians to use in counseling younger men presenting with hypogonadism. Specifically, younger hypogonadal men will now have a framework to compare their testosterone levels to age-matched peers.

Funding: N/A

Table 1: Morning Testosterone Levels by Age

Age (years)	Sample Size	Mean	Standard Error of the Mean	Testosterone Levels (ng/dL)					
				2.5th Percentile	5th Percentile	10th Percentile	25th Percentile	50th Percentile	75th Percentile
20-24	299	501	13	189	225	283	376	484	757
25-29	266	534	18	177	217	279	372	492	663
30-34	312	456	13	178	222	266	326	431	559
35-39	305	438	12	169	199	259	328	423	533
40-44	324	407	11	184	220	267	311	418	524

EFFICACY AND SAFETY OF A NEW ORAL TESTOSTERONE (TU) FORMULATION, JATENZO, IN HYPOGONADAL MEN: RESULTS FROM THE 'inTune' TRIAL

Ronald Swerdloff, MD¹, Jed Kaminetsky, MD², Marc Gittelman, MD³, James Longstreth, PhD⁴, Christina Wang, MD¹, Robert Dudley, PhD⁵

¹Lundquist Institute at Harbor-UCLA, Torrance, CA, ²NYU Grossman School of Medicine, New York, NY, ³Southern Florida Medical Research, Aventura, FL, ⁴Longstreth Associates, Mundelein, IL, ⁵Clarus Therapeutics

Introduction: Oral delivery of testosterone (T) replacement therapy (TRT) has several potential advantages over currently available options. Improved pharmacokinetic (PK) efficacy was determined with a new dose titration algorithm.

Methods: Hypogonadal men (two morning serum T < 300 ng/dL), age 18 – 65 y/o, were recruited into a randomized, open-label, multicenter, dose-titration trial. Patients were randomized 3:1 to oral TU, BID (JATENZO®; n=166) or a topical T product QD (Axiron®; n=56). Dose titration was based on average T levels (Cavg) calculated from serial pharmacokinetic (PK) samples. Patients had two dose adjustments based on plasma T levels (Cavg). Safety was assessed by standard clinical measures, including ambulatory BP.

Results: 87% of patients in both groups achieved mean T Cavg in the eugonadal range. Serum T equivalent Cavg for oral TU group was 489 ± 155 ng/dL and for topical T was 474 ± 170 ng/dL. The overall safety profile of TU was like topical T. There were no deaths or T-related serious adverse events. Mean changes in HCT and PSA were similar in both treatment arms with HCT absolute increase of 2-3% and PSA increase of 0.2-0.3 ng/mL. No PSA values were > 4 ng/mL. Mean increase in cuff systolic BP for the oral TU and topical T groups was $2.8 (\pm 11.84)$ and $1.8 (\pm 10.76)$, respectively. There was no evidence of either hepatotoxicity or renal toxicity.

Conclusion: A new oral TU formulation restored T to mid-eugonadal levels in hypogonadal patients with expected changes in HCT and PSA.

Funding: Clarus Therapeutics

ARE COMPLICATIONS MORE COMMON WITH PENILE PROSTHESIS SURGERY AFTER CYSTECTOMY? A MATCHED-COHORT ANALYSIS

Carlos Munoz-Lopez, MS¹, Kevin Lewis, MD², Molly Dewitt-Foy, MD², Zaeem Lone, BA¹, Drogo Montague, MD², Kenneth Angermeier, MD², Bradley Gill, MD, MS²

¹Cleveland Clinic Lerner College of Medicine, ²Glickman Department of Urology

Objective: Evaluate whether inflatable penile prosthesis (IPP) after radical cystectomy (RC) is associated with higher complication rates compared to IPP for other etiologies of erectile dysfunction (ED).

Methods: All IPPs within the past 20 years in a large regional health system were reviewed and ED etiology determined: RC, radical prostatectomy (RP), or organic/other ED (OED). Cohorts were generated by 1:3 propensity score match using age, body mass index, and diabetes status. Baseline demographics and relevant comorbidities were assessed. Clavien-Dindo complications and grade, as well as reoperation were assessed. Multivariable logarithmic regression was used to identify predictors of 90-day complications. Kaplan-Meier analysis assessed time to reoperation after RC compared to other ED etiologies.

Results: Of 2600 patients, 221 were included. Implantation of 3-piece devices was less common after RC (RC:64% vs. RP:90% vs. OED:94%, $p<0.001$), whereas ectopic reservoir placement was more common (RC:100% vs. RP:61% vs. OED:3%, $p<0.001$). Comparing RC vs pooled Non-RC indications, RC had a 4-fold greater complication rate (12% vs 3%, $p=0.04$). Clavien-Dindo complication grades did not differ across groups. Regression showed 2-piece systems independently 'protected' against complication (OR: 0.3, $p=0.03$). Reoperation was significantly more common with RC (RC: 21% vs. non-RC: 7%, $p=0.014$) but time to reoperation did not differ by IPP indication ($p=0.088$).

Conclusion: IPP is a valid option for radical cystectomy patients who historically benefitted from 2-piece systems, however contemporary low-profile reservoirs may expand the benefit of 3-piece devices to this patient population.

Funding: N/A

SEXUAL DYSFUNCTION DAMAGES: A LEGAL DATABASE REVIEW

Daniel Harris, BS¹, Wade Muncey, MD², Tyler Kim, BA¹, Kim Tay, MD², Karishma Gupta, MD², Danly Omil-Lima, MD², Aram Loeb, MD², Nannan Thirumavalavan, MD²

¹Case Western Reserve University School of Medicine, ²Case Western Reserve University/University Hospitals Cleveland Medical Center

Introduction:

Procedural specialties are at higher risk for malpractice claims than non-procedural specialties. Previous studies have examined common damages and malpractice lawsuits resulting from specific procedures. Our goal was to determine urologic interventions leading to sexual dysfunction claims.

Methods:

The Casetext legal research platform was queried using search terms for medical malpractice and common men's health procedures between 1993-2020. 233 cases were found, and 27 met the inclusion criteria: malpractice cases against a urologist or urology group, clearly stated legal outcome, allegation of sexual dysfunction from an intervention that directly caused damages.

Results:

49 damages were cited in 27 lawsuits. The most common damages were erectile dysfunction (17/49, 34.7%), genital pain syndrome (7/49, 14.3%), and urinary incontinence (6/49, 12.2%). In total, 29 treatments were documented and the most commonly cited were urinary catheter placement (5/29 17.2%), TURP (4/29, 13.8%), and penile implant (4/29, 13.8%). In 24 out of 27 suits (88.9%), the outcome favored the defendant. Three cases favored the plaintiff: penile implant (failure to disclose the patient would be permanently, organically impotent; \$300,000), urinary catheter placement (removal of a catheter with the balloon inflated; \$275,000), and vasectomy (loss of testicle, \$386,249).

Conclusion:

The majority suspected malpractice cases resulting in sexual dysfunction favored the defendant. Procedural error was the most commonly cited allegation, but thorough preoperative counseling may have avoided litigation in several cases. Interestingly, urinary catheter placement is as likely to result in litigation as operative interventions, highlighting the need for consistent patient education, informed consent, and expectation management.

Funding: N/A

PATIENT ATTITUDES TOWARDS SURGICAL MANAGEMENT OF PEYRONIE'S DISEASE PRIOR TO MEN'S HEALTH CONSULTATION

Raevti Bole¹, Masaya Jimbo¹, Niki Parikh¹, Cameron Britton¹, Ajay Gopalakrishna¹, David Yang¹, Landon Trost², Sevan Helo¹, Tobias Kohler¹, Matthew Ziegelmann¹

¹*Mayo Clinic, Rochester MN*, ²*Male Fertility and Peyronie's Clinic, Orem UT*

Introduction

Despite patient preference for minimally invasive treatments, surgery remains the gold standard for moderate to severe curvature in Peyronie's Disease (PD). Few studies have characterized factors associated with patient desire to consider PD surgery. We sought to evaluate characteristics associated with patient attitudes towards PD surgery prior to consultation in a male sexual health clinic.

Methods:

A prospective database of patients presenting to our institution was created from 2014-2017. Baseline characteristics were tabulated as appropriate. Regression analysis was conducted to determine factors associated with pre-visit consideration of surgery with a threshold of statistical significance of $p \leq 0.05$.

Results:

Of 1359 men presenting to clinic, 342 had a chief complaint of PD. Prior to consultation, 79% of patients ($n=270$) stated they were willing to consider surgery to correct their PD symptoms. Factors associated with consideration of surgery included younger patient age ($p=0.008$), history of depression/anxiety ($p=0.01$), greater penile curvature ($p=0.002$), penile shortening ($p=0.003$), pain with erections ($p=0.05$) and decreased ability to have penetrative intercourse ($p=0.04$). On multivariable analysis, age, history of depression, penile shortening and mean curvature remained significantly associated. Symptom duration and relationship factors were not associated with a difference in consideration of surgery prior to consultation ($p > 0.05$ for all).

Conclusion:

Nearly four out of five patients reported willingness to consider surgery for PD-related symptoms prior to urologic consultation. On multivariable analysis, younger age, history of depression/anxiety, penile shortening and curvature were associated with a greater likelihood of considering surgery. This information provides insight into PD patient counseling.

Funding: N/A

Changes in Point of Maximal Curvature During Collagenase Clostridium Histolyticum Injections for Peyronie's Disease

Trevor Price¹, Holly Burgon², Benjamin Green³, Klint Brearton³, Joshua Savage⁴, Matthew Ziegelmann, MD⁵, Landon Trost, MD⁶

¹Brigham Young University, ²Male Fertility and Peyronie's Clinic,, ³Male Fertility and Peyronie's Clinic, ⁴Male Fertility and Peyronie's Clinic, ⁵Mayo Clinic, ⁶Male Fertility and Peyronie's Clinic, Brigham Young University, Mayo Clinic

Introduction: Collagenase Clostridium Histolyticum (CCH) is injected at the point of maximal curvature (POMC) for Peyronie's Disease (PD). However, many only evaluate POMC at baseline and do not reassess during CCH injections. It is unknown how much POMC changes throughout CCH treatment. We sought to evaluate for changes in POMC with CCH injections.

Methods: A prospective database has been maintained of PD men undergoing CCH injections at two institutions from January 2014 through present. POMC assessments were obtained prior to each series of injections after pharmacologic erection and were measured from the coronal margin to POMC. An analysis was performed comparing changes in POMC throughout the CCH course, including associated baseline demographic and disease characteristics.

Results: 445 patients were included. Mean baseline curvature was 63.7° (SD 23.7), mean distance to curvature was 3.1 cm. Mean improvement was 21° (SD 20.6) or 31.7% (SD 33%). 58% experienced POMC change of 1 cm or greater, 25% 2 cm or greater, and 12% 3 cm or greater during the course of CCH treatment. Baseline curvature was not associated with changes in POMC. The POMC itself was associated with extent of changes, with proximal curves more likely to experience changes compared with distal curves ($p < 0.0001$). Also, those experiencing greater curve improvements had larger changes in POMC.

Conclusions: The POMC changes by ≥ 1 cm in the majority of men undergoing CCH. Given the small volume injected, the clinical relevance of these findings and their impact on injector protocols merit further investigation.

Funding: N/A

ELONGATION WITHOUT ELEVATION: A NOVEL ALGORITHM FOR THE MANAGEMENT OF PEYRONIE'S DISEASE AT THE TIME OF PENILE IMPLANT

Jonathan Warner, MD, Felicia Balzano, MD

City of Hope

Introduction

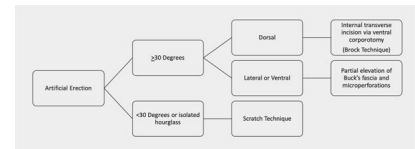
Existing strategies for Peyronie's Disease (PD) management at the time of inflatable penile prosthesis (IPP) placement either correct curvature without length restoration or elongates at the expense of neurovascular bundle. Herein, we report our novel treatment algorithm that maximizes length without full elevation of the neurovascular bundle.

Methods

We retrospectively reviewed prospectively collected single-institutional data of PD patients undergoing IPP using operative techniques according to Figure 1. Stretched penile length before and after management was assessed.

Results

From 8/2018 to 8/2020, 32 patients with PD received IPP. The scratch technique was employed in 19 patients with a mean 0.72cm length increase (range 0-1cm). Brock technique was used in 10 patients with mean curvature of 70.5° and 2.15cm length increase (range 1-3.5). The 3 patients undergoing microperforation had mean preoperative curvature of 76.7°, and mean length increase of 2.83cm (range 2-4.5). With a median follow up of 12 months, one Brock patient had a 20° curvature at last follow up. All remaining patients had less than 10° curvature at last follow-up. There were no neurovascular complications.



Conclusions

By applying techniques traditionally reserved for PD treatment independent of IPP, this novel treatment algorithm allows for elongation without neurovascular bundle elevation when treating PD at the time of IPP placement.

Funding: n/a

URINARY INCONTINENCE, AS CAPTURED BY THE 10-ITEM LURN SYMPTOM INDEX, IS ASSOCIATED WITH MORE BOTHER FROM LOWER URINARY TRACT SYMPTOMS

Tanya W Kristof¹, Clark Judge¹, James W Griffith², Abigail R Smith³, Richard J Fantus⁴, Brian T Helfand⁴, Alexander P Glaser⁴

¹University of Chicago, Chicago, IL, ²Northwestern University, Chicago, IL,

³Arbor Research Collective for Health, Ann Arbor, MI, ⁴NorthShore University HealthSystem, Evanston, IL

Introduction: Urinary incontinence (UI) is prevalent in men with lower urinary tract symptoms (LUTS) but not assessed by the AUA Symptom Index (AUASI). The LURN-SI-10 assesses LUTS including UI. This study evaluates if UI captured by the LURN-SI-10 is associated with quality of life (QOL) and bother.

Methods: The LURN-SI-10 and AUA-SI were prospectively administered to men with LUTS. UI was defined as answers of “half the time or more” to LURN-SI-10 questions related to incontinence. Total AUA-SI, LURN-SI-10, AUA-SI-QOL, and LURN-SI-10-bother were compared between men with and without UI using the Wilcoxon rank-sum test. The proportion of men with UI was compared between men with low or high QOL using Fischer’s exact test.

Results: The LURN-SI-10 and AUA-SI demonstrated a large correlation ($r=0.78$) as did bother and QOL ($r=0.75$). UI was present in 27% of patients. Men with UI had higher AUA-SI and LURN-SI-10 scores and worse AUA-SI-QOL and LURN-SI-bother. Of men with mixed or worse AUA-SI-QOL, 48% reported incontinence compared to 10% of men with mostly satisfied or better QOL ($p<0.0001$; Figure).

Conclusion: UI is prevalent in men and is associated with worse QOL and bother. The LURN-SI-10 captures a more inclusive range of LUTS. Assessment of UI should be included in routine care of men with LUTS.

Funding: N/A

	Men with incontinence (n=76), mean (SD)	Men without incontinence (n=202), mean (SD)	P value
AUA-SI Total	16.4 (7.3)	7.6 (6.2)	<0.0001
AUA-SI QOL	3.6 (1.4)	1.9 (1.6)	<0.0001
LURN-SI-10 Total	14.7 (5.6)	5.5 (3.3)	<0.0001
LURN-SI-10 Bother	1.5 (1)	0.5 (0.7)	<0.0001

DOES ASYMMETRY EQUAL CURVATURE? THE CLINICAL SIGNIFICANCE OF ASYMMETRIC CORPORAL MEASUREMENTS AT TIME OF INFLATABLE PENILE PROSTHESIS SURGERY

Raevti Bole, Mohamed Ahmed, Ajay Gopalakrishna, Matthew Ziegelmann, Tobias Kohler, Sevan Helo
Mayo Clinic, Rochester MN

INTRODUCTION: Patient satisfaction after inflatable penile prosthesis (IPP) placement has been linked to preexisting curvature. The significance of asymmetric corporal measurements (ACM) unrelated to proximal perforation, crossover or urethral injury is unclear. We sought to assess the clinical significance of ACM in patients undergoing IPP surgery.

METHODS: A single institution retrospective review of patients undergoing primary IPP placement between 7/2019-9/2020 was performed. Baseline patient characteristics and intraoperative details were recorded.

RESULTS: A total of 130 patients underwent primary placement of penile prosthesis. Median age was 67 years (IQR 13). Comorbidities included prostatectomy in 33.8%, and Peyronie's disease in 21.5%.

Median corporal measurement was 21 (IQR 2) bilaterally and median cylinder size 20 cm (IQR 4) bilaterally with 1cm rear tip extenders. Of the 18.5% (24/130) of patients with ACM, asymmetry was as follows: 20.8% (5/24) had less than 1 cm, 70.8% (17/24) had 1 to <2 cm, and 8.3% (2/24) had 2 cm or greater. Of these patients 87.5% (21/24) underwent placement of an asymmetric device, only 5% (1/21) of which had residual curvature less than 30 degrees. Despite ACMs, 12.5% (3/24) of patients had a symmetric device placed, one of which had residual curvature. Only 2 patients underwent straightening procedures including plication and incision/grafting.

CONCLUSIONS: Almost 1 in 5 patients undergoing IPP had ACM. However this did not correspond to residual curvature following prosthesis placement or requirement for adjunctive straightening. These findings may provide intraoperative reassurance to urologists when noting ACM during corporal dilation in penile prosthesis placement.

Funding: N/A

High prevalence of symptomatic hypogonadism and erectile dysfunction in general cardiology patients supports the need for more global sexual dysfunction screening protocols

Matthew Ziegelmann, MD, C. Scott Collins, MD, Manaf Alom, MD, Masaya Jimbo, MD, Sevan Helo, MD, Tobias Kohler, MD
Mayo Clinic

Introduction: We sought to determine the prevalence of hypogonadism in a population of cardiology clinic patients.

Methods: Male patients (age ≥ 18) undergoing evaluation in a cardiology clinic were recruited to complete the International Index of Erectile Function (IIEF-15), Androgen Decline in the Aging Male (ADAM), and an investigator-designed questionnaire. Patients also underwent morning serum testosterone testing. Data analysis was performed to identify the prevalence of hypogonadism and correlate these findings with clinical demographics and questionnaire responses.

Results: 171 patients had available data. Median age was 68.4 (IQR 60;74). Comorbidities included hyperlipidemia (n=150, 88%), hypertension (n=146, 86%), diabetes (n=60, 35%), smoking history (n=102; 60%), and ischemic cardiac disease (n=94, 55%). In patients who attempted intercourse over the preceding 4-weeks (n=85, 50%), 47% (n=40) met criteria for moderate/severe erectile dysfunction (ED) based on IIEF-scores. Median total testosterone (TT) was 282 ng/dL (IQR 209;376) and median free testosterone (FT) was 5.2 ng/dL (4;6). 95 patients (56%) had TT < 300 ng/dL. Median ADAM-score was 6 (IQR 3;8); 157 patients (93%) had a positive-ADAM questionnaire. 88 patients (n=50%) met criteria for symptomatic hypogonadism (positive ADAM-questionnaire + TT < 300 ng/dL + FT > 6.5 ng/dL). There were no demographic factors associated with a higher likelihood of hypogonadism.

Conclusions: Half of all cardiology patients met screening criteria for symptomatic hypogonadism, and/or ED, but no clinical factors were associated with a higher likelihood of sexual dysfunction. Given the potential health and well-being consequences, universal sexual health screening may be indicated for men undergoing cardiology evaluation.

Funding: N/A

SEXUAL HEALTH ASSESSMENT AMONG KRATOM USERS: IMPLICATIONS FOR EJACULATORY DYSFUNCTION

Nicholas Deebel, MD¹, Elizabeth Boes, DO^{2,1}, Ryan Terlecki, MD^{3,4}, Kyle Scarberry, MD⁵

¹Wake Forest Baptist Health, Winston-Salem, NC, ²Summa Health Urology, Akron, OH, ³Wake Forest Baptist Health, Winston-Salem, NC, ⁴Consultant for Boston Scientific, ⁵University Hospitals and Case Western Reserve Urology, Cleveland, OH

Introduction

Kratom, a plant containing the μ opioid receptor agonists mitragynine and 7-hydroxymitragynine, is legally available in most states and has purported benefits in treating opiate withdrawal and mood disorders. Data linking kratom and male sexual health has not been investigated.

Methods

An IRB approved survey comprised of validated questionnaires was distributed online via r/Kratom Reddit. Responses regarding sexual health were analyzed.

Results

165 males cited reasons for kratom use as illicit drug dependency (17.6%), prescription medicine dependency (14.5%), pain (39.4%), mental health (63.6%), and sexual health (4.8%). 37.7% (n=59) and 20.5% (n=32) reported kratom having a positive or negative impact on sexual health, respectively. Kratom use led to increased time to ejaculation in 104 (66.6%) patients, which was perceived as positive by 62 (59.6%).

A subset of patients (n=78) answered questions about premature ejaculation. The mean pre and post kratom intravaginal ejaculation latency time scores were 13.0 ± 0.6 and 8.3 ± 0.4 respectively ($p < 0.001$). Ejaculation prior to 5 minutes improved after kratom use (n=40; 51.3% vs. n=10; 12.8%) ($p < 0.0001$). Post kratom use, more patients reported lack of frustration with premature ejaculation (n=17; 21.8 %) vs. n=48; 61.5%) ($p < 0.001$).

The mean IIEF score was unchanged (26.6 ± 0.6 vs. 25.9 ± 0.5) ($p > 0.05$). Users rarely stopped kratom due to concerns regarding delayed ejaculation (n=5, 10%), low libido (n=8, 7.5 %), or ED (n=6, 7.9%).

Conclusion

This work indicates that kratom may delay time to ejaculation, with users more likely to report benefits rather than detriments to their sexual health.

Funding: N/A

THE 10-YEAR PRIAPISM EXPERIENCE: UROLOGY AND EMERGENCY MEDICINE PERSPECTIVE

Rebecca Howland¹, Miriam Hadj-Moussa, MD², Julian Wan, MD², Bahaa Malaeb, MD, FACS², Yooni Yi, MD²

¹University of Michigan Medical School, ²Department of Urology Michigan Medicine, Ann Arbor, MI

Introduction

There is a paucity of data on the clinical experience of priapism. Moreover, little work has explored differences in practice patterns between urologists and emergency medicine (EM) physicians. Our primary objective was to understand the priapism experience within our institution.

Methods

A retrospective chart review was performed on two priapism datasets from June 2008-July 2018 - one focused on patients managed by urology and another on patients managed exclusively by EM physicians.

Results

Urology was consulted 200 times in 84 unique patients and EM physicians managed 197 encounters in 15 unique patients. Median duration of priapism was 4 hours (EM) and 6 hours (urology). EM performed an intervention in 89% of encounters versus 73% in urology. For EM, injection only was the intervention in 98% compared to 39% in urology, with a shunt in 14% of urology interventions.

Conclusion

Urology and EM managed a similar number of encounters, but EM patients had a shorter duration of priapism and were more likely to receive injection only compared to patients managed by urology. Understanding the role of the EM physician and the urologist can help tailor joint curriculum efforts for initial priapism management while focusing on more complex management for urology trainees.

Funding: N/A

Table 1: Patient Characteristics			
	All Patients	Urology Consults	ED managed
Encounters	307	209	197
Unique Patients	89*	84	78
Race (by patient)			
White or Caucasian	59 (61.3%)	52 (23.9%)	9 (9.6%)
Black or African American	52 (53.3%)	25 (12.9%)	5 (5.3%)
American Indian or Alaskan Native	2 (2.1%)	2 (1.0%)	0 (0.0%)
Hispanic	1 (1.0%)	1 (0.5%)	0 (0.0%)
Other/Unknown	2 (2.1%)	1 (0.5%)	1 (1.0%)
Median age (by patient at first presentation)	45 years old	46.2 years old	39 years old
Age Range	18-89 years	18-89 years	18-84 years
Etiology by patient			
Scrotal Cell	13 (13.3%)	11 (5.3%)	3 (3.0%)
Unknown	23 (23.5%)	30 (14.8%)	1 (1.0%)
Endocrine medication	24 (24.5%)	21 (10.0%)	3 (3.0%)
Other medications (anti-psychotic)	17 (17.3%)	10 (4.8%)	2 (2.0%)
Trauma	6 (6.1%)	2 (1.0%)	6 (6.1%)
Other (drug use, malignancy)	7 (7.1%)	6 (2.9%)	1 (1.0%)
Time to Presentation			
Median	4.5 hours	6.5 hours	4.0 hours
Range (Interq)	0.5 hours (1-144)	0.5 hours (1-144)	4.0 hours (1-14)
Not transferred patients (Median)	4 hours	6.5 hours	4 hours
Transferred patients (Median)	26 hours	26 hours	12 hours*
Transfers (percentage of encounters)	51 (12.8%)	50 (25.0%)	1 (0.5%)
Frequency of encounters			
1	74 (77.1%)	62 (29.8%)	12 (6.1%)
2	9 (9.4%)	10 (4.8%)	0 (0.0%)
3	4 (4.2%)	3 (1.5%)	0 (0.0%)
4+	9 (9.4%)	9 (4.4%)	2 (1.0%)
Overall interventions			
No intervention	76 (18.1%)	55 (27.0%)	21 (10.7%)
Resection	246 (79.9%)	128 (64.0%)	176 (89.3%)
Penile Urethral/Inguinal OI	15 (4.0%)	10 (5.0%)	NA

* This is not the sum of urology consult and ED managed unique patients because some patients presented to both settings. Unique patients include the number of patients who presented to each setting and, in some cases, were responsible for multiple presentations.

** Only 1 patient was transferred and managed by the ED.

6:30 AM-7:30 AM

Surgical Technology, Simulation and Education Poster Session

Location: Ambassador

Moderators:

Christopher Gonzalez

Daniel Williams

Poster #27

#UroStream101: Harnessing the Power of Twitter for Medical Student Mentorship

Michael Ernst¹, Shervin Badkhshan²

¹Nationwide Childrens Hospital, ²University at Buffalo

WITHDRAWN

CROSS-CULTURAL COMPETENCY TRAINING FOR RESIDENT PHYSICIANS: INSIGHTS FOR DESIGNING A 'LOCAL' GLOBAL HEALTH EXPERIENCE

Lily Kaufman, Dinah Diab, BS, Alicia Scimeca, BA, Michael Sourial, MD,
David Sharp, MD, Cheryl Lee, MD, Tasha Posid, MA, PhD
The Ohio State University

Background: Many trainees have expressed interest in cross-cultural training; however, little time is provided for formal education with minority/underserved patient populations. There is a lack of literature describing successful training and education, particularly among sub-specialty residents (e.g., urology). This study's objective was to assess residents' previous cross-cultural training experiences and evaluate anticipated benefits of/challenges to designing and implementing a cross-cultural curriculum for medical trainees.

Methods: For this qualitative study, data were collected through a semi-structured focus group with urology residents (n=15). Questions assessed prior cross-cultural training experiences and asked residents to discuss perceptions of previous cross-cultural training. Residents also discussed their ideal cross-cultural training if implemented (logistics and learning objectives) and described anticipated challenges to curriculum design and implementation. Qualitative content analysis conducted through ATLAS.ti identified relevant themes/sub-themes.

Results: Several key findings emerged: (1) Previous experience varied in quantity and quality, despite unanimous interest; (2) Residents hoped to gain (a) interactions with underserved/diverse patient populations (largely immigrant and non-English speaking), (b) physician interactions (1:1 mentoring/teaching from faculty), and (c) mentoring interactions (1:1 mentoring of junior residents or medical/undergraduate students); (3) Residents hoped to improve their ability to consider cultural and religious needs of diverse patient populations, particularly for sensitive subject matter (urology), hone skills with simulation/clinical exposure, and improve understanding of patient barriers to seeking/accessing healthcare.

Conclusions: This qualitative study emphasizes critical issues facing trainees as they seek cross-cultural training to treat underserved/minority patient populations, providing insights to medical educators who may be designing and implementing educational experiences for trainees.

Funding: N/A

UROLOGY BOOTCAMP: A PILOT MEDICAL STUDENT SIMULATION-BASED CURRICULUM TO ENHANCE PROCEDURAL COMPETENCY

Megan Stout, MD, Tasha Posid, MA, PhD, Jennifer Saluk, MD, John Cooper, MD, Justin Rose, BS, Cheryl Lee, MD, Fara Bellows, MD
The Ohio State University Wexner Medical Center Department of Urology

Introduction:

Simulation-based medical education continues to gain popularity to supplement medical training and procedural proficiency. Currently, there is a lack of empirically-evaluated simulation-based programming to teach specialty-specific procedural skills to medical students. We developed a novel "bootcamp" simulation-based curriculum to introduce common urologic procedures and to improve readiness for performing them at bedside.

Methods:

Three hundred and twenty-five third-year medical students from our institution participated in a hands-on simulation session that was designed to teach a general urologic bedside procedure (Foley catheter placement). A post-curriculum evaluation assessed learners' confidence and feedback regarding the session's content and execution. Additionally, a subset (29.3%) of students were assigned pre-simulation online modules that reviewed basic procedural components.

Results:

Medical students self-reported knowledge gains following the simulation session ($p < .001$), representing a 45.8% increase in procedural confidence. Additionally, students reported that the educational intervention was beneficial to their understanding of the subject matter ($p < .001$), were "very likely" to recommend the session to another medical student ($p < .001$), and felt that educational intervention better prepared them for an upcoming national exam ($p < .001$). Finally, the greatest gains were seen for those students who self-reported lower pre-curriculum knowledge ($p < .001$), who also found the session to be the most beneficial ($p < .001$).

Conclusions:

Findings from our M3 "boot camp" led to self-reported gains in subject matter knowledge following the hands-on simulation curriculum, indicating

that this type of educational intervention can be beneficial in preparing medical students for common bedside procedures.

Funding: N/A

Poster #30

THE NORTHWESTERN UNIVERSITY NOVEL RESIDENCY CURRICULUM: THIRTEEN YEAR EXPERIENCE WITH A FULL FIVE-YEAR UROLOGY OVERSIGHT PROGRAM

Lauren Cooley, MD, PhD, Dylan Isaacson, MD, MPH, Kelly Ross, BA, Stephanie Kielb, MD

Department of Urology, Northwestern University Feinberg School of Medicine

Introduction: In July 2006, the urology residency program at Northwestern introduced its novel curriculum. The curriculum emphasizes urology-directed PGY-1 and PGY-2 years, general surgery rotations determined by the program director based on educational rationale and six months of electives. The curriculum was tested as a pilot then fully adopted and utilized for thirteen years total. In this work, we present educational outcomes under the novel curriculum.

Methods: Operative case log and AUA In-Service Examination scores were collected prospectively from 2001-2018. Residents and faculty rated satisfaction with the residency program on a five-point Likert scale from “poor” to “outstanding” from 2004-2018. Unpaired T-tests were applied to compare continuous variables between the years before versus after curriculum introduction.

Results: Average cases logged per resident were comparable in the old and new curricula groups. In-Service Exam scores were unchanged between groups. The average percentage of faculty and residents describing the program as “outstanding” increased progressively from 50% in 2004-2005 to 82% in 2017-2019 (Figure 1). All residents matriculating under the new curriculum took and passed their written boards.

Conclusion: Under the novel curriculum, case numbers and In-Service Exam scores remained similar while faculty/resident satisfaction increased. These results demonstrate that a urology-directed and flexible residency program can be instituted without compromising learner outcomes.

Funding: N/A

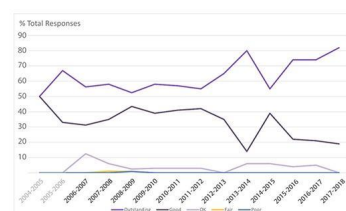


Figure 1. Proportions of Northwestern faculty and residents describing the program as “outstanding” (top line, dark purple), versus “good” (middle line, black) and “OK” (bottom line, light purple) for each academic year between 2004-2005 and 2017-2018.

How to Evaluate Medical Students During a Virtual ‘Away’ Rotation: Lessons Learned from a Two-Week Urology Sub-I during COVID-19

Aliza Khuhro, Tasha Posid, MA, PhD, Dinah Diab, BS, Alicia Scimeca, BA, David Sharp, MD, Cheryl Lee, MD, Fara Bellows, MD

The Ohio State University, Department of Urology, Columbus, OH

Introduction: Cancellation of away rotations domestically due to COVID-19 resulted in complications for 4th-year medical students hoping to use that time to hone/demonstrate programs of interest. Since these changes, several institutions opted for virtual rotations as a solution. Our objectives were: (1) describe metrics used for student evaluation in our two-week virtual sub-internship and (2) demonstrate efficacy of virtual rotation as a model for medical educators.

Methods: Our two-week rotation split each day into “live” shadowing (via video-conferencing) with faculty each morning and didactics each afternoon (pre-recorded/live lectures by faculty, video-conference simulation). The following metrics were developed to assess students, and rotation satisfaction: Faculty evaluation of student Grand Rounds presentation, Clerkship Director evaluation of suture simulation, student evaluation of suture simulation, scored online modules, didactic lectures, and didactics compliance.

Results: We provide metrics from nine students who completed this virtual ‘away’ rotation (Fall 2020). Average Grand Rounds presentation score was 3.7/5 (Range=2.8-4.6). Our Clerkship Director assessed suture skills via virtual simulation (Mean=3.6/5, Range=2.7-5). Students rated the session highly with reported 24% gain in knowledge ($p<0.001$). Online modules yielded 23% gain in content knowledge ($p<0.001$). Compliance in didactics varied (Mean=55.6% total completion, Range=0-83%). Students reported a 32% gain in knowledge following didactics ($p<0.001$).

Conclusion: This pilot virtual ‘away’ rotation serves as a model for medical educators adapting to COVID-19 restrictions. With rapid development of technology to connect students to programs and evaluation metrics, this model could be used post-COVID-19 for students unable to travel for away rotations (timing, high cost, etc.).

Funding: N/A

Establishing a Specialty Urology Clinic at the Columbus Free Clinic

Matthew Murtha, BS^{1,2}, Benjamin Hatef, BS¹, Radhika Pandit, BS¹, Alicia Scimeca, BS², Tasha Posid, PhD²

¹*The Ohio State University College of Medicine*, ²*The Ohio State University Department of Urology*

Introduction:

The Columbus Free Clinic (CFC) is a medical student-run free clinic that serves a medically vulnerable population that does not have regular access to specialty care, such as urologic care. The goal of this pilot project was to increase access to urologic care in our underserved population by integrating urologic specialists, lab testing, and point-of-care ultrasound into CFC.

Methods:

CFC patients with urologic complaints were internally referred to Urology Clinic. Routine labs including PSA screening were offered to patients at no cost. Patient demographics, qualitative responses, and number of outside referrals were recorded to further describe this proof of concept pilot initiative.

Results:

We report on four urology clinics (N=18 patients) over a 10-month period. No patients had previous urologic care. The most common chief complaint included lower urinary tract symptoms (n=10). Other common complaints included chronic pelvic pain (n=2), erectile dysfunction (n=3), testicular pain (n=2), hematuria (n=2), and premature ejaculation (n=1). The majority of patients felt the cost, timing, and location of the specialty clinic was important in obtaining care. Three patients were referred to local urology practice for further evaluation and/or intervention. Several medical students expressed increased interest in Urology after volunteering.

Conclusion:

The Urology Clinic at CFC offers services including PSA screening, prostate exams, evaluation for erectile dysfunction, and urinary void issues. This pilot initiative suggests that integrating a Urology specialty clinic into an interprofessional, student-run clinic can be executed. Next steps include evaluation of both patient and medical student perceptions of and satisfaction with care.

Funding: N/A

DEVELOPMENT AND APPLICATION OF A NOVEL AND OBJECTIVE SKILLS ASSESSMENT TOOL FOR TRANS-URETHRAL-RESECTION OF BLADDER TUMOR

Devon Langston, BA¹, Cheryl Lee, MD², Kamal Pohar, MD², Debasish Sundi, MD², Michael Gong, MD², Dinah Diab, BS², Alicia Scimeca, BA², Tasha Posid, MA, PhD²

¹The Ohio State University College of Medicine, ²Department of Urology, The Ohio State University Wexner Medical Center

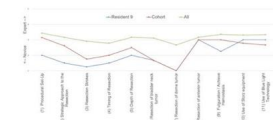
Introduction: Standardization of resident physician evaluation aids in trainee skill acquisition and progression. The objective of this study was to develop a tool to assess trainee competence and progression in performing Trans-urethral Resection of Bladder Tumor (TURBT).

Methods: We developed a procedure-based assessment that breaks down a TURBT into eleven critical steps, accessible via a smartphone link. Trainee's competency was assessed on each of these steps via a Likert-scale (1–novice to 5–expert). Eleven residents (PGY-2 to PGY-5) were evaluated by the faculty attending on the case (n=4) after completing a TURBT (n=36 cases).

Results: As an example, data from a single resident ("Resident 9", n=4 cases) was compared to their cohort (PGY-2, M=4.67/resident) and program (all residents, M=3.3/resident). Across cohorts, this resident exhibited lower competency for Steps 1-5 and 9, but higher competency for later steps compared to their cohort (see Figure). This indicates concrete areas of operative practice where this resident can improve their skill set and suggests areas in which an expert faculty member or senior resident could provide feedback or education.

Conclusions: A TURBT clinical skills assessment was developed to evaluate individual-, cohort-, and program-level competencies. This tool is easily implemented, provides real-time learner feedback, and identifies individual- and group-level training goals.

Funding: N/A



The Growing Use of Social Media by Medical Trainees

Dinah Diab, BS, Nicolette Payne, BS, Alicia Scimeca, BA, Tasha Posid, MA, PhD
The Ohio State University

Background: The objective of the present study was to obtain a quick, cross-sectional understanding of popular social media platform utilization by medical trainees (medical students, residents/fellows) compared to attendings, and to explore whether group differences occurred as a function of personal vs. professional use.

Methods: 279 participants (~20% RR) were included in the final study sample and were categorized into three Training Groups: medical students (n=103), residents/fellows (n=70) and attending physicians (n=104). Participants were contacted via a listserv and a single recruitment ad was posted to Twitter. Variables included platform usage, frequency of usage (force ranked), primary reason for use, amount of time used, content analysis by platforms, and perceptions of social media use.

Results: 99.6% of participants used social media and this did not differ by Training Group ($p>0.437$). The majority used both Facebook (73% personally, 1.3% professionally, and 25.7% both) and Instagram (86% personally, 1.1% professionally, and 12.8% both) and usage did not differ by Training Group. The proportion using Twitter professionally vs. personally differed across Training Groups ($p<0.001$), with medical students more likely to use it personally (40%) or for both (40%), while residents/fellows and attendings were more likely to use it professionally (55.2%, 63.2%) only.

Conclusion: With clear usage and benefits, it's surprising that less research has investigated and described social media usage for medical trainees. While social media usage has been studied and described in health care settings, limited domestic work has systematically investigated and compared usage across popular platforms by level of training.

Funding: N/A

FOUR-PORT ROBOTIC RADICAL PROSTATECTOMY: A SINGLE SURGEON EXPERIENCE AND HISTORICAL COMPARISON

Ronney Abaza, MD, FACS¹, Paul Kogan, MD¹, Oscar Martinez, MD²

¹OhioHealth Dublin Methodist Hospital, ²OhioHealth Dublin Methodist Hospital

Introduction:

Robotic prostatectomy (RP) is traditionally performed with 5-6 ports. We describe a novel 4-port approach eliminating the assistant port and rectus muscle violation, which may obviate the benefit of single-port (SP) robotics.

Methods:

We describe 100 consecutive 4-port RP cases without rectus violation and with only robotic 8mm ports off the midline. We compared these with 500 immediately previous 5-port and 100 SP RP cases by the same surgeon. Clipping and retraction were exclusively performed by the surgeon as well as suction using a flexible catheter.

Results:

Outcomes are summarized in Table 1. No cases required conversion to more ports. There was no increase in operative time, estimated blood loss, or complications with 4 ports, but mean length of stay was lower than 5-port RP (0.02 vs 0.25 days) and the same as SP RP (0.02 vs 0.08 days) although with shorter OT than SP.

Conclusion:

RP can be readily performed with only 4 ports with no adverse impact on efficiency or outcomes. Avoiding ports through the rectus and placing no ports >8mm other than the 12mm port in the midline where extraction is performed may reduce the difference between multiport and SP RP as evidenced by the similar ability to achieve same-day discharge in almost all patients.

Funding: N/A

Table1. Characteristics of patients of pathological findings.

	5 Port N= 500	4 Port N=100	Single Port N=100	p (5 vs 4 port, 4 vs SP)
Mean BMI, kg/m ² (range)	29.8 (18.2-46.9)	30.4 (20.3-43.4)	26.3 (19.2-33.4)	0.22, <0.001
Mean PSA, ng/dl (range)	9.5 (0.58-232.5)	8.0 (0.1-65.3)	7.2 (1.0-42.5)	0.16, 0.42
Mean OT, min (range)	151.1 (76-291)	150.2 (110-204)	163.2 (119-216)	0.71, <0.001
Mean EBL, ml (range)	103.0 (25-850)	90.7 (50-250)	63.2 (25-250)	0.03, <0.001
LOS, days (range)	0.25 (0-6)	0.02 (0-1)	0.08 (0-1)	<0.001, 0.05
Clavien III-V Complications, n (%)	14/500 (2.8)	3/100 (3)	0/100	0.99, 0.24
Mean Lymph Node Yield, n (range)	8.0 (2-29)	7.6 (1-25)	6.7 (0-17)	0.50, 0.10

BMI= body mass index; OT= operative time; PSA= prostatic specific antigen; EBL= estimated blood loss.

Can Residents be Productive in a Month Research Rotation? Impact of a Dedicated Research Rotation on Resident Productivity and Attitudes Towards Research

Jennife Saluk, MD, Alicia Scimeca, BA, Dinah Diab, BS, Courtenay Moore, MD, David Sharp, MD, Cheryl Lee, MD, Tasha Posid, MA, PhD
The Ohio State University Wexner Medical Center, Department of Urology

Introduction: There are high expectations for urology residents to not only hone their surgical skills, but to be clinician-scientists actively involved in research. Proposed methods to increase resident research productivity include longitudinal mentoring, protected time and formal curricula. Our department launched a pilot month-long research rotation for PGY2-4 residents annually. The goal of this rotation was to expand knowledge of the research process, provide dedicated training time to research and increase resident research productivity. Our objective was to assess the impact of this new one-month research rotation.

Methods: Residents (n=7 to date) were asked to complete pre- and post-curriculum assessment questionnaires assessing their learning goals, current research barriers, and perceptions of their own research productivity. Productivity metrics (e.g., presentation, abstract, manuscript submissions) were tracked.

Results: Prior to research rotation, residents reported finding time to conduct research (75%) was their biggest bottleneck. The research rotation was rated very highly by residents, who indicated that the month was adequate time to meet their research goals, would recommend it to other residency programs, and felt it was beneficial in advancing their research productivity ($p < 0.05$). The rotation improved residents' confidence in their ability to meet departmental research goals ($p < 0.05$) and increased their research knowledge ($p < 0.05$). To date, residents have progressed 22 research projects, prepared 14 conference abstracts, prepared 12 manuscripts, submitted 6 manuscripts, and 5 have been accepted or are pending revisions. Three presentations have won awards.

Conclusion: Dedicated research rotation may increase resident research productivity as well as attitudes towards research expectations.

Funding: N/A

LEADERSHIP TRAINING IN UROLOGY RESIDENCY PROGRAMS: NEEDS ASSESSMENT OF 2020 CHIEF RESIDENTS

Kevin Koo¹, Elizabeth Bearrick¹, Andrew Harris², Margaret Knoedler³, Stephen Nakada³, Brian Matlaga⁴

¹Mayo Clinic, Rochester, MN, ²University of Kentucky, Lexington, KY, ³University of Wisconsin, Madison, WI, ⁴Johns Hopkins University, Baltimore, MD

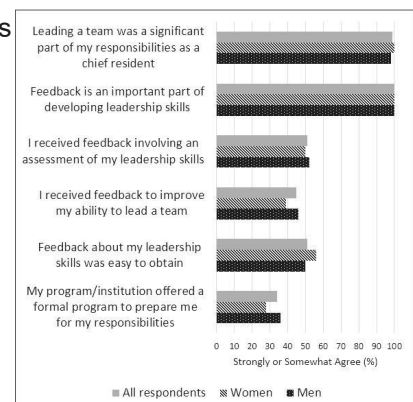
Introduction: Chief residents are expected to take on diverse leadership roles but may have different training, expectations, and support. Our aim was to characterize these responsibilities and assess training needs to improve preparation for leadership.

Methods: Graduating residents at ACGME-accredited programs in 2020 were invited to complete a survey assessing effectiveness of leadership preparation, feedback, performance barriers, and skills. Responses were collected anonymously and summarized.

Results: 74 chief residents completed the survey (21% response): 24% women and 76% men, similar to residents nationally. 98% of respondents agreed that leading a team was a significant part of their responsibilities (Figure). A large majority rated specific skills as “very” or “extremely” important to their roles: prioritizing tasks (98%), communicating goals (97%), setting expectations (96%), and managing conflict (93%). All respondents agreed that feedback is important for leadership development, but only 51% had their leadership skills assessed, and 49% said that feedback was not easily obtained. Two-thirds of respondents indicated that no formal leadership development program was offered by their programs; among those who did, the programs were often not specific or relevant to their needs.

Conclusions: Skill-based training in effective communication and team leadership may help prepare chief residents to meet their responsibilities. Obtaining feedback on performance is a commonly cited barrier.

Funding: Society of Academic Urologists



A SURVEY OF UROLOGY RESIDENCY PROGRAM DIRECTORS ASSESSING CRITERIA TO INTERVIEW APPLICANTS DURING THE COVID-19 PANDEMIC

Jamal Alamiri, M.B., B.Ch., BAO, Mohamed E Ahmed, M.B., B.Ch., Vidhu Joshi, B. Sc., Boyd R. Viers, MD, Candace F. Granberg, MD, R. Houston Thompson, MD
Mayo Clinic, Rochester, MN

Objective: To determine criteria of interest to Urology residency program directors (PDs) when selecting applicants for residency interviews during the COVID-19 pandemic.

Methods: An anonymous survey was sent via email to all Urology residency PDs across the United States. PDs were asked to assign the degree of importance (1-5, with 5 being very important) of selected factors in deciding which applicants to interview. Surveys were distributed and study data was managed using REDCap. Descriptive statistical analyses were performed.

Results: In total, 130 urology residency PDs were contacted and 64 (49.3%) responded to the survey. Urology letter(s) of recommendation (LOR) based on non-virtual rotation(s), Urology clerkship grades, research experience, and Visa status of the applicant were cited as the most important factors in selecting applicants for interview with median importance ratings of 5, 4, 4, and 5, respectively. Urology LOR based on virtual rotation(s), virtual sub-internship(s), and participation in social media activities were the least important in selecting applicants for interviews with median importance ratings of 2 for each. Notably, Urology LOR(s) based on non-virtual rotation(s) and Visa status were consistently ranked as the most important factors by over 50% of PDs.

Conclusions: Urology PDs value urology LOR(s) from non-virtual rotation(s), Urology clerkship grades, research experience, and applicant Visa status as the most important factors in selecting applicants for interviews during the COVID-19 pandemic. Virtual rotation(s) and social media activity were ranked the lowest among criteria that influence the selection process for interviews.

Funding: N/A

LEARNING CURVE OF SINGLE-PORT ROBOTIC PROSTATECTOMY

Ronney Abaza, MD, FACS, Paul Kogan, MD, Oscar Martinez, MD
OhioHealth Dublin Methodist Hospital

Introduction:

The robotic surgical system purpose-built for single-port (SP) surgery remains relatively new with limited adoption. The platform has significant limitations requiring adjustments by the surgeon in both use of the device and in surgical technique. The resulting learning curve for the SP surgery is unknown. We evaluated the learning curve for SP robotic prostatectomy (RP) by a very experienced multiport (MP) robotic surgeon.

Methods:

We reviewed the initial 100 consecutive SPRPs performed by a surgeon after several thousand MPRPs. Outcomes were compared to 100 consecutive MPRPs before adoption of the SP robot. Patients were divided into quartiles based on surgery date.

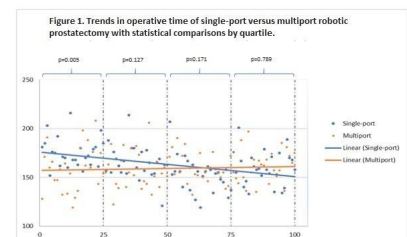
Results:

Positive margins, complications, and readmissions were immediately statistically equivalent with SP but with longer operative times (OT). The mean additional OT for SP among the first quartile was 16.3min (10% increase). Mean OT for SP fell from 175.5 ± 15.1 min to 153.3 ± 17.6 (p<0.001) between the first and third quartiles with no statistical difference starting within the second quartile. (Figure 1)

Conclusion:

SP can be safely adopted with preexisting robotic expertise. The learning curve is reasonable given equivalent outcomes immediately but with longer OT for at least 25 cases even for an experienced robotic surgeon. The learning curve may be longer and warrants consideration before lower-volume surgeons choose to adopt SP.

Funding: N/A



PATH TO PARITY: TRENDS IN FEMALE REPRESENTATION AMONG PHYSICIANS, TRAINEES, AND APPLICANTS WITHIN SURGICAL SPECIALTIES

Bridget Findlay, Elizabeth Bearrick, Candace Granberg, Kevin Koo
Department of Urology, Mayo Clinic, Rochester, MN

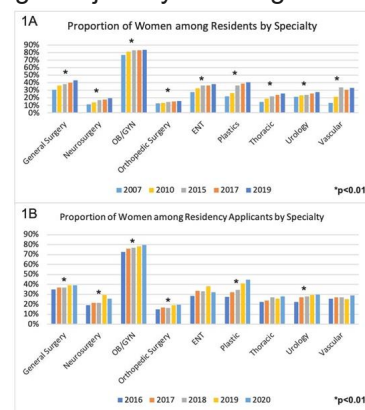
Introduction: Women remain underrepresented in surgical disciplines, including urology. Achieving workforce gender balance will rely on increasing women in the training pipeline. We aimed to characterize recent trends among practicing female surgeons, surgical trainees, and residency applicants to assess the trajectory toward gender parity.

Methods: Workforce statistics on U.S. practicing surgeons, trainees, and applicants were obtained from the Association of American Medical Colleges, Electronic Residency Application Service, and American Urological Association. Physician and trainee data during 2007-2019 and residency applicant data during 2016-2020 were analyzed by surgical subspecialty. We used Cochran Armitage trend tests to assess changes over time.

Results: Female practicing urologists increased 104%, the third-largest across surgical fields (range 36%-114%, all $p < 0.01$), likely from a larger prevalence and proportion of women among surgical trainees in all disciplines (Fig 1A). However, growth rate among female urology residents (28%) lagged behind most specialties, ranking second-to-last (range 9%-149%, all $p < 0.01$). While the proportional change in urology applicants has been significant (33%, $p < 0.01$), growth rates have markedly slowed in the past 5 years compared to women in practice and training since 2007 (Fig 1B).

Conclusions: While female representation in urology has improved relative to other surgical disciplines, slowing rates of recruitment among female residency applicants suggest a longer trajectory toward gender parity.

Funding: N/A



6:30 AM-7:30 AM

Bladder Malignant Poster Session

Location: Cuvee

Moderators:

Laura Bukavina

Shawn Dason

ALVIMOPAN AS A PART OF ENHANCED RECOVERY AFTER SURGERY (ERAS) PROTOCOL FOLLOWING RADICAL CYSTECTOMY IS ASSOCIATED WITH DECREASED HOSPITAL STAY

Peter Hanna, Dr.¹, Joseph Zabell, Dr.¹, Badrinath Konety, Professor², Christopher Weight, Professor³

¹University of Minnesota, ²Rush University, ³Cleveland Clinic

Objective:

To study the effect of alvimopan and the ERAS protocol on length of hospital stay in patients undergoing radical cystectomy.

Methods:

Our retrospective study involved 296 consecutive patients undergoing radical cystectomy (RC) for bladder cancer at our institution from 2010 through 2018. Patients were grouped according to three stages of ERAS protocol implementation: (1) pre-ERAS (group A): n=146, (2) pre-alvimopan ERAS (group B): n=102 and (3) ERAS plus alvimopan (group C): n=48. Our primary outcome was the length of hospital stay. Secondary outcomes were days to resume bowel movements, time to tolerate regular diet, the incidence of postoperative ileus, postoperative complications, and 30-day readmission rate.

Results:

Group (C) demonstrated a significantly shorter median LOS (7 days, p=0.003), shorter gastrointestinal (GIT) recovery time (4 days, p=0.018), and a lower rate of postoperative ileus (14.6 %, p=0.005). On multivariate analysis, group C demonstrated a significant association with shorter LOS (p=0.018), shorter GIT recovery time (p= 0.022), and lower odds of postoperative ileus (p=0.005). With the open approach, group (C) demonstrated significantly shorter LOS and GIT recovery time (p=0.005, p=0.001, respectively), however, in robotic cohorts, no significant results were reported. No significant differences were reported among groups regarding readmission rate or postoperative complications.

Conclusion:

Patients undergoing RC and managed by an ERAS protocol experienced a significantly shorter LOS when they had alvimopan as part of the protocol. Patients seem to derive the optimum benefits of alvimopan when used with an open approach, however, these benefits become less pronounced with the robotic approach.

Funding: N/A

THE USE OF WEARABLE FITNESS DEVICES IN A PRE-SURGICAL EXERCISE INTERVENTION PROGRAM (PREHABILITATION) FOR PATIENTS UNDERGOING CYSTECTOMY FOR BLADDER CANCER

Joel Berends¹, Stephanie Daignault-Newton¹, Deborah Kaye², Christine Schafer¹, Steven Thelen-Perry¹, Chrissy Parker¹, Heidi Iglay-Reger³, Alex Zhu¹, Yongmei Qin¹, Alon Weizer¹, Todd Morgan¹, Samuel Kaffenberger¹, Lindsey Herrel¹, Khaled Hafez¹, Cheryl Lee⁴, Ted Skolarus¹, Michael Englesbe⁵, Jeffery Montgomery¹

¹University of Michigan, Department of Urology, Ann Arbor, MI, ²Duke University, Division of Urology, Durham, NC, ³University of Michigan, Department of Physical Medicine and Rehabilitation, Ann Arbor, MI, ⁴Ohio State University, Department of Urology, Columbus, OH, ⁵University of Michigan, Department of Surgery, Ann Arbor, MI

Introduction: We have previously demonstrated the feasibility, safety, and impact of a 4-week exercise physiologist-led prehabilitation program for patients undergoing radical cystectomy. We now aim to examine the physical activity outcomes of our previously reported study population as measured by wearable activity device, compared to a battery of preoperative functional fitness and self-reported assessments.

Methods: The SenseWear Activity (SWA) monitor is known to be the best research grade wearable device to measure physical activity and is ideal to measure activity in frail, older patients, such as those undergoing cystectomy. Activity was measured in intervals classified as “bouts” if the patient was active for at least 10 minutes at a time.

Results: Length of moderate activity bouts for all patients before and after prehabilitation were positively correlated with six-minute walk test ($p=0.0043$, prehab $p=0.0336$) and submaximal VO₂ ($p<0.001$, prehab $p=0.0031$). Number and length of moderate intensity bouts decreased from baseline at 30 and 90-days post cystectomy. Number of low intensity bouts remained similar throughout the study period, but length of bouts were significantly decreased at 30 days post-cystectomy ($p=0.0039$). Length of low intensity bouts approached baseline levels at 90 days post-cystectomy.

Conclusion: Cystectomy is a morbid surgery with significant impact on the physical activity of patients. Time dedicated to activity is decreased in the post-operative period. Efforts to monitor patients to increase intensity and duration of physical activity in the peri-operative setting can shorten length of stay, decrease morbidity, and improve quality of life.

Funding: N/A

DEVELOPMENT OF PATIENT-CENTERED BLADDER CANCER RESEARCH PRIORITIES VIA ENGAGEMENT WITH PATIENTS

Alexa Rose, BS¹, Jasmine Love, BS¹, Tudor Borza, MD, MS^{1,2}, Tracy M. Downs, MD, FACS¹, E. Jason Abel, MD, FACS¹, David F. Jarrard, MD¹, Kyle A. Richards, MD, FACS^{1,2}

¹*University of Wisconsin-Madison*, ²*William S. Middleton Memorial Veterans Hospital*

INTRODUCTION: There have been limited prior studies on patient-centered research prioritization in patients with bladder cancer (BCa), making it unclear what research topics are important. To address this, we established the Wisconsin Bladder Cancer Network (WiBCaN). This project aims to discover what research topics are valued by BCa patients and their caregivers in Wisconsin and to get them engaged in the research process.

METHODS: Using prioritized research questions identified in previous research, we created a survey to identify important research topics via REDCap. This initial survey was designed to evaluate two domains: the patient experience and decision-making. Beginning in December 2020, we engaged patients with BCa in Wisconsin to complete the survey and join WiBCaN. Recruitment was conducted by email, telephone, mail, and in-person primarily from the senior author's panel of patients (KAR).

RESULTS: In the first three months of recruitment, 102 individuals completed the survey. Patients' mean age was 70 (range 48-92) and 60% of respondents had non-muscle invasive BCa. In the domain of patient experience, further research on treatment/intervention was the highest-ranked priority with 66% of respondents saying that stopping the disease from progressing is the most important aspect to them in their patient experience. Regarding decision-making, the highest-ranked priority was the appropriate time for cystectomy with 60% reporting it was the most important aspect for them in the decision-making process.

CONCLUSION: WiBCaN successfully identified patient-reported research priorities and has laid the foundation for an engaged network of patients with BCa in the state of Wisconsin.

Funding: This work was supported by the Wisconsin Urologic Society and Wisconsin Urologic Research Institute.

NARCOTIC AVOIDANCE AFTER ROBOTIC RADICAL CYSTECTOMY ALLOWS ROUTINE OF ONLY TWO-DAY HOSPITAL STAY

Ronney Abaza, MD, FACS, Paul Kogan, MD, Oscar Martinez,
Oscar.Martinez@ohiohealth.com
OhioHealth Dublin Methodist Hospital

Introduction:

Narcotic use is common after radical cystectomy but can delay bowel function, cause nausea delaying diet, and cause confusion in elderly patients, all of which extend length of stay (LOS). We instituted a pathway intentionally limiting narcotics and report postoperative narcotic consumption, pain scores, and LOS after robotic radical cystectomy (RRC) with ileal conduit.

Methods:

We reviewed a single-surgeon series of consecutive RRCs between August 2015-September 2020. Acetaminophen and ketorolac were given with thorough patient education reserving oral narcotics for breakthrough pain. All patients had subcutaneous pain pumps infusing ropivacaine removed before discharge. Intravenous narcotics were intentionally excluded from postoperative orders. Alvimopan was given once it became available. Discharge criteria included oral diet, oral pain control, ambulation, and bowel function.

Results:

None of the 54 patients required intravenous narcotics postoperatively, and nineteen patients (35%) never required even oral narcotics. Mean body mass index (BMI) and peak pain scores were higher in patients who required oral narcotics (25.9kg/m² vs 28.9kg/m², p=0.04 and 5.3/11 vs 7.5/11, p=0.002, respectively). Among 35 patients who received narcotics, mean tablets taken were 4.3/day (range, 1-13) with 68% using 8 or less tablets during their entire LOS. Mean LOS was 2.1d (range 1-4). Five patients (9%) were discharged on POD#1, 37/54 (68.5%) on POD #2, 10/54 (18.5%) on POD#3 and 2/54 (4%) on POD #4. Only one patient was readmitted within 90 days.

Conclusion:

Minimizing narcotics after RRC allows for a 2-day LOS in the majority of patients. Patient education is critical to minimizing narcotic avoidance.

Funding: N/A

DOES WHERE YOU LIVE AFFECT PRESENTATION, MANAGEMENT, AND SURVIVAL AMONG BLADDER CANCER PATIENTS?

Devon Langston, BA¹, Sarah Beebe, MD², Tasha Posid, MA, Ph.D², Kamal Pohar, MD²

¹*The Ohio State University College of Medicine*, ²*Department of Urology, The Ohio State University Wexner Medical Center*

Introduction: Sociodemographic factors impact outcomes in cancer care. The association between patient area of residence and demographic characteristics, presentation, management, and outcomes in bladder cancer are underexplored.

Methods: We determined the association of demographic and clinical characteristics with patient area of residence (metropolitan, “Metro,” and non-metropolitan, “Non-metro”) among 561,913 bladder cancer patients in the National Cancer Database from 2004-2016 via t-test, Chi-squared, Kaplan-Meier survival analysis, and multivariate Cox regression modeling.

Results: Compared to metro, non-metro patients exhibit sociodemographic disadvantage (e.g. 22.4% vs. 28.9% private insurance), travel further for care (mean 53.3 vs. 19.7 miles), and present with ≥ 1 comorbidity (31.6% vs. 29%). Non-metro patients have more advanced clinical T stage (19.9% vs. 16.2% $\geq cT2$), higher rates of cystectomy (16.9% vs 13.3%) and use of chemotherapy (24.1% vs. 21.8%), and lower overall survival (median 68.7 vs. 77.6 months post diagnosis). Survival across all patients is strongly influenced by insurance status (e.g. uninsured hazard ratio (HR) 1.84 [95% CI 1.78, 1.90]), comorbidities (e.g. ≥ 3 comorbidities HR 2.19 [2.14, 2.24]) and clinical T stage ($\geq cT2$ HR 2.82 [2.79, 2.85]), factors which are enriched among non-metro patients. (All comparisons with P-value < 0.001.)

Conclusion: Disparities in presentation, treatment, and survival exist between metro and non-metro bladder cancer patients. Interventions to improve early bladder cancer detection and treatment in rural communities may ameliorate these disparities.

Funding: N/A

IMPACT OF PREOPERATIVE IMMUNONUTRITION ON PERIOPERATIVE OUTCOMES FOLLOWING CYSTECTOMY

Sari Khaleel, MD, MSs¹, Subodh Regmi, MBBS¹, Peter Hannah, MBBS¹, Niranjana Sathianathan, MBBS², Christopher Weight, MD, FACS³, Badrinath Konety, MD, MBA, FACS⁴

¹*Department of Urology, University of Minnesota, Minneapolis, MN, USA,* ²*Peter MacCallum Cancer Centre, Melbourne, Australia,* ³*Glickman Urological and Kidney Institute, Cleveland Clinic, Cleveland, OH, USA,* ⁴*Urology Department, Rush University Medical Center, Chicago, IL, USA*

Introduction

Radical cystectomy (RC) for bladder cancer is associated with high rates of perioperative complications. The role of pre-operative immunonutritional supplementation (Pre-INS) in improving post-RC outcomes remain unclear.

Methods

A retrospective review of 204 patients who underwent RC for bladder cancer at a single institution, comparing patients who received oral arginine-based Pre-INS, and those who did not. Pre-operative characteristics and post-operative outcomes data were collected. Primary outcomes included high-grade (Clavien-Dindo III-V) complications, readmission within 30 days, ileus, total parenteral nutrition (TPN) requirement, and post-operative infection. Fisher's exact test and multivariable logistic regression (MLogR) analysis were used to identify predictive factors for our outcomes.

Results

Patients who received Pre-INS had significantly lower odds of requiring post-operative TPN (17.3% vs 35.6%; Fisher $p = 0.015$, OR = 0.38), and developing post-operative infection (25% vs 45%; Fisher $p = 0.003$; OR = 0.41), but no significant difference in the rates of other outcomes (Table 1). Pre-INS was a significant predictor of reduced post-operative infection (Fisher $p = 0.02$; OR = 0.38), but not other outcomes on MLogR, adjusting for age, gender, BMI, preoperative morbidity, and perioperative features.

Conclusion

Pre-operative immunonutrition for RC is associated with significant reduction in post-operative infection, one of the most common complications of RC.

Funding: N/A

Cohort Feature	Value
Pre-operative Features	
No. of patients	1,204
Gender	Male: 156 (76.5%) Female: 48 (23.5%)
Received pre-operative immunonutritional supplementation (Peri-INS)	104 (5.3%)
Median age	69 years (IQR: 60-75)
Median BMI	27.9 (IQR: 24.3 – 31.57)
Median Charlson Comorbidity Index	3 (IQR: 3-5)
Post-operative Features	
Surgery type	RC: 171 (83.8%) APE: 33 (16.2%)
Type of urinary diversion	RC: 146 (71.6%) CC: 3 (1.47%) NB: 53 (26%) None: 2 (0.1%)
Robotic assistance	61 (29.9%)
Underwent concomitant major surgery*	Yes: 41 (13.1%) No: 157 (76.9%)
Enrolled in ERAS protocol	Yes: 116 (86.27%) No: 25 (13.72%)
Post-operative outcomes	
High-grade (Clavien-Dindo III-V) complication	Pre-INS: 22.1% (44 patients) Control: 22% } p = 1
Readmission within 30 days	34.3 % (70 patients) Pre-INS: 39.8% Control: 36% } p = 0.66
Ileus requiring NGT decompression	28.9% (59 patients) Pre-INS: 23.3% Control: 35% } p = 0.09
Received TPN	25.5% (52 patients) Pre-INS: 17.3% Control: 35.6% } p = 0.015
Post-operative infection	34.8% (71 patients) Pre-INS: 23% Control: 45% } p = 0.003

Table 1. Overview of cohort's pre- and peri-operative features, and post-operative outcomes. Concomitant major surgery was defined as major surgery under general anesthesia done at the time of or within 30 days from RC/APE. For post-operative outcomes, incidence rates in patients who received Pre-INS and those who did not (control) are provided, along with Fisher exact test p-values.

TUMOR INFILTRATING LYMPHOCYTE PHENOTYPES IN HUMAN BLADDER AND KIDNEY CANCER SPECIMENS

Elizabeth Koehne, MD¹, Hiten Patel, MD, MPH¹, Lourdes Plaza Rojas, PhD², Michael Delos Reyes, BA², Alex Belshoff, MD, PhD¹, Nicholas Elliott, MD¹, Alex Gorbonos, MD¹, Michael Woods, MD¹, Marcus Quek, MD¹, Gopal Gupta, MD¹, Jose Guevara-Patino, MD, PhD²

¹Loyola University Medical Center, ²Loyola University Chicago

Introduction

Immunotherapy has become a promising new therapeutic class for bladder and kidney cancer. Better understanding of the tumor microenvironment may help predict and maximize response to therapy. We aimed to characterize tumor-infiltrating lymphocytes (TILs) in patients with bladder and kidney cancer undergoing surgery at our institution.

Methods

Nine bladder cancer and 5 kidney cancer patients undergoing surgical resection were included. Fresh tumor tissue was obtained and stained with fluorochrome-conjugated antibodies. Samples were analyzed by flow cytometry. Dead cells were excluded from analysis. TILs were gated as CD45+ cells and subtyped into the following categories: T cells, B cells, NK cells, neutrophils, eosinophils, dendritic cells, and macrophages.

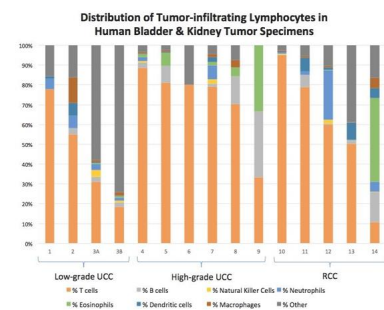
Results

The median number of CD45 cells per sample was 955 (IQR 77-4730). Amongst bladder tumor samples, T cells were the most prevalent subtype at 61.45 + 25.2% (mean + standard deviation), followed by B cells (6.81 + 10.3%) and eosinophils (4.89 + 10.2%). In the kidney tumor cohort, T cells were also the most prevalent subtype (58.92 + 32.1%), followed by eosinophils (8.61 + 18.8%) and neutrophils (6.52 + 10.4%).

Conclusion

TIL phenotypes can be characterized using flow cytometry of tumor samples. These phenotypes may be used in the future to better predict which patients will respond to immunotherapy.

Funding: N/A



The utility of an AI algorithm's CT-based 2D-body composition assessment in predicting complications from radical cystectomy

Vidit Sharma, MD MS^{1,2}, Matthew K Tollefson, MD¹, Daniel J Blezek, PhD³, Robert F Tarrell, MS¹, Prabin Thapa, MS¹, Lyndsay D Viers, MD³, Aaron M Potretzke, MD⁴, Stephen A Boorjian, MD¹, Igor Frank, MD¹, Robert P Hartman, MD³, Boyd R Viers, MD¹

¹Department of Urology Mayo Clinic, ²UCLA, ³Department of Radiology Mayo Clinic, ⁴Department of Urology Mayo Clinic

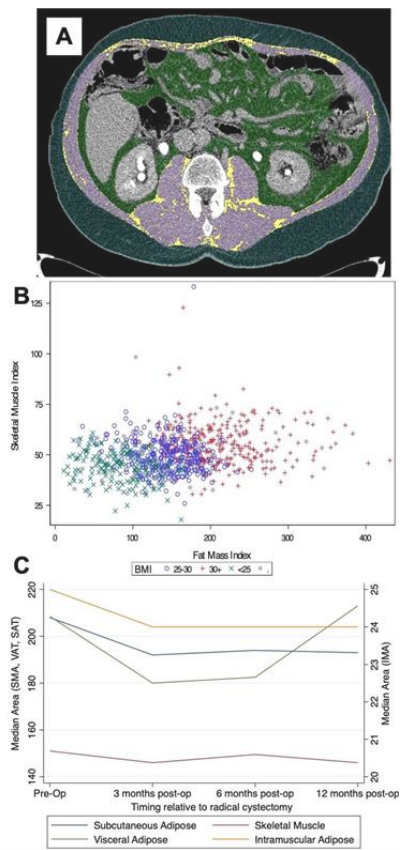
Introduction: Manual measurement of muscle and adipose is labor intensive on cross-sectional imaging. Here, we use an artificial intelligence algorithm to extract muscle and adipose areas from axial images of CT abdomen/pelvis studies before and after radical cystectomy(RCx) and correlate the measures with post-RCx complications.

Methods: Using a the peri-operative CT scans of 843 RCx patients(2009-2017), a convolutional neural net-based algorithm identified a slice through L3 and segmented skeletal muscle(SM), intramuscular adipose(IMA), visceral adipose tissue(VAT), and subcutaneous adipose tissue(SAT) areas(**Figure 1A**), excluding visceral organs. The skeletal muscle index(SMI) and fat mass index(FMI) were calculated by normalizing SM and total adipose area to height. Multivariable logistic regressions associated pre-RCx measures to post-RCx complications.

Results: There was substantial variation of SMI and FMI within a given BMI category(**Figure 1B**). All measures declined from baseline to 3-months post-RCx and then partially recovered from 6 to 12 months(**Figure 1C**). On multivariable analysis, VAT area was significantly associated with overall complications(OR 1.001, p=0.04). SAT(OR 1.002, p=0.01), IMA(OR 1.018, p=0.02) and SMI(OR 1.017, p=0.047) were significantly associated with wound complications. FMI was significantly associated with infectious complications(OR 1.004, p<0.01).

Conclusions: Automated segmentation of a single cross-sectional CT image at L3 can track body composition changes before and after RCx and may predict certain RCx complications.

Funding: Vidit Sharma was funded by the VA Health Services Research and Development Fellowship



THE ROLE OF HORMONAL PATHWAYS IN RACIAL AND BIOLOGIC SEX DISPARITIES IN BLADDER CANCER

Sarah Markt, ScD, MPH¹, Laura Bukavina, MD, MPH², Amr Mahran, MD MS², Fred Schumacher, PhD, MPH¹, Kirtishri Mishra, MD², Vinay Varadan, PhD¹, Luvy Delfin-Mendez, MD³, Greg MacLennan, MD³, Lee Ponsky, MD²

¹*Department of Population and Quantitative Health Sciences, Case Western Reserve University, Cleveland, OH,* ²*Department of Urology, University Hospitals, Cleveland, OH,* ³*Department of Pathology, University Hospitals, Cleveland, OH*

Background: Current evidence suggests that sex steroid hormones and their receptors may play a role in bladder cancer outcomes.

Aims: Our aim is to elucidate the prevalence and potential prognostic value of sex hormone receptor by race in men and women with muscle invasive bladder cancer (MIBC).

Methods: We conducted a study of 78 patients at University Hospitals Cleveland Medical Center (UHCMC) with MIBC who underwent radical cystectomy. Tumor samples were stained for estrogen (ER), progesterone (PR), androgen (AR), and human epidermal growth factor 2 (HER2) receptor positivity, percent staining positive, and measured for intensity on a scale of 0-3. We compared the frequency of receptor positivity by sex and self-reported race.

Results: In Ohio, self-reported black women have the lowest five-year survival rates (63.2/100,000), compared with 71.9 for white women, 78.4 for white men, and 68.6 for black men. Among the 78 patients, 100% were PR-, 87% ER-, 46% HER2-, and 46% AR-. White women and black women were more likely to be HER2-. In contrast, black men and black women were more likely to be AR-. Thirty percent of black women, compared with 4% of white women, 17% of black men and 6% of white men had ER intensity of 2 or greater.

Conclusions: We found differences in hormone receptor activity between race and sex subgroups. Future analyses will investigate whether these receptors are associated with bladder cancer outcomes.

Funding: P20CA233216

INTRAVESICAL SEQUENTIAL GEMCITABINE AND DOCETAXEL VERSUS BACILLUS CALMETTE-GUERIN (BCG) PLUS INTERFERON IN PATIENTS WITH RECURRENT NON-MUSCLE INVASIVE BLADDER CANCER FOLLOWING SINGLE INDUCTION COURSE OF BCG

Justin Drobish¹, Ryan Steinberg¹, Vignesh Packiam¹, Lewis Thomas², Nathan Brooks³, Andrew Vitale¹, Sarah Mott⁴, Trafford Crump⁵, Jonathan Wang⁶, William DeWolf⁷, Donald Lamm⁸, Max Kates⁹, M. Eric Hyndman³, Ashish Kamat¹⁰, Trinity Bivalacqua⁹, Kenneth Nepple^{1,4}, Michael O'Donnell^{1,4}

¹University of Iowa Hospitals and Clinics, ²Washington University School of Medicine, ³UPMC Pinnacle, ⁴Holden Comprehensive Cancer Center, ⁵University of Calgary, ⁶Beth Israel Deaconess Medical Center, ⁷Beth Israel Deaconess Medical Center, ⁸University of Arizona School of Medicine, ⁹Johns Hopkins University, ¹⁰MD Anderson Cancer Center

Introduction/Objective:

Repeat BCG induction remains the preferred option for patients with recurrent non-muscle invasive bladder cancer (NMIBC). However, given the ongoing BCG shortage, alternative salvage intravesical regimens are needed. We aimed to compare the efficacy of BCG plus interferon a-2b (BCG/IFN) and Gem/Doce in patients with recurrent but non-BCG unresponsive NMIBC.

Methods:

We identified 197 patients from the National Phase II BCG/IFN trial and 93 patients from a multi-institutional Gem/Doce cohort with recurrent NMIBC after one prior BCG induction course who were not BCG unresponsive. Primary outcome was recurrence free survival (RFS); secondary outcomes were high-grade (HG) RFS and risk factors for treatment failure. Stabilized inverse probability treatment weighted survival curves were estimated using the Kaplan-Meier method and compared. Propensity scores were derived from a logistic regression model.

Results:

Patients receiving Gem/Doce were older and more likely to have HG disease, CIS, and persistent disease following induction BCG (all $p < 0.01$). After adjustment, the 1- and 2-year RFS was 61% and 53% after BCG/IFN versus 68% and 46% after Gem/Doce ($p = 0.95$). Adjusted 1- and 2-year HG-RFS was 60% and 51% after BCG/IFN versus 63% and 42% after Gem/Doce ($p = 0.68$). Multivariable Cox regression revealed that Gem/Doce treatment was not associated with an increased risk of failure (HR=0.97, $p = 0.89$) as compared to BCG/IFN.

Conclusions:

Patients with recurrent NMIBC after a single induction BCG failure and not deemed BCG unresponsive had similar oncologic outcomes with Gem/Doce and BCG/IFN in a post-hoc analysis. Additional prospective studies are needed.

Funding: This work was supported by the John & Carol Walter Family Foundation

CHARACTERISTICS AND OUTCOMES OF DE NOVO BLADDER CANCER IN THE SOLID ORGAN TRANSPLANT POPULATION AT THE UNIVERSITY OF MINNESOTA

Brent Cleveland, MD, Song Jiang, MD PhD, Christopher Warlick, MD PhD
University of Minnesota

Introduction

Current research suggests bladder cancer after renal transplantation has similar incidence but more aggressive characteristics compared to the general population. Data regarding other solid organ transplant (SOT) populations is lacking, and existing studies are small. This study examines the characteristics and clinical course of bladder cancer diagnosed in a large SOT cohort.

Methods

The University of Minnesota SOT database was queried for recipients who subsequently developed bladder cancer from 1984-2019. Available records were reviewed for patient characteristics, pathology, treatment, and outcomes. Descriptive statistics and frequencies were calculated using statistical analysis features of Microsoft Excel.

Results

Approximately 10,888 SOTs were performed at the University of Minnesota from 1984-2019. Of recipients with available records, 42 were subsequently diagnosed with bladder cancer. The patients were predominantly male (73.8%) and Caucasian (81%) with a mean age at first transplant of 53.7 ($\pm$ 12.4) years and mean age at bladder cancer diagnosis of 63.1 ($\pm$ 9.9) years. High grade and advanced disease (T2 or greater) were present in 27 (64.3%) and 16 (38.1%) of patients, respectively. Recurrences occurred in 17 patients and 6 (35%) were progression in disease. Bladder cancer-related deaths occurred in 8 patients (19.1%). The mean overall survival after initial diagnosis was 2.8 ($\pm$ 3.3) years.

Conclusion

This investigation of a large SOT population at a single institution revealed that those diagnosed with de novo bladder malignancy after their transplant had increased rates of high grade and advanced disease at initial diagnosis compared to commonly cited rates for the general population.

Funding: N/A

DIFFERENTIAL EFFECT OF INTRAVESICAL GEMCITABINE VS SALINE FOLLOWING RESECTION OF SUSPECTED LOW-GRADE NON-MUSCLE-INVASIVE BLADDER CANCER: POST-HOC ANALYSIS OF SWOG S0337 RANDOMIZED CLINICAL TRIAL

Eric Li, Adam Weiner, Mitali Kini, Bailey Goyette, Shilajit Kundu
Northwestern Department of Urology

Introduction

The SWOG S0337 randomized clinical trial reported that post-operative intravesical gemcitabine decreased risk of recurrence for low-grade non-muscle-invasive urothelial cancer. This post-hoc analysis assessed the efficacy of intravesical gemcitabine among various patient subgroups.

Methods

Data from SWOG S0337 were obtained from the National Cancer Institute via Project Data Sphere (<https://www.projectdatasphere.org/>). Multiple Cox-regressions were performed (saline n=205; gemcitabine n=201) with interaction terms between the trial arm and subgroups. Hazard ratios were also generated for each subgroup.

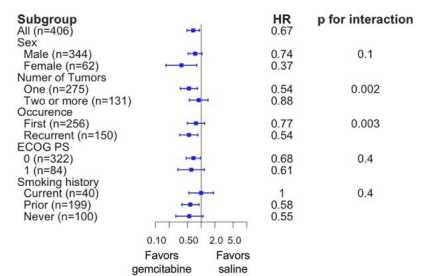
Results

Tumor recurrence with intravesical gemcitabine was not significantly affected by sex, smoking history, or ECOG performance status ($p > 0.1$; Figure). There was a significant interaction between the treatment arm and number of tumors (one vs two or more; $p=0.002$), as well as tumor occurrence (first vs recurrence; $p=0.003$). Intravesical gemcitabine had greater benefit in delaying tumor recurrence for those with one tumor vs. two or more tumors (HR 0.54 vs. 0.88) and those with recurrence vs first occurrence of tumor (HR 0.54 vs 0.77).

Conclusions

This post-hoc analysis of SWOG S0337 suggests the benefits of intravesical gemcitabine in delaying tumor recurrence following resection of suspected low-grade non-muscle-invasive urothelial cancer are greater with solitary tumors or for recurrent tumors discovered during surveillance.

Funding: N/A



CLINICAL UTILITY OF RIGID BLUE LIGHT CYSTOSCOPY: RESULTS FROM A POST-PROCEDURE USER SURVEY IN A PROSPECTIVE MULTICENTER REGISTRY

Thomas Stout, MD¹, Subodh Regmi, MD¹, Siamak Daneshmand, MD²,
Sima Porten, MD, MPH³, Kamal Pohar, MD⁴, Badrinath Konety, MD, MBA⁵
¹University of Minnesota, ²University of Southern California, ³University of
California San Francisco, ⁴Ohio State University, ⁵Rush University

Introduction: Despite the proven effectiveness of blue light cystoscopy (BLC) in the management of bladder cancer, the adoption of BLC across the United States since its approval has been limited. We evaluated the user perceived clinical utility of BLC over time, and assessed factors associated with higher perceived utility of BLC.

Methods: This study utilized a prospective multi-institutional registry of patients with known or suspected non-invasive bladder cancer. Following BLC, users assessed their perceived clinical utility of BLC on a 4-point Likert scale. The primary outcome was the perceived clinical utility of BLC as assessed by participating urologists.

Results: 1702 cystoscopies performed between 2014 and 2019 were evaluated. Of the 3771 lesions biopsied, most were identified with both white light (WL) and BL (60.6%), followed by BL only (23.0%), and WL only (11.2%). Among all post-cystoscopy surveys, users perceived BLC to be of some utility (38.1%), moderate assistance (25.4%), essential (19%), and no real utility (17.5%). Significantly more participants perceived BLC to be essential in 2019 (28.3%) compared to in 2014 (11.5%) ($p = 0.006$). On multivariable analysis higher perceived utility was associated with more lesions seen only with BL (LR 4.88, CI 2.27 – 8.78), malignant pathology on biopsy (LR 3.31, CI 2.10 – 5.23), and total number of lesions seen with BL (LR 1.36, CI 1.19 – 1.55).

Conclusions: The perceived clinical utility of BLC has been increasing over time, particularly among high-volume users. Users who identify more lesions with BLC than WLC perceive BLC to be most clinically useful.

Funding: Photocure ASA

7:30 AM-11:00 AM

Spouse/Guest Hospitality Suite Hours

Location: Embassy Room (Level 2)

7:30 AM-8:00 AM

Break

8:00 AM-9:20 AM	Open Mic Location: International Ballroom <i>Moderator:</i> Chad Tracy
8:00 AM-8:20 AM	Transperineal Prostate Biopsy: A Worthwhile Practice Change <i>Speaker:</i> Derek Lomas
8:20 AM-8:40 AM	Multiparametric MRI For All: Lessons from A Large Academic Practice <i>Speaker:</i> Hiten Patel
8:40 AM-9:00 AM	The Robot: What is it Good for? Absolutely Something, Right? <i>Speaker:</i> Ronald Boris
9:00 AM-9:20 AM	Robotic Retroperitoneal Surgery: Expanding the Indications Beyond Partial Nephrectomy <i>Speaker:</i> Paul Gellhaus
8:00 AM-9:20 AM	Interactive Learning: Bringing the OR Into the Office: Optimizing Patient Outcomes with Clinic-Based Operative Procedures Location: Gold <i>Course Directors:</i> Sevann Helo Matthew Ziegelmann
8:00 AM-9:20 AM	Interactive Learning: Communication Skills Location: State <i>Course Directors:</i> Muneera Kapadia Kathleen Kieran Giulia Lane
9:20 AM-10:00 AM	Panel Discussion: The Blurred Line Between Pediatrics and Adults Location: International Ballroom <i>Moderator:</i> Larissa Bresler <i>Panelists:</i> Melissa Kaufman Kathleen Kieran Aron Liaw Kristina Suson

9:20 AM-10:00 AM	Panel Discussion: Prosthetics, Peyronie's, Priapism Location: Gold <i>Moderator:</i> Tobias Kohler <i>Panelists:</i> Jeffrey Branch Sarah Faris Matthew Ziegelmann
10:00 AM-7:00 PM	Exhibit Hall Hours Location: Imperial Ballroom (B2 Level)
10:00 AM-10:30 AM	Break - Visit Exhibits Location: Imperial Ballroom
10:30 AM-10:50 AM	Current Challenges and Future Solutions in Pediatric Urology: Vesicoureteral Reflux, Neurogenic Bladder, and Hypospadias <i>Speaker:</i> Christopher Cooper
10:50 AM-11:10 AM	Approach to SUI in the Non-Index Patient <i>Speaker:</i> Howard Goldman
11:10 AM-11:40 AM	Which 3rd Line Therapy is Right for your Patient? <i>Moderator:</i> Priya Padmanabhan
	Onabotulinumtoxin <i>Panelist:</i> Courtenay Moore
	InterStim <i>Panelist:</i> Bradley Gill
	PTNS <i>Panelist:</i> Sarah McAchran
11:40 AM-1:00 PM	Industry Sponsored Lunch Symposium Location: Gold
11:40 AM-1:00 PM	Industry Sponsored Lunch Symposium Location: State

1:00 PM-1:30 PM

The Bowel and The Urologist

Guest Speaker:

Muneera Kapadia

1:30 PM-2:00 PM

Transgender Genital Gender Confirming Surgery - What the General Urologist Must Know: Communication, Office Based Concerns and Complications

Guest Speaker:

Richard Santucci

2:00 PM-3:00 PM

Panel Discussion: Complex Cases

Location: International Ballroom

Moderator:

Stephanie Kielb

Panelists:

Muneera Kapadia

R. Corey O'Connor

Richard Santucci

John Stoffel

2:00 PM-3:00 PM

Panel Discussion: BPH

Location: Gold

Panelists:

Casey Dauw

Puneet Sindhvani

Thomas Turk

3:00 PM-3:30 PM

Break - Visit Exhibits

Location: Imperial Ballroom

3:30 PM-5:00 PM

Prostate Malignant Podium Session

Location: International Ballroom

Moderators:

Hiten Patel

Kyle Richards

ISOPSA: CLINICAL PERFORMANCE OF A SINGLE PARAMETER, STRUCTURE BASED TEST FOR HIGH GRADE PROSTATE CANCER IN A LARGE, MULTICENTER, PROSPECTIVE VALIDATION TRIAL

Eric Klein, MD¹, Alan Partin, MD², Yair Lotan, MD³, Jack Baniel, MD⁴, Martin Dineen, MD⁵, Jason Hafron, MD⁶, Kannan Manickam, MD⁷, Marc Pliskin, MD⁸, Matthew Wagner, MD⁹, Hui Zhu, MD¹⁰, Arnon Chait, PhD¹¹, Aimee Kestranek¹¹, Prasad Gawande, PhD¹¹, Luisa Ferreira, PhD¹¹, Boris Zaslavsky, PhD¹¹, Mark Stovsky, MD¹¹

¹Cleveland Clinic Glickman Urological and Kidney Institute, ²Johns Hopkins Brady Urological Institute, ³University of Texas Southwestern Medical Center Department of Urology, ⁴Rabin Medical Center, ⁵Advanced Urology Institute, ⁶Michigan Institute of Urology, ⁷Chesapeake Urology Associates, ⁸The Urology Group, ⁹Kaiser Permanente Northwest, ¹⁰Stokes VA Medical Center, ¹¹Cleveland Diagnostics, Inc.

Introduction: We present cumulative results describing the clinical performance of IsoPSA, a blood-based, structure-focused assay for high grade prostate cancer, in a large scale, prospective validation trial.

Methods: In this validation trial (N = 1093), blood samples were obtained from multiple clinical sites, collected within 30 days prior to prostate biopsy from patients with serum PSA between 4 and 100 ng/ml. IsoPSA was evaluated against TRUS and/or MRI Fusion biopsy results as the gold standard. The prevalence of high grade prostate cancer (PCa) in the study group was 35.3%. The test parameter (IsoPSA Index) was evaluated by ROC analysis in comparison to total PSA and % free PSA.

Results: ROC analysis using the test parameter, IsoPSA Index, resulted in AUC=0.790, sensitivity=90.4%, specificity=47.1%, NPV=90.0% and PPV=48.3% at the established cutoff value (≤ 6.0) to identify patients at low risk for high-grade PCa. IsoPSA showed superior AUC, specificity, NPV and PPV compared to total PSA, % free PSA, and % free PSA (total PSA 4-10 ng/mL). The diagnostic accuracy of IsoPSA was unaffected by the use of alpha 1-blocker (AUC=0.795) and 5-ARI (AUC=0.789) medications. Using IsoPSA, an estimated 47% of biopsies targeting high-grade disease could have been avoided in the validation cohort.

Conclusion: IsoPSA displays superior diagnostic accuracy to total PSA and % free PSA in assessing the risk of high-grade PCa. Clinical use of IsoPSA would have resulted in a significant reduction in unneeded biopsies in low risk patients. IsoPSA also displays clinical utility in patients with symptomatic BPH on standard medication regimens.

Funding: Cleveland Diagnostics, Inc.

IsoPSA® Substantially Reduces Unneeded Biopsies in a Real-World Office Setting

Jason Scovell, MD, PhD¹, Aimee Kestranek², Robert Rochelle², Mark Stovsky, MD², Eric Klein, MD¹

¹Cleveland Clinic Glickman Urological and Kidney Institute, ²Cleveland Diagnostics, Inc.

INTRODUCTION: We assessed the clinical utility of IsoPSA – a novel test to assess the risk of high grade prostate cancer – to determine its effect on reducing unneeded prostate biopsies in a real world setting.

METHODS: 636 patients were enrolled by 58 providers in a range of academic and community settings. IsoPSA was made available to providers, including those intending to order prostate biopsy and/or MRI for patients. 516 patients met IsoPSA's Indication For Use (PSA $\geq$ 4ng/ml, age $\geq$ 50yo), 313 of whom were $\geq$ 65yo. Medical records for patients who received IsoPSA were reviewed and updated biopsy and/or MRI recommendations were compared to their pre-IsoPSA recommendations.

RESULTS:

Among the 516 patients receiving IsoPSA tests, 211 were recommended for biopsy following IsoPSA vs. 429 prior to IsoPSA (-51%). An 11% reduction in MRIs recommended was also noted.

Prior to IsoPSA Result (n=516)		
Biopsies Recommended	429 (83.1%)	
Biopsies Not Recommended (not ordered or pending MRI)	86 (16.7%)	
Recommendation Unclear or Pending	1 (0.2%)	
Following IsoPSA Result (n=516)		
Biopsies Recommended	211 (40.9%)	
IsoPSA Indices Above Threshold (i.e., ≥ 6)		178 (84.4%)
IsoPSA Indices Below Threshold (i.e., < 6)		33 (15.6%)
Biopsies Not Recommended	291 (56.4%)	
IsoPSA Indices Above Threshold (i.e., ≥ 6)		18 (6.2%)
IsoPSA Indices Below Threshold (i.e., < 6)		273 (93.8%)
Recommendation Unclear or Pending	14 (2.7%)	

Recommendations for or against biopsies aligned closely with IsoPSA indices, with 178 of 211 patients (84%) ultimately recommended for biopsy having IsoPSA indices above the IsoPSA threshold. Conversely, 273 of 291 patients (94%) not recommended for biopsy had indices below the threshold. (14 patient records were unclear or pending.)

CONCLUSION: In a real world setting, IsoPSA reduced recommendations for prostate biopsy by 51% and MRI by 11%, which should translate to improved patient outcomes and realized cost savings.

Funding: Cleveland Diagnostics, Inc.

THE EFFICACY OF ENZALUTAMIDE (ENZA) PLUS ANDROGEN DEPRIVATION THERAPY (ADT) ON BONE OLIGOMETASTATIC HORMONE-SENSITIVE PROSTATE CANCER: A POST HOC ANALYSIS OF ARCHES.

Andrew J. Armstrong¹, Taro Iguchi², Arun A. Azad³, Arnould Villers⁴, Boris Alekseev⁵, Daniel P. Petrylak⁶, Russel Z. Szmulewitz⁷, Antonio Alcaraz⁸, Neal Shore⁹, Jeffrey Holzbeierlein¹⁰, Francisco Gomez-Veiga¹¹, Brad Rosbrook¹², Fabian Zohren¹², Gabriel P. Haas¹³, Georgia Gourgioti¹⁴, Nader N. El-Chaar¹³, Arnulf Stenzl¹⁵

¹Duke Cancer Institute Center for Prostate & Urologic Cancers, , Durham, NC, USA, ²Osaka City University Graduate School of Medicine, Osaka, Japan, ³Peter MacCallum Cancer Centre, Melbourne, Victoria, Australia, ⁴University Hospital Centre, Lille University, Lille, France, ⁵Hertzen Moscow Cancer Research Institute, Moscow, Russia, ⁶Yale Cancer Center, New Haven, CT, USA, ⁷The University of Chicago, Chicago, IL, USA, ⁸Hospital Clinic de Barcelona, Barcelona, Spain, ⁹Carolina Urologic Research Center, Myrtle Beach, SC, USA, ¹⁰The University of Kansas Medical Center, Kansas City, KS, USA, ¹¹Hospital Universitario de Salamanca, GITUR-IBSAL, Salamanca, Spain, ¹²Pfizer Inc., San Diego, CA, USA, ¹³Astellas Pharma Inc., Northbrook, IL, USA, ¹⁴Astellas Pharma Inc., London, UK, ¹⁵University Hospital, Eberhard Karls University of Tübingen, Tübingen, Germany

Introduction: In ARCHES (NCT02677896), ENZA+ADT reduced the risk of radiographic progression and improved secondary clinical outcomes in patients with metastatic hormone-sensitive prostate cancer (mHSPC) with variable patterns of disease spread vs placebo (PBO)+ADT. This *post hoc* analysis evaluated ENZA+ADT in patients with bone oligometastatic mHSPC vs polymetastatic mHSPC in ARCHES.

Methods: Patients with mHSPC (n=1150) were randomized 1:1 to ENZA(160 mg/day)+ADT or PBO+ADT, stratified by disease volume and prior docetaxel. This *post hoc* analysis included patients with bone metastases only, categorized as oligometastatic (1–≤5 metastases) or as polymetastatic (≥6 metastases) based on central review at screening. Efficacy was compared across treatment arms.

Results: Of the ARCHES population with bone metastases (n=512), the largest subgroup included patients with ≤5 metastases (ENZA+ADT, n=160; PBO+ADT, n=136). Baseline characteristics were generally comparable between treatment arms and across subgroups. When compared to PBO+ADT, ENZA+ADT improved radiographic progression-free survival and secondary endpoints in patients with ≤5 metastases (Table). Similar results were observed across other oligometastatic subgroups (1–≤4) and in polymetastatic disease. Safety of ENZA+ADT vs PBO+ADT was similar across subgroups and consistent with previous findings.

Conclusions: This *post hoc* analysis demonstrates that ENZA+ADT provides clinical benefit across bone oligometastatic as well as polymetastatic mHSPC, supporting utility of ENZA irrespective of metastatic burden in ARCHES.

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Post hoc analysis of oligometastatic and polymetastatic disease*

Endpoint, HR (95% CI) ^b	1 (n=53; ^c n=44) ^d	≤2 (n=87; ^c n=76) ^d	≤3 (n=120; ^c n=103) ^d	≤4 (n=142; ^c n=117) ^d	≤5 (n=160; ^c n=136) ^d	≥6 (n=107; ^c n=109) ^d
rPFS ^e	0.17 (0.02, 1.48)	0.24 (0.07, 0.87)	0.21 (0.08, 0.56)	0.16 (0.06, 0.42)	0.22 (0.10, 0.47)	0.35 (0.22, 0.57)
Time to PSA progression	0.14 (0.03, 0.63)	0.09 (0.02, 0.40)	0.16 (0.06, 0.41)	0.12 (0.05, 0.31)	0.11 (0.04, 0.28)	0.13 (0.06, 0.27)
Time to castration resistance	0.13 (0.03, 0.60)	0.15 (0.05, 0.44)	0.17 (0.07, 0.38)	0.15 (0.07, 0.33)	0.17 (0.09, 0.34)	0.27 (0.17, 0.43)
Time to initiation of new antiandrogenic therapy ^f	0.40 (0.10, 1.60)	0.45 (0.16, 1.31)	0.40 (0.17, 0.94)	0.33 (0.14, 0.73)	0.29 (0.13, 0.66)	0.29 (0.16, 0.51)

^aOligometastatic mHSPC was defined as 1–≤3 bone metastases; polymetastatic mHSPC was defined as ≥4 bone metastases; ^bHR <1 favors ENZA + ADT; HR >1 favors PBO + ADT; ^cNumber of patients in subgroup who received ENZA + ADT; ^dNumber of patients in subgroup who received PBO + ADT; ^eAssessed by independent central review, or death, within 24 weeks of treatment discontinuation.
^fCI=confidence interval; HR=hazard ratio; PSA=prostate-specific antigen; rPFS=radiographic progression-free survival.

RACIAL DISPARITIES IN MAGNETIC RESONANCE IMAGING-GUIDED BIOPSY FOR THE DIAGNOSIS OF PROSTATE CANCER IN THE UNITED STATES

Peter Hanna, Dr.¹, Arveen Kalapara, Dr.¹, Bradly Watarai, Mr.¹, Stephanie Jarosek, Miss¹, Badrinath Konety, Professor², Christopher Warlick, Professor¹

¹University of Minnesota, ²Rush University

Objects

We assessed the discrepancies in receiving MRI prior to biopsy in prostate cancer patients based on their racial disparities in the United States.

Methods

A retrospective review of a de-identified commercial health insurance claims database in the United States (OptumLabs® Data Warehouse) to identify men who underwent prostate biopsy and MRI between 2010 and 2017. Prostate biopsy was considered the index event and our cohort was restricted to men with a continuous enrolment of 12 months prior and 1 month following biopsy. The race was classified as Black, White, Asian, or Hispanic. Our primary outcome was the utilization of MRI prior to a prostate biopsy.

Results

We identified 108,557 patients who underwent prostate biopsy, including 86,997 White, 12,051 Black, 7220 Hispanic, and 2289 Asian men. Median age was 64 years (IQR, 58-70). Overall, 176 of 19674 (0.9%) men underwent MRI prior to biopsy in 2010, compared with 2590 of 13106 (19.8%) (table1) in 2017 ($p < 0.001$). On multivariable logistic regression, Black men were significantly less likely to receive MRI within 6 months prior to prostate biopsy than White men (OR 0.89, 95% CI 0.81-0.99). Hispanic men (OR 1.65, 1.50-1.81) and Asian men (OR 1.68, 1.43-1.97) were significantly more likely to receive MRI than White men.

Conclusion

Among commercially insured men in the United States, Black men are significantly less likely to receive prostate MRI prior to biopsy compared to White, Hispanic, and Asian cohorts. Further studies are required to validate these findings and to identify reasons for these trends.

Funding: N/A

A Prostate Biopsy Risk Calculator based on Magnetic Resonance Imaging: Development, Validation, and Comparison to the PBCG Risk Calculator

Hiten D. Patel, MD, MPH¹, Elizabeth L. Koehne, MD¹, Steven M. Shea, PhD², Andrew Fang, MD³, Marielia Gerena, MD², Alex Gorbonos, MD¹, Marcus L. Quek, MD¹, Robert C. Flanigan, MD¹, Ari Goldberg, MD PhD², Soroush Rais-Bahrami, MD^{3,4,5}, Gopal N. Gupta, MD¹

¹*Department of Urology, Loyola University Medical Center, Maywood, IL,* ²

Department of Radiology, Loyola University Medical Center, Maywood, IL,

³*Department of Urology, University of Alabama at Birmingham,*

Birmingham, AL, ⁴*Department of Radiology, University of Alabama at*

Birmingham, Birmingham, AL, ⁵*O'Neal Comprehensive Cancer Center,*

University of Alabama at Birmingham, Birmingham, AL

Introduction: Multiparametric MRI (mpMRI) has improved detection of clinically significant prostate cancer (csPCa) through use of mpMRI–transrectal ultrasound fusion-guided biopsies. We aimed to develop, validate, and compare a PCa risk calculator (RC) incorporating mpMRI findings to the Prostate Biopsy Collaborative Group (PBCG) RC.

Methods: Patients (2015-2020) in the Prospective Loyola University mpMRI (PLUM) Prostate Biopsy Cohort were included for training (N=674) and internal validation (N=336). Data from a separate institution served as external validation (N=371). Standard clinical variables, mpMRI prostate volume, and PI-RADSv2 mpMRI lesions were evaluated. A multinomial logistic regression model was constructed with outcomes of no cancer, clinically insignificant PCa (Gleason 3+3), and csPCa (Gleason $\geq 3+4$). ROC and calibration curves were evaluated. Decision curve analysis (DCA) was conducted.

Results: In the training cohort, 322 (47.8%) were diagnosed with PCa and 208 (30.9%) represented csPCa. The multinomial PLUM RC outperformed the PBCG RC in training (AUC:0.859 vs. 0.660, $p < 0.001$), internal validation (AUC:0.882 vs. 0.678, $p < 0.001$), and external validation (AUC:0.839 vs. 0.694, $p < 0.001$) for detection of csPCa. At a cost of missing 7.5% of csPCa, the PLUM RC could have avoided 41.0% of biopsies vs. 19.1% for PBCG. On DCA (15% threshold), PLUM was equivalent to a strategy avoiding 13.8/100 biopsies without missing any csPCa compared to 2.7/100 for PBCG.

Conclusions: Addition of mpMRI findings significantly improved the ability of the PLUM RC to detect PCa and csPCa compared to the PBCG RC. A large proportion of biopsies could be avoided using the PLUM RC in shared decision-making to inform the decision for prostate biopsy.

Efforts to support data extraction and maintenance of The Prospective Loyola University mpMRI Prostate Biopsy Cohort database is supported by funding from Siemens Medical Solutions USA, Inc. This work was funded in part by Junior Faculty Development Grant (ACS-IRG 001-53) and by

THE 17-GENE GENOMIC PROSTATE SCORE ASSAY AS A PREDICTOR OF BIOCHEMICAL RECURRENCE IN MEN WITH INTERMEDIATE- AND HIGH-RISK PROSTATE CANCER

Brian Helfand¹, Michael Paterakos¹, Chi-Hsiung Wang¹, Pooja Talaty¹, John Abran², John Bennett², David Hall², Tamer Aboushwareb²

¹Program for Personalized Cancer Care, NorthShore University HealthSystem, Evanston, Illinois, ²Exact Sciences Corporation

Introduction

The 17-gene Oncotype DX Genomic Prostate Score® (GPS™) assay has primarily been used for low- and favorable intermediate-risk patients deciding between active surveillance and definitive therapy. However, the assay may also be useful for stratifying higher risk patients.

Methods

Patients from NorthShore University HealthSystem treated with radical prostatectomy 2015-2019, with NCCN intermediate- or higher risk prostate cancer were included. Biopsy tissue was used to perform a GPS assay. Biochemical recurrence (BCR) was defined as 2 successive PSAs ≥ 0.2 ng/mL, or initiation of therapy. The association of GPS result (both continuous and dichotomous) with time to BCR was evaluated using Cox proportional hazards models.

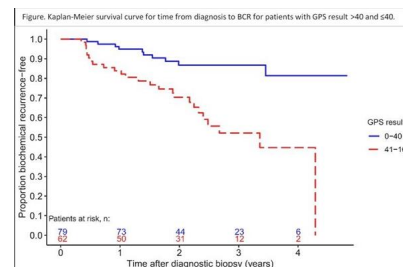
Results

A GPS result was obtained for 141 patients: 109 NCCN intermediate risk, 27 high risk, and 5 very high risk. Median (IQR) follow-up time for censored patients was 28 (19, 38) months. The GPS result was significantly associated with time to BCR: hazard ratio (HR) 2.7 (95% CI 1.7, 4.3; $p < 0.001$) per 20 units, HR 3.8 (95% CI 1.9, 8.3; $p < 0.001$) for GPS results 41-100 vs 0-40 (see Figure).

Conclusion

The GPS assay is a powerful predictor of BCR after RP in this intermediate- and higher risk prostate cancer patient population.

Funding: Exact Sciences Corporation



100 over 100: Comparing Results of Robotic Radical Prostatectomy in Patients with Glands Larger than One-Hundred Grams

Zain A. Abedali, MD, Emma L. Ross, Thomas A. Gardner, MD, Chandru P. Sundaram, MD, Michael O. Koch, MD, Ronald S. Boris, MD
Indiana University School of Medicine, Department of Urology

Introduction The purpose was to report results of robotic assisted radical prostatectomy (RARP) for localized prostate cancer patients with prostate glands greater than 100 grams.

Methods: A retrospective review identified 114 patients with prostates larger than 100g who underwent RARP. Demographics, perioperative, functional, and oncologic outcomes were compared to randomized RARP patients with glands less than 100g.

Results: Patients with glands larger than 100g were significantly older with greater comorbidities. Compared to their counterparts they had lower PSA density and fewer positive cores on biopsy. Larger gland patients had worse preoperative potency and similar continence levels. Operative time and estimated blood loss were greater without differences in complications. Larger glands had higher rates of bladder neck repair with lower rates of nerve sparing. No differences were seen in rates of positive margins or lymph nodes. Larger gland patients had a slowed return to continence and lower rates of potency. Neither higher rates of recurrence nor need for salvage therapy were seen.

Conclusions: Surgeons can be reassured that compared to smaller glands, RARP for glands larger than 100g is feasible with similar perioperative outcomes and equivalent rates of surgical margins and T3 disease. Functionally, potency is compromised while return of continence is achieved but slowed compared to smaller gland cohorts.

Funding: N/A

	Greater than 100g (n = 114)	Less than 100g (n = 114)	P value	
Preoperative characteristics				
Age, mean (SD) [years]	67.3 (4.6)	63.1 (7.9)	<0.001	
Gland size, mean (SD) [g]	133.1 (45.9)	46.1 (18.7)	<0.001	
BMI, mean (SD) [kg/m ²]	30.2 (5.0)	29.1 (4.8)	0.076	
African American (%)	14 (12.3)	8 (7.0)	0.261	
Charlson Comorbidity Index, mean (SD)	4.6 (0.8)	4.0 (0.9)	<0.001	
PSA, mean (SD) [ng/mL]	14.4 (18.5)	8.8 (7.2)	<0.001	
PSAD, mean (SD) [mg/mL ³]	0.101 (0.110)	0.201 (0.197)	<0.001	
Clinical stage, (%)				
T1a	0 (0)	4 (3.5)	0.015	
T1c	66 (57.9)	78 (68.4)		
T2a	25 (21.9)	12 (10.5)		
T2b	7 (6.1)	11 (9.6)		
T2c	16 (14.0)	9 (7.9)	0.008	
Positive biopsy cores, mean (SD)	3.6 (3.1)	4.5 (3.0)		
Total biopsy cores, mean (SD)	13.5 (4.5)	12.7 (2.1)		
Percent positive biopsy cores, (%)	28.1 (23.5)	36.3 (24.8)	0.001	
Gleason Grade Group, mean (SD)	2.32 (1.31)	2.35 (1.16)	0.530	
Baseline Potency, (%)	51 (44.7)	73 (64.0)	0.007	
Baseline Continence, (%)	97 (85.1)	99 (86.8)	0.113	
Operative details				
Operative time, mean (SD) [min]	226 (64)	197 (41)	<0.001	
Estimated blood loss, mean (SD) [mL]	247 (168)	181 (122)	<0.001	
Complications, (%)	6 (5.3)	4 (3.5)	0.527	
Nerve Sparing, (%)	51 (44.7)	78 (68.4)	<0.001	
Bladder Neck Repair, (%)	65 (58.0)	22 (19.3)	<0.001	
Pathologic Results				
Positive surgical margins (%)	25 (21.9)	25 (21.9)	0.972	
Extracapsular extension (%)	42 (36.8)	51 (44.7)	0.184	
Seminal vesicle invasion (%)	15 (13.2)	11 (9.6)	0.391	
Lymphovascular invasion (%)	15 (13.1)	14 (12.3)	0.842	
Positive lymph nodes (%)	14 (12.3)	8 (7.0)	0.178	
Gleason Grade Group, mean (SD)	2.46 (1.25)	2.50 (0.97)	0.205	
Pathologic Stages, (%)				
T2a	26 (22.8)	15 (13.2)	0.005	
T2b	4 (3.5)	1 (0.9)		
T2c	39 (34.2)	44 (38.6)		
T3a	28 (24.6)	43 (37.7)		
T3b	17 (14.9)	11 (9.6)	0.936	
Oncologic and Functional Outcomes				
Biochemical recurrence, (%)	19 (16.7)	20 (17.5)		0.836
Need for Salvage Therapy, (%)	18 (15.8)	15 (13.2)	0.572	
Potency at Last Follow Up, (%)	19 (16.7)	40 (35.1)	0.002	
Functional Continence (%) [0-1 pad/day]	97 (85.1)	93 (81.2)	0.457	
Time to Continence, mean (SD) [months]	9.8 (6.9)	5.3 (4.8)	<0.001	

GLEASON GRADE GROUP CONCORDANCE BETWEEN FUSION BIOPSY AND SURGICAL PATHOLOGY AFTER RADICAL PROSTATECTOMY IN A LARGE SINGLE-CENTER EXPERIENCE

Daniel Simon, MD¹, John Ogunkeye², John Smith², Kevin Alter², Jamaal Jackson, MD¹, Daniel Dalton, MD³, Chris Coogan, MD¹, Paul Yonover, MD³

¹Rush University Medical Center, Chicago, IL, ²Rush Medical College, Chicago, IL, ³Uropartners, Chicago, IL

Introduction: The use of magnetic resonance imaging (MRI) and image-guided biopsy for prostate cancer detection continues to expand; however, the accuracy of fusion biopsy for predicting surgical pathology after radical prostatectomy (RP) remains under investigation. We aim to assess the accuracy of fusion biopsy for predicting prostate cancer Grade Group (GG) after RP.

Methods: UROCaP is a prostate cancer registry maintained by a large academic-community integrated group practice in Chicago, IL. We retrospectively identified 278 patients from UROCaP treated with RP after fusion biopsy between 2014 and 2020. Patients underwent simultaneous 12-core systematic biopsy (SB) and MRI/ultrasound fusion targeted biopsy (TB) of PIRADS ≥ 3 lesions. Pathologic GG from biopsy was compared with GG after RP to determine GG concordance rates.

Results: SB and TB together accurately predicted GG after RP for 65.1% of patients (181/278). Rates of GG concordance for SB and TB independently were 29.9% and 55.8%, respectively. Upgrading occurred in 24.1% (67/278) with 5.0% considered clinically significant (≥ 2 GG). Higher prostate-specific antigen (PSA) levels (ng/mL) were associated with increased risk of clinically significant upgrading: ≥ 4.00 to ≤ 9.99 (OR 0.33; 95% CI: 0.11-1.01; $p = 0.04$), ≥ 10.00 to ≤ 19.99 (OR 3.55; 95% CI: 1.18-10.73; $p = 0.02$), ≥ 20.00 ng/mL (OR 4.23; 95% CI: 1.07-16.69; $p = 0.03$).

Conclusions: Systematic and fusion biopsy (SB+TB) more accurately predicts pathological GG after RP than either SB or TB alone and is associated with a low risk of cancer upgrading, though risk of clinically significant upgrading is increased with higher PSA levels.

Funding: N/A

VARIABILITY IN PROSTATE CANCER DETECTION AMONGST UROLOGISTS AND RADIOLOGISTS IN A HIGH VOLUME MULTIPARAMETRIC MAGNETIC RESONANCE IMAGING FUSION BIOPSY CENTER

Sarah E. Sweigert, MD¹, Hiten D. Patel, MD MPH¹, Elizabeth L. Koehne, MD¹, Marcus Quek, MD¹, Alex Gorbonos, MD¹, Ari Goldberg, MD PhD², Gopal N. Gupta, MD¹

¹Loyola University Medical Center, Department of Urology, ²Loyola University Medical Center, Department of Radiology

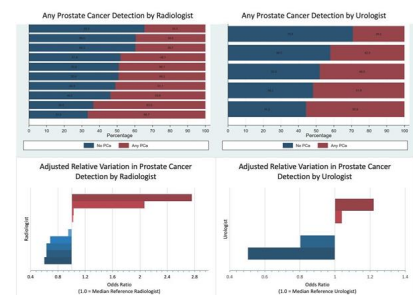
Introduction: We aimed to evaluate the impact of radiologist and urologist variability on PCa detection with mpMRI TRUS-guided prostate biopsies for PI-RADS 3-5 lesions.

Methods: Men undergoing mpMRI TRUS-guided biopsies of PI-RADS 3-5 lesions (systematic and targets) from the Prospective Loyola University mpMRI-Biopsy Cohort were included. Data were stratified by radiologist and urologist to evaluate variation in PI-RADS grading and detection of PCa. Multivariable logistic regression (MVR) models evaluated adjusted variation between radiologists and urologists. Area under the curve (AUC) comparisons assessed relative impact of radiologists and urologists.

Results: A total of 865 patients were included across 5 urologists and 10 radiologists. There was significant variability in number of PI-RADS lesions identified by radiologist (8.3%-48.4% reporting 3+ lesions, $p < 0.001$). There was variation in PCa detection by radiologist (ORs 0.6 to 2.76) and urologist (ORs 0.51 to 1.22) on MVR, with similar trends by PI-RADS score and among targeted cores (image). Addition of radiologist to a baseline model increased AUC for any positive core ($p = 0.02$), positive targeted core ($p = 0.02$), and Grade Group ≥ 2 targeted core ($p = 0.04$) while the addition of urologist was not significant.

Conclusion: There is notable variability by radiologist and urologist in detection of any and clinically significant PCa using mpMRI TRUS-guided prostate biopsies. Radiologist variation contributed to greater impact on PCa detection.

Funding: N/A



Androgen Deprivation Therapy (ADT) for Prostate Cancer and Its Effects on Brain Volume 3D Planimetry

Ruel Neupane, MD¹, Megan Prunty, MD¹, Danly Omil-Lima, MD¹, Amr Mahran, MD MS¹, Kirtishri Mishra, MD¹, Lee Ponsky, MD¹, Carvell Nguyen, MD PhD², Adam Calaway, MD, MPH¹, Christopher Kondray, MD³, Laura Bukavina, MD, MPH¹

¹University Hospitals, Department of Urology, Cleveland, OH, ²

MetroHealth Medical Center, Department of Urology, Cleveland, OH, ³

MetroHealth Medical Center, Department of Radiology, Cleveland, OH

Introduction

Androgen Deprivation Therapy (ADT) is commonly given for advanced local and metastatic prostate cancer with evidence of prolonged survival. However, there is increasing concern for the negative side effects in ADT users.

Methods

A retrospective analysis was performed on baseline and follow up computerized tomography scans of 59 men prior to and after initiation of ADT. Brain and ventricular volumes were assessed via segmentation protocol using 3D planimetry software (3D Splicer®, Version 4.10.2). Multivariate logistic regression (MVR) adjusting for socio-demographic variables and comorbidities were used to assess risk factors for cortical loss. Paired Wilcoxon test was utilized to assess change in brain volume prior to and after initiation of ADT.

Results

A total of 59 patients were analyzed in the multi-institutional study. An average decline in cortical volume of 86.2 cm³ [pre-ADT 1156.0 cm³ (1035.0, 1231.5) and post-ADT 1073.0 cm³ (930.5, 1136.5), p>0.001] was seen. Sequential increase of 30% in ventricular volume from baseline (66 cm³) to post-ADT (84 cm³) was noted. On MVR, lower BMI (OR 1.13, 95%CI 1.01-1.27, p=0.042), dementia (OR 3.47, 95% CI 1.05-12.66, p=0.042) and alcohol abuse (OR 4.7, 95%, CI 1.1-21.01, p=0.037) were all significantly associated with increased the risk of cortical loss. History of metastatic prostate cancer was not associated with risk of cortical loss.

Conclusion

There is mounting evidence that ADT may be correlated with loss of brain volume and cognitive decline. In this study we quantify the loss of cortical brain volume and ventricular expansion in patients on ADT.

Funding: n/a

Systematic versus Targeted MRI/Ultrasound Fusion Prostate Biopsy among Men with MRI-Visible Lesions

Hiten D. Patel, MD, MPH¹, Elizabeth L. Koehne, MD¹, Steven M. Shea, PhD², Andrew Fang, MD³, Alex Gorbonos, MD¹, Marcus L. Quek, MD¹, Robert C. Flanigan, MD¹, Ari Goldberg, MD, PhD², Soroush Rais-Bahrami, MD^{3,4,5}, Gopal N. Gupta, MD¹

¹Department of Urology, Loyola University Medical Center, Maywood, IL, ²

Department of Radiology, Loyola University Medical Center, Maywood, IL,

³Department of Urology, University of Alabama at Birmingham,

Birmingham, AL, ⁴Department of Radiology, University of Alabama at

Birmingham, Birmingham, AL, ⁵O'Neal Comprehensive Cancer Center,

University of Alabama at Birmingham, Birmingham, AL

Introduction: Traditional approaches to prostate cancer (PCa) detection are associated with misclassification of PCa. We compared PCa detection rates on systematic and targeted biopsy cores for multiparametric MRI (mpMRI)–ultrasound fusion-guided biopsy.

Methods: Men with clinical suspicion of harboring PCa from two institutions with visible PI-RADS v2 lesions receiving mpMRI-ultrasound fusion-guided prostate biopsy were included (2015-2020). Detection of PCa was categorized by grade group (GG) and compared between systematic and targeted cores. Clinically significant PCa (csPCa) was defined as $\geq$ GG2. Patients were stratified by biopsy setting and multivariable logistic regression evaluated cancer detection predictors.

Results: A total of 1,236 patients (647 biopsy-naïve) were included with 626 (50.6%) harboring any PCa and 412 (33.3%) harboring csPCa based on combined biopsy. Detection of csPCa was 27.9% vs. 23.3% (+4.6%) and GG1 PCa was 11.3% vs. 17.8% (-6.5%) for targeted vs. systematic cores. Net benefit in detection of csPCa was higher in the prior negative biopsy setting than biopsy-naïve setting (+7.7% vs. +1.7%) while reduction in GG1 PCa detection remained similar (-5.6% vs. -7.2%). Overall, combined biopsy detected more csPCa (+10.0%) and slightly fewer GG1 PCa (-0.5%) compared to systematic alone. Upgrading to $\geq$ GG2 by targeted biopsy occurred in 9.8% with no cancer and 23.6% with GG1 on systematic biopsy.

Conclusions: Combined biopsy doubled the net benefit in detection of csPCa by targeted biopsy alone without increasing GG1 PCa diagnoses relative to systematic biopsy. Net benefit for targeted biopsy was higher in the prior negative biopsy setting, but advantages of combined biopsy were maintained regardless of setting.

Efforts to support data extraction and maintenance of The Prospective Loyola University mpMRI Prostate Biopsy Cohort database is supported by funding from Siemens Medical Solutions USA, Inc. This work was funded in part by Junior Faculty Development Grant (ACS-IRG 001-53) and by Developmental funds from the UAB Comprehensive Cancer Center Support Grant (NCI P30 CA 013148) granted to Soroush Rais-Bahrami.

Impact of prostate-specific antigen (PSA) screening intensity on prostate cancer diagnosis in a racially diverse healthcare system over a 25-year period

Deepansh Dalela¹, Marcus Jamil¹, Akshay Sood¹, Jacob Keeley¹, Brett Friedman², Patrick Etta¹, Craig Rogers¹, Mani Menon¹, Firas Abdollah¹

¹*Department of Urology, Henry Ford Health System, ²Oakland University William Beaumont School of Medicine*

Introduction

It is currently unknown if routine PSA screening affects prostate cancer (PCa) diagnosis differently compared to less frequent PSA testing.

Methods

Henry Ford Health System is a large, racially diverse integrated healthcare system in Southeast Michigan, USA. Men aged 45+ who self-identified as Black or White, without a prior PCa diagnosis, who underwent PSA screening from 1995-2019 were included. Screening intensity was defined as routine screening (at least one PSA test q1-2 years), occasional (at least one test q3 yearly) and sporadic (no test for three consecutive years). Outcomes were time to diagnosis of PCa, PSA and incidence of clinical nodal and metastatic disease at diagnosis.

Results

Overall, 46,693 (34.5%), 44,790 (33.1%) and 44,015 (32.5%) men were included in the sporadic, occasional and routine PSA screening groups, respectively, of which 34,623 (25.6%) were Black. Cumulative incidence of PCa was 2.3%, 3.8% and 6.2% for sporadic, occasional and routine groups respectively. Compared to men undergoing routine screening, men in occasional and sporadic groups had significantly higher median PSA (5.4 vs. 6.1 vs 7.2 ng/mL), clinical N+ (1.2% vs. 1.8% vs. 3.8%) and metastatic disease (6.5% vs. 9.5% vs. 15.4%) at diagnosis (all $p < 0.001$).

Conclusion

Data from a large, racially diverse US-based healthcare system showed that only about one-third of the population underwent routine PSA screening (every 1-2 years), as defined by the PLCO study. Men undergoing routine screening had more favorable tumor characteristics at diagnosis and lower incidence of metastatic disease, highlighting its oncological benefit compared to opportunistic screening.

Funding: n/a

CONFIRMATORY TESTING OUTCOMES IN ACTIVE SURVEILLANCE (AS): RESULTS FROM THE MICHIGAN UROLOGICAL SURGERY IMPROVEMENT COLLABORATIVE (MUSIC)

Colton Walker, MD¹, Ji Qi², David Miller, MD¹, James Montie, MD¹, Arvin George, MD¹, Alice Semerjian, MD²

¹*Department of Urology, University of Michigan*, ²*Michigan Urological Surgery Improvement Collaborative*

Introduction: Confirmatory testing is recommended for AS of favorable-risk prostate cancer (PCa) and includes repeat prostate biopsy, mpMRI, and/or genomic testing. We aimed to describe how confirmatory testing is utilized and how the results are associated with disease pathology and treatment decisions.

Methods: Between 2012 and 2020, patients diagnosed with favorable-risk PCa were captured in the MUSIC registry. Annual rates of confirmatory testing were tracked. Patient factors associated with the use of confirmatory testing were assessed. Kaplan-Meier curves and log-rank tests were used to describe associations between confirmatory testing results and our primary endpoints - time to early disease reclassification and time to definitive treatment.

Results: Rates of AS increased from 42% to 76%. Rates of confirmatory testing increased from 7.9% to 63%. Men with GG2 who are <70 years old ($p<0.05$) and have PSA <10ng/mL ($p<0.05$) were more likely to undergo confirmatory testing. Genomic testing was more commonly utilized for GG1 (53%) and GG2 (74%) disease than mpMRI (42%, 24%) and repeat biopsy (5.5%, 1.6%). Men with PIRADS 1-3 lesions were less likely to have early disease reclassification than those with PIRADS 4-5 lesions (79% vs. 51%, $p<0.001$). No association was observed between results of genomic testing (71% vs. 63%, $p=0.31$) and early disease reclassification. Reassuring mpMRI (9% vs. 23%, $p<0.001$) and genomic testing (21% vs. 29%, $p=0.001$) were associated with lower rates of definitive treatment compared to non-reassuring tests.

Conclusion: While genomic testing is more commonly utilized, mpMRI appears to better predict early disease reclassification and definitive treatment.

Funding: Blue Cross Blue Shield of Michigan

TOAD: WARTS AND ALL? SUBGROUP ANALYSES REVEALING DIFFERENTIAL TREATMENT EFFECTS IN THE TIMING OF ANDROGEN DEPRIVATION TRIAL

Kristian Stensland, MD, MPH^{1,2}, Theresa Devasia^{1,2}, Megan Caram, MD^{1,2}, Alexander Zaslavsky, PhD^{1,2}, Jordan Sparks, MPH^{1,2}, Christina Chapman, MD^{1,2}, Jennifer Burns, MHSA^{1,2}, Varsha Vedapudi^{1,2}, Gillian Duchesne, MBChB, MD^{3,4}, Alexander Tsodikov, PhD^{1,2}, Ted Skolarus, MD, MPH^{1,2}

¹University of Michigan, ²VA Ann Arbor Healthcare System, ³Peter MacCallum Cancer Centre, ⁴University of Melbourne

INTRODUCTION: The TOAD trial (Lancet Oncology 2016) found a survival benefit for immediate compared to delayed androgen deprivation therapy (ADT) for PSA-relapsed or non-curable prostate cancer, but allowed entry of heterogeneous participants, including those with prior ADT, raising concerns about differential treatment effects. For these reasons, we assessed associations of prior ADT with the efficacy of ADT timing after PSA relapse.

METHODS: We examined TOAD trial patient-level data for participants with prior definitive local therapy and PSA-relapse. We performed Kaplan-Meier survival analyses stratified by prior ADT and randomized treatment arm (immediate or delayed ADT). We compared subgroup characteristics, and effects of prior ADT on survival using multivariable Cox models.

RESULTS: We identified 261 patients with PSA-relapse (No prior ADT: 68 delayed, 69 immediate ADT; Prior ADT 69 delayed, 55 immediate ADT, $p=0.40$). Patients with prior ADT who received immediate ADT had better overall survival compared than other groups on univariable ($p=0.02$, Figure 1a) and multivariable analysis (HR 0.13 [95% CI 0.02-0.73], $p=0.02$).

CONCLUSION: The TOAD trial's findings may be driven by ADT receipt prior to trial entry. Multiple possible explanations for this difference exist in addition to post-hoc selection bias, including issues surrounding potentiation of androgen sensitivity, with significant implications for treatment of relapsed prostate cancer and future study planning.

Funding: Dr. Stensland is supported by the National Cancer Institute T32 CA180984. Dr. Skolarus is supported by the National Cancer Institute R01 CA242559 and R37 CA222885.

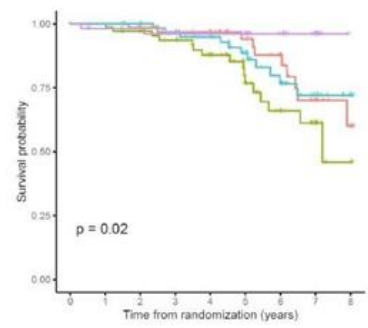


Figure 1a. Overall survival by prior ADT and immediate vs. delayed ADT group

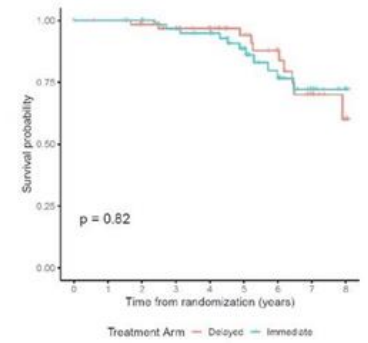


Figure 1b. Overall survival in no prior ADT group

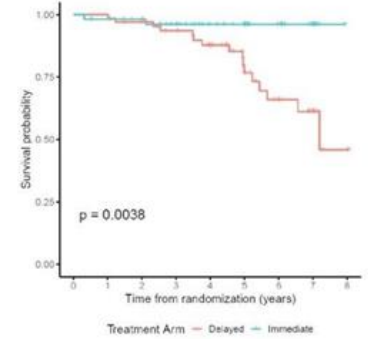


Figure 1c. Overall survival in prior ADT group

High Intensity Focused Ultrasound Treatment of Prostate Cancer. Early Assessment of a New System for Prostate Hemiablation.

Ciro Andolfi, M.D., Ragheed Saoud, M.D., Arie Shalhav, M.D.
The University of Chicago Medicine

Objective. Report our initial experience with prostate hemiablation (PHA) for prostate cancer (CaP) with the Focal-One® high-intensity focused ultrasound (HIFU) system.

Methods. Since May 2019, intermediate risk (GS-7) underwent PHA as first line treatment. Outcomes were assessed for complications, sexual function, continence, and cancer control.

Results. Thirty-nine patients, median age of 70 and BMI of 28, underwent PHA. Total number of treatments was 41—24-GG2 and 17-GG3, 19 right- and 22 left-sided. Average prostate volume was 32cc (± 11), with 51% ablation volume (15 ± 6 cc). A Foley catheter was removed on day 5, with three acute urinary retentions (7%) requiring 2 more weeks of Foley drainage. On average, baseline PSA dropped from 8.07 ng/ml to 1.7 (78.5%), 2.14 (73.5%), and 2.79 (65.4%) at a 3, 6, and 12-month follow-up (FU), respectively. In patients with no recurrence on biopsy, PSA dropped by 83.6% at 6 months. In patients with recurrence on biopsy, PSA dropped by 66.4% at 6-months. At 3- and 12-month FU, SHIM and IPSS fluctuations were minimal—from 21 to 20.5 and 20 for SHIM, and from 4 to 5.8, and 4.2 for IPSS. Postoperative MRI was performed in 18 patients (44%) suggesting recurrence in 6 (33%). Postoperative biopsy was performed in 17 patients (41.5%), 6 (35%) of which showed recurrence. Concordance level between MRI and biopsy was 70.6% (12/17).

Conclusion. Preliminary data suggest that CaP treatment with Focal-One may preserve patient's quality of life with an acceptable complication profile. Cancer control is 65% in our early experience.

Funding: N/A

Prostate specific antigen screening utilization has significantly dropped in the US over the last two decades, even in men with extended life expectancy

Deepansh Dalela¹, Nicholas Corsi¹, Chandler Bronkema¹, Jacob Keeley¹, Akshay Sood¹, Sohrab Arora¹, Stephen Wertheimer¹, Marcus Jamil¹, Nikola Rakic¹, Craig Rogers¹, Mani Menon¹, Mara Schonberg², Firas Abdollah¹

¹Department of Urology, Henry Ford Health System, ²Department of Medicine, Harvard Medical School, Beth Israel Deaconess Medical Center

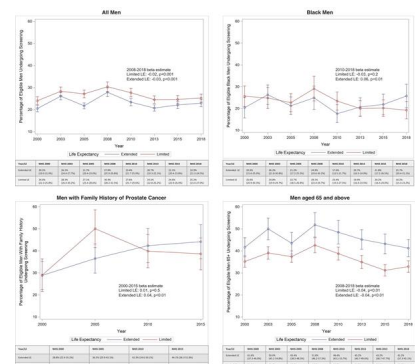
Introduction: We sought to assess temporal trends and determinants of PSA screening in US men with limited vs. extended life expectancy (LE), with a focus on black men and men with family history of prostate cancer (PCa).

Methods: Using data from the National Health Institution Survey (NHIS) 2000-2018, men aged ≥ 40 who underwent PSA screening in the 12 months prior were stratified into limited LE (i.e. LE < 15 years) and extended LE (i.e. LE ≥ 15 years) using the previously validated Schonberg index. Temporal trends in PSA screening were analyzed. Weighted multivariable analyses were performed to identify the predictors of PSA screening.

Results: PSA screening declined significantly regardless of LE in overall cohort, and increased in the extended LE cohorts of Black men and PCa family history (Figure 1, all $p < 0.001$). However, LE was not an independent predictor of screening in any of the cohorts, which was most strongly associated with prior receipt of colonoscopy and recent visit to a health care provider.

Conclusions: Only ~ 1 in 4 US men with extended LE receive PSA screening. Increasing screening amongst healthy Black men or those with PCa family history were not driven by LE considerations, but by access to health care provider and participation in other screening practices.

Funding: n/a



INFLUENCE OF MAGNETIC RESONANCE IMAGING, GENOMIC CLASSIFIERS, AND POST-MRI BIOPSY RESULTS ON MEDICAL-DECISION MAKING IN NEWLY DIAGNOSED FAVORABLE RISK PROSTATE CANCER PATIENTS

Michael Wang¹, Ji Qi², Arvin George², James Montie², Michael Cher¹, Kevin Ginsburg^{1,3}, for the Michigan Urological Surgery, Improvement Collaborative⁴

¹Department of Urology, Wayne State University, ²Department of Urology, University of Michigan, ³Division of Urology and Urologic Oncology at Fox Chase Cancer Center, ⁴University of Michigan, Ann Arbor, Michigan, USA

Introduction: We aimed to assess how the results and combination of results of magnetic resonance imaging (MRI), genomic classifiers (GC), and post-MRI biopsy (pMRI-Bx) influenced initial management decisions for men with newly diagnosed favorable risk prostate cancer (FRPC).

Methods: We reviewed the MUSIC registry for men with newly diagnosed FRPC who obtained an MRI with or without GC or pMRI-Bx. The primary outcome was the proportion of patients who selected active surveillance (AS). Proportions were compared with the Fisher's exact test. MRI, GC, pMRI Bx results were considered reassuring (RA) or nonRA according to previously published MUSIC criteria.

Results: Compared with men with RA-MRI alone, more men with RA-MRI/RA-pMRI Bx (95% vs. 84%, $p=0.006$) and fewer men with RA-MRI/nonRA-pMRI Bx chose AS (35% vs. 84%, $p<0.001$, while men with RA-MRI/RA-GC, and RA-MRI/nonRA-GC chose AS at similar rates (85% vs 84% , $p=1.00$ and 84% vs 84%, $p=1.00$, Figure 1). Compared with men with non-RA MRI alone, more men with nonRA-MRI/RA-pMRI Bx (89% vs. 58%, $p=0.001$), a similar proportion of men with non-RA MRI/RA GC (64% vs. 58%, $p=0.593$), and fewer men with nonRA-MRI/nonRA-GC chose AS (28% vs. 58%, $p<0.001$).

Conclusion: The results of MRI and pMRI Bx are weighed more heavily during medical-decision making when compared to GC results.

Funding from Blue Cross Blue Shield of Michigan

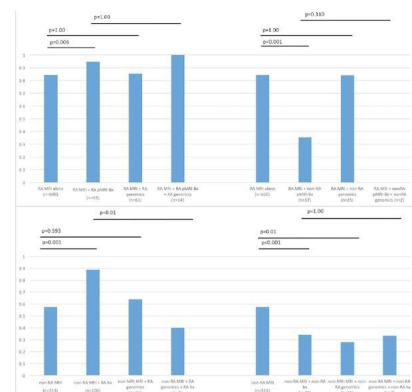


Figure 1: Proportion of patients on Active Surveillance at 1 year after diagnosis by results of MRI, genomic classifier, and post-MRI biopsy (top) for patients with RA MRI (top) and nonRA MRI (bottom)

PROGNOSTIC VALUE OF C-11 CHOLINE PET/CT SCAN IN METASTATIC CASTRATION RESISTANT PROSTATE CANCER (MCRPC) PATIENTS UNDERGOING TREATMENT WITH RADIUM-223

Jamal Alamiri, M.B., B.Ch., BAO¹, Mohamed E. Ahmed, M.B., B. Ch.¹, Val Lowe, M.D.², Matthew P. Thorpe, M.D.², Eugene Kwon, M.D.¹, Ayse T. Kendi, M.D.²

¹*Department of Urology, Mayo Clinic, Rochester, MN,* ²*Division of Nuclear Medicine, Department of Radiology, Mayo Clinic, Rochester, MN*

Introduction:

Prostate-specific antigen (PSA) flare phenomenon with radium-223 limits its use as a prognostic tool to predict treatment response. We investigate the role of mid-treatment C-11 choline positron emission tomography computed tomography (PET/CT) scan in predicting overall response to radium-223.

Methods:

In a single-institution retrospective study, we identified 32 patients with bone-predominant metastatic castration resistant prostate cancer (mCRPC) that were treated with radium-223 as a third-line therapy. We evaluated the PSA level and C-11 choline PET/CT scan pre-, mid-, and post-treatment. Favorable response was defined by achieving partial response or stable disease on imaging. Unfavorable response was defined by progressive disease on imaging.

Results:

Mean age ($\pm$ SD) at starting radium-223 was 67.6 ($\pm$ 7.1) years, median (IQR) primary Gleason score was 9 (8-9), and median (IQR) pre-treatment PSA was 13.5 (5.4-39.6) ng/ml. 78% of the patients (n=25) completed 6 cycles of radium-223, 15% (n=5) completed 5 cycles, while 6% (n=2) received only 4 cycles. At mid treatment scanning, 25% of the patient (n=8) showed favorable response (Group-A), while 75% (n=24) showed unfavorable response (Group-B). After complete course of treatment, 62.5% of patients (n=5) in Group-A continued to show favorable response, versus 8.3% (n=2) in Group-B showed favorable response (p-value= 0.0023).

Conclusion:

Mid treatment evaluation with C-11 choline PET/CT scan can predict overall response to radium-223. Patients with progressive disease at mid-treatment evaluation are very likely not going to respond to their treatment.

Funding: N/A

In a Community-Based Practice, Over One-Third of Patients with De Novo Metastatic Prostate Cancer Had Never Undergone Prior Screening

Jason Huang, MD¹, Megh Kumar, MS¹, Marcin Zuberek, MD¹, Paul Yonover, MD^{1,2}

¹*Department of Urology, University of Illinois at Chicago, Chicago, IL,* ²*UroPartners, LLC, Chicago, IL*

Introduction

With the advent of prostate cancer screening, de novo metastatic disease was an uncommon phenomenon; alarmingly this trend appears to be reversing. We sought to describe the characteristics of patients presenting to our practice with M1HSPC de novo metastatic prostate cancer.

Methods

UroPartners is a large integrated urology group in Chicagoland. We analyzed the UroPartners Cancer of the Prostate (UroCAP) Registry to identify patients with M1HSPC de novo metastatic disease. A retrospective chart review was conducted to gather clinical and pathologic data.

Results

131 patients met criteria for inclusion (November 2018- present). Of these patients, 49 (37.1%) had never undergone PSA screening in the past ("screening naïve"), 68 (51.9%) were screened in the past, and 14 (10.7%) did not have data available. On average, screening naïve patients presented younger compared to those previously screened (71.6 vs 74.6). The screening naïve cohort had a significantly higher mean PSA at presentation than those who have undergone screening in the past (684.9 ng/mL vs 158.5 ng/mL, $p = 0.0003$), suggesting the de novo metastatic prostate cancer patients who were naïve to screening in the past had a clinically significantly higher tumor burden at diagnosis.

Conclusions

Over one-third (37%) of patients presenting to our community-based practice with de novo metastatic disease had never been screened for prostate cancer before. These patients tend to present at younger ages and have profoundly higher PSAs. These trends have implications on treatment outcomes and continue to raise questions about the impact of USPSTF recommendations on prostate cancer screening.

Funding: N/A

4:46 PM #84

Increasing the Number of Cores Targeted From the Index Lesion Improves Gleason Grade Group Concordance Rate Between Magnetic Resonance Imaging-Fusion Biopsy and Radical Prostatectomy Specimen

Mohammed Said, MD, Brian Barnes, MD, Ryan Steinberg, MD, Paul Gellhaus, MD, Chad Tracy, MD
Department of Urology, University of Iowa Hospitals and Clinics

WITHDRAWN

3:30 PM-5:00 PM

Interactive Learning: Outpatient Robotic Urologic Surgery: Clinical Pathways and Robotics in an ASC

Location: Gold

Course Directors:

Ronney Abaza

Ranko Miocinovic

Amit Patel

3:30 PM-5:00 PM

Interactive Learning: FPMRS

Location: Gold

Course Directors:

Anne Cameron

Melissa Kaufman

C.R. Powell

4:00 PM-5:00 PM

General Epidemiological and Socioeconomics I Poster Session

Location: Ambassador

Moderator:

Emilie Johnson

Speaker:

Katherine Theisen

A SEAT AT THE TABLE: AN 18 YEAR ANALYSIS OF FEMALE REPRESENTATION ON UROLOGIC JOURNAL EDITORIAL BOARDS

Megan Prunty, MD¹, Stephen Rhodes, PhD, Helen Sun, MD¹, April Miller, BS², Adam Calaway, MD, MPH¹, Lee Ponsky, MD¹, Katie Murray, DO³, Laura Bukavina, MD, MPH¹

¹Case Western Reserve University / University Hospitals Urology, ²Case Western Reserve University School of Medicine, ³University of Missouri, Department of Surgery, Division of Urology

Introduction: Our aim was to assess female representation on the editorial boards of urologic journals and association with authorship.

Methods: Female authorship was assessed for eight high-impact urology journals; publication records were retrieved with easyPubMed for R between 2002-2020. Editorial boards were manually extracted and titles were categorized as Editor-in-Chief, Mid-Level Editor, and Editorial Board. Data were analyzed with hierarchical logistic regression models.

Results: Eight journals and 59,375 articles were analyzed. No female has ever held the title of Editor-in-Chief. Overall, female editorial staff has increased, with larger growth in Mid-Level Editors than in the Editorial Board (Figure 1A). Journal specific differences included: slowest growth of female editors in Journal of Urology and European Urology, and significantly higher female representation in Neurourology and Urodynamics and Journal of Sexual Medicine (Figure 1B). For many journals, a positive relationship exists between the proportion of females in editorial positions and proportion of female authors.

Conclusion: Females represent a minority of editorial staff. Despite increasing representation, no female has ever been appointed Editor-in-Chief for the journals evaluated. A positive correlation between female editorial staff and female authorship was observed. Given the implication of both authorship and editorship on academic advancement, journals should consider strategies to mitigate the gender gap.

Funding: N/A

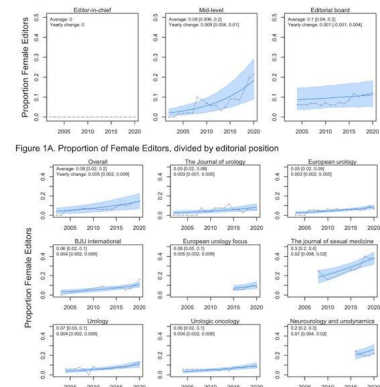


Figure 1A. Proportion of Female Editors, divided by editorial position

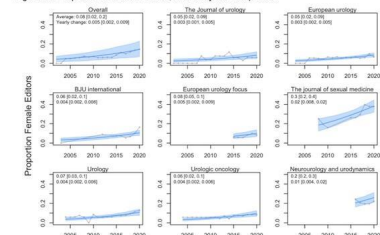


Figure 1B. Proportion of Female Editors, overall and divided by journal. Data shown in grey with model fit (plus 95% Highest Density Interval) in blue.

Online forum for testosterone-related discussions may help guide educational initiatives from healthcare providers

Marne Louters¹, Amy Pearlman, MD², Marne Louters¹

¹*Des Moines University*, ²*University of Iowa*

Introduction:

Testosterone Replacement Therapy (TRT) has grown in popularity with a 400% increase between 2003 and 2013 in men 15 – 45 years of age with doubling of TRT spending to \$2 billion. Rapid increases in TRT use, coupled with barriers to care, likely contribute to use of online communities for discussion among those with common interests regardless of geographic location, social status, or time constraints. Such communities allow for anonymous inquiry through patient-controlled narrative that provides catharsis, validation, and peer support without being subjected to the high financial and time cost of hospitals or clinics. We aimed to characterize commonly asked questions on the r/Testosterone Reddit community to help guide healthcare provider educational initiatives.

Methods:

Publicly-available online Reddit community r/Testosterone posts were reviewed over an 8-day period. Themes were identified from posted questions and each post was placed into one of the following categories: laboratory analysis, protocols, symptoms and side effects, and supplemental medication.

Results:

227 questions were reviewed. Most common were requests to review blood work (18.9%); inquiries about supplemental therapies (e.g. gonadotropins, aromatase inhibitors, selective estrogen receptor modulators, and/or growth hormone) (18.1%); recommendations on TRT protocol that should be used and when to re-evaluate blood work (12.3%); and how to resolve side effects such as gynecomastia, acne, and changes to the penis or testicles (11.5%).

Conclusions:

Review of publicly-available online content on forums offer insight into patient questions and concerns and should help guide in-office discussions with patients, as well as in the creation of TRT education resources.

Funding: N/A

UNDERSTANDING HOLEP RECOVERY: ASSESSING PATIENT EXPECTATIONS & UNDERSTANDING

Mark Assmus, MD¹, Matthew Lee, MD¹, Deepak Agarwal, MD¹, Tim Large, MD¹, Amy Krambeck, MD²

¹*Indiana University, School of Medicine*, ²*Northwestern University, Department of Urology*

Introduction:

Although HoLEP is a highly effective surgery for BPH; there is a variable period of recovery. Despite preoperative consultation, there is a paucity of literature examining physician-patient communication of the recovery from the patients' perspective. We sought to examine patient expectation.

Methods:

With IRB approval we queried our EMR and clinical registry to identify 50 consecutive patients that underwent HoLEP Nov 2019 – Mar 2020 at our center. Patients were provided a PRO questionnaire via Twistle ≥6 months postoperatively. Patient demographics and perioperative course was examined in the context of their responses. Our primary objectives were to assess whether patients felt they had a reasonable understanding of the recovery period and identify areas requiring improvement.

Results:

We observed a 92% (46/50) response rate. Overall, 91.3% (42/46) felt they had a reasonable understanding of the recovery. 97.8% (45/46) were aware there may be temporary UI with 87% having ≥1 episodes of UI after catheter removal. 47.8% (22/46) of patients expected their UI to resolve within 30 days while 8.6% expected >90days of UI. All patients were aware of the risk of hematuria with 93.5% (43/46) expecting resolution within 30 days (<7d 47.8%, 7-14d 28.3%, 15-30d 17.4%). The three most reported ways to improve communication were: 27.3% - handout, 18.2% - spend more time, 18.2% - explain to family member/friend.

Conclusions:

Although surgical technique and technologies continue to improve HoLEP outcomes, ensuring adequate physician-patient communication to optimize expectations is also crucial. We report patient understanding of HoLEP recovery and areas for improvement.

Funding: N/A

Holmium Laser Enucleation of Prostate: What is the true rate of opioid use?

Matthew Lee, MD¹, Mark Assmus, MD², Deepak Agarwal, MD², Tim Large, MD², Amy Krambeck, MD¹

¹Northwestern University, ²Indiana University

Introduction

Holmium Laser Enucleation of Prostate (HoLEP) is a size-independent treatment option for benign prostatic hypertrophy (BPH) with excellent long-term outcomes. We do not prescribe postoperative opioids for HoLEP. However, multiple studies have shown that 24.0-50.4% of urologists prescribe opioids after BPH surgery. Therefore, using a national prescription drug monitoring program (PDMP), we reviewed all patients who underwent HoLEP at our institution (where no opioids are prescribed) to determine if opioids were obtained from other sources.

Methods

We performed a retrospective review of all patients undergoing HoLEP by two fellowship-trained surgeons. Patient data was abstracted from the medical record. We utilized a national PDMP to determine the true rate of postoperative opioid use. All statistical analyses were two-sided and significance was set at $p < 0.05$.

Results

284 men underwent HoLEP from July 2018-July 2020. 35 men (12.4%) received postoperative opioids despite our opioid-free pathway. 40% of opioids were prescribed by an inpatient physician assistant. On multivariate analysis, patients who had preoperative opioid exposure (OR 51.80, $p=0.0273$) and more surgeon experience (OR 0.20, $p=0.0311$) were identified as significant variables.

Conclusion

The rate of opioid use after HoLEP was 12.4% despite our opioid-free pathway. Surgeon experience and prior opioid exposure were identified as significant variables.

Funding: N/A

Table 1. Preoperative variables with univariate analyses for association with postoperative opioid use. Patients who were prescribed opioids by the institution were excluded for statistical analysis. Standard deviations are shown in parentheses for mean values. Percentages are shown in parentheses for frequencies. ASA = American Society of Anesthesiologists Score, p-value < 0.05 are bolded, p-value < 0.1 are underlined and were included in the multivariate logistic regression model.

Variables	Total cohort	No opioids	Received opioids	OR	95% CI	p-value
Mean Age (years)	75.9 (9.9)	75.9 (9.9)	75.9 (12.5)			0.509
Surgeon						
1	150 (53.4)	142 (94.0)	8 (5.0)	3.13	1.16-8.40	0.0184
2	123 (44.4)	106 (86.2)	17 (13.7)			
ASA						0.0035
1	18 (3.7)	18 (100.0)	0 (0.0)			
II	209 (86.3)	205 (97.2)	4 (2.8)			
III	189 (67.7)	122 (64.6)	68 (35.4)			
IV	11 (4.1)	10 (90.9)	1 (9.1)			
Anticoagulation/antiplatelet (N%)	47 (17.0)	44 (93.6)	3 (6.4)	0.86	0.24-3.07	0.812
Underlying catheter (N%)	32 (11.3)	30 (93.8)	2 (6.2)	0.80	0.07-9.67	0.860
Mean ASA (N%)	42 (15.4)	37 (88.1)	5 (11.9)	1.86	0.68-5.04	0.148
Mean BMI (kg/m ²)	28.70 (5.89)	28.72 (5.89)	28.77 (6.54)			0.873
Prostate volume (cc)	109.2 (46.4)	109.2 (46.4)	109.2 (46.4)			0.114
Opioid use prior (N%)	1 (0.4)	0 (0.0)	1 (100.0)	26.17	7.30-93.8	<0.0001
Any opioid exposure (N%)	47 (17.0)	37 (88.1)	10 (21.9)	5.80	1.46-9.93	0.0009
Operative time	211 (76.3)	206 (97.6)	5 (2.4)	0.07	0.03-0.20	<0.0001
Mean hospital stay (N%)	18 (5.9)	13 (73.5)	5 (26.5)	5.39	1.54-18.9	0.0036
Overall p-value (N%)	284 (100)	270 (95.1)	14 (4.9)			0.0007

Assessing for Misinformation in the Vasectomy Decision-Making Process: A Quality Appraisal of Vasectomy-Related Information on YouTube

Jacob Lang, MSc¹, Zane Giffen, MD^{1,2}, Stephen Hong¹, Jonathan Demeter, MD^{1,2}, Puneet Sindhwani, MD^{1,2}, Obi Ekwenna, MD, FACS^{1,2}

¹University of Toledo College of Medicine and Life Sciences, ²Department of Urology and Transplantation

Introduction: This study aims to critically appraise the quality of vasectomy-related health information currently available on YouTube in order to better address patient information needs moving forward.

Methods: A YouTube search was performed using the keyword “vasectomy”. The first 100 videos were assessed, with irrelevant and duplicate videos excluded. The remaining videos were then coded by two independent reviewers using the DISCERN instrument for evaluating the quality of information and the Patient Education Materials Assessment Tool for Audiovisual materials (PEMAT-A/V) for assessing the understandability and actionability of materials. Data on source characteristics and markers of bias and misinformation were also collected.

Results: 78 videos were included in the study, with a mean duration of 6.6 minutes and mean of 216,672 views. The median DISCERN score was poor at 28 (IQR 22-33) out of a possible 80 with mean PEMAT-AV Understandability and Actionability scores of 67.6% ($\pm 16.7\%$) and 33.8% ($\pm 36.2\%$), respectively. A medical doctor was present in 61 (78.2%) of the videos, of which 53 (86.9%) were urologists and 38 (62.2%) promoted their personal practice or institution. False statements regarding vasectomy were made in 14 (17.9%) videos. There was a significant positive correlation ($p < 0.001$) between DISCERN scores and both PEMAT-AV Understandability and Actionability scores.

Conclusions: The quality of information regarding vasectomy on YouTube is poor and reaches a wide audience. Continued appraisal and creation of YouTube videos that contain quality, understandable and actionable information by urologists and informed medical professionals is necessary to ensure patients are well-informed in their decision making.

Funding: N/A

MISMATCHES IN TRIAL LOCATION AND PROSTATE CANCER INCIDENCE: TIME TO BRING THE TRIALS TO THE PATIENTS?

Kristian Stensland, MD, MPH, Samuel Kaffenberger, MD, Todd Morgan, MD, Arvin George, MD, David Miller, MD, MPH, Simpa Salami, MD, Ganesh Palappattu, MD, Jeffrey Montgomery, MD, MS, Brent Hollenbeck, MD, MS, Ted Skolarus, MD, MPH

University of Michigan

Introduction: Fewer than one in ten patients with cancer enrolls on a trial, leading to a third of trials not meeting enrollment goals. Areas with high cancer incidence but few trials, i.e., scientifically-underserved regions, might present opportunities to bolster enrollment. For these reasons, we explored geographic relationships between prostate cancer incidence and clinical trial distribution across the US.

Methods: We merged records for active US-based, phase 2-3 prostate cancer clinical trials from ClinicalTrials.gov with prostate cancer incidence from statecancerprofiles.cancer.gov. We assigned quintile ranks for county-level prostate cancer incidence and the number of active clinical trials. We identified 'scientifically-underserved' counties with the highest quintile of PCa incidence (>61 cases/year), but the lowest quintile of active trials (0-1 trials).

Results: We identified 560 active prostate cancer trials. Of 2,947 US counties, 764 (26%) had at least one active clinical trial. We identified 188 scientifically-underserved counties with ≥ 61 annual cases but only 1 (n=57) or no (n=131) active prostate cancer clinical trials (Figure).

Conclusion: There are many areas with high prostate cancer incidence but few active clinical trials. These areas may benefit from access to trials and could be targeted for improving trial enrollment. Future efforts designing clinical trials may consider cancer incidence and scientifically-underserved areas in feasibility assessments to foster improved enrollment.

Funding: Dr. Stensland is supported by the National Cancer Institute T32 CA180984.

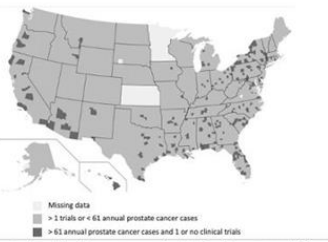
County-level Annual Prostate Cancer Incidence



Active PCa Trials Per County



Scientifically Underserved Counties



*County level incidence unavailable for Kansas and Minnesota

UNMET NEEDS IN POSTOPERATIVE COMMUNICATION AFTER KIDNEY STONE SURGERY

Mitchell Huang¹, Jared Winoker¹, Mohamad Allaf¹, Brian Matlaga¹, Kevin Koo²

¹*Johns Hopkins University, Baltimore, MD*, ²*Mayo Clinic, Rochester, MN*

Introduction: Patient-centered communication can enhance patient satisfaction and facilitate shared decision-making. However, patients' information needs following urological surgery are not well-characterized. We aimed to identify unmet needs in postoperative communication among patients undergoing kidney stone surgery.

Methods: A survey about the content, format, and experiences of postoperative communication was administered to patients who had recently undergone any kidney stone procedure. Responses were collected anonymously and analyzed.

Results: Among 52 respondents (response rate 88%), 38 (73%) underwent ureteroscopy, 11 (21%) PCNL, and 3 (6%) shockwave lithotripsy. The majority of patients (75%) identified deficiencies in the content or amount of information they received after surgery. Respondents were most interested in knowing how their surgery went (47, 90%), the plan for follow-up care (44, 85%), and the specific location of their stone (44, 85%). Respondents also expressed interest in several aspects of intraoperative findings and postoperative care (stone appearance, stone location, the need for stent placement, stent symptoms, and stent location), but the majority did not recall receiving enough information. When patients had questions after surgery, the sources they trusted most were their surgeons, discharge paperwork, information in the electronic health record, and the person with whom their surgeons spoke after surgery; among these, the majority of respondents (54%) said that their urologist was the single most helpful source of information.

Conclusion: Patients who undergo kidney stone surgery may have unmet communication needs related to intraoperative findings and long-term stone care. The findings support quality improvement efforts to optimize patient-centered communication after surgery.

Funding: N/A

Utilization and Expenditures of Office-Based Urology Visits in the United States

Michael Balce, Amelia Kruse, Patrick Karabon, MS
Oakland University William Beaumont School of Medicine

Background: While the Urologic Diseases of America project quantified the prevalence of urologic diseases, little is known about long-term expenditures and utilizations from office-based urology visits throughout the United States.

Methods: Data was acquired using the Medical Expenditure Panel Survey (MEPS) from 2002-2015 through the Agency for Healthcare Research and Quality (AHRQ). Expenditures were defined as the amount paid for health care services by an insurance or person, measured through MEPS, and categorized based on total expenditures and expenditures by insurance type.

Results: Urologists were more likely to perform lab tests ($p < 0.001$), CT/MRI ($p < 0.001$), and perform surgical procedures during an office-based visit than non-urologists. Medications were less commonly prescribed to patients by urologists between 2002 and 2015 ($p = 0.0034$).

There was a total of \$64.88 billion USD (95% CI: \$58.32 billion, \$71.44 billion) in total payments for urologist office visits between 2002 and 2015. Adjusted for inflation, these payments totaled \$71.58 billion USD (95% CI: \$64.48 billion, \$78.68 billion). The average inflation-adjusted total payment for a urologist office visit was \$319.15 (95% CI: \$293.80, \$344.51). There was a significant increasing trend in average inflation-adjusted total payments for urologist office visits between 2002 and 2015 ($p = 0.0028$).

Conclusions: There are significant trends in several long-term expenditures and utilizations in office-based urology visits in the United States. More research is needed to examine potential future patterns in the utilization in X-ray, CT/MRI, and surgical procedures performed by urologists.

Funding: N/A

PATIENT-CENTERED COST SAVING WITH THE INTRODUCTION OF TELEHEALTH SERVICES AT A SINGLE INSTITUTION TERTIARY CARE CENTER

Amanda Ingram, MD, Edward Woods, BS, Irene Crescenze, MD
The Ohio State University

Introduction: COVID-19 has provided a catalyst to increase our use of virtual appointments through telehealth. Although, there are certain urologic complaints that benefit from in-person clinic visits, those that can be done virtually may provide a cost savings to patients. We aim to assess the impact of cost savings for our urology clinic patients in light of telehealth use.

Methods: An electronic health record query was made of urology telehealth visits that occurred between April 30, 2020 and October 30, 2020. We calculated the miles traveled round trip for an in-person visit and multiplied this by \$0.62 based on the AAA average cost per mile in 2019. To adjust for missed work we added average compensation per day based on county to give us the total cost savings per patient per visit.

Results: There were 6364 patients seen in the urology clinic in 6 months via telehealth. The average patient age was 59 years old and 36% were female. Urology patients traveled on average 70 miles for an appointment. The average cost savings per patient was \$158.30. Specifically, patients who lived in the surrounding county, Franklin, saved \$107.18; patients who lived in Ohio outside of surrounding county saved \$182.94; patients who lived outside of the state of Ohio saved \$614.29 per visit. Overall, savings over six months period was \$985,357.34.

Conclusion: With the incorporation of telehealth during the COVID-19 pandemic patients have been able to save substantial time and money due to decreasing work hours lost and cost of travel.

Funding: N/A

NEIGHBORHOOD SOCIOECONOMIC DISADVANTAGE ASSOCIATED WITH INCREASED MORTALITY FOLLOWING RADICAL CYSTECTOMY

Jacob Knorr, BS¹, Rebecca Campbell, MD¹, Jarrod Dalton, PhD², Prithvi Murthy, MD¹, Georges-Pascal Haber, MD PhD¹, Byron Lee, MD PhD¹

¹*Cleveland Clinic Glickman Urologic and Kidney Institute*, ²*Cleveland Clinic Quantitative Health Sciences*

Introduction: The contribution of socioeconomic factors in outcomes following radical cystectomy (RC) has not been well-defined. The Area Deprivation Index (ADI) is derived from 17 U.S. Census variables and provides a measure of neighborhood disadvantage with a percentile rank from least (1) to most (100) disadvantaged. Our objective was to examine associations between ADI and perioperative outcomes following RC.

Methods: A retrospective database of RC patients was queried from 2010-2019. Residential locations were geocoded to assign census block-groups for each patient. National ADI block-group ranks were imported from the Neighborhood Atlas. Outcomes were compared using Cochran-Armitage or Kruskal-Wallis tests.

Results: Overall 90d mortality was 2.98% (27/906). 90d mortality rates observed in the least (1st) and most (4th) disadvantaged ADI quartiles were 0% (0/115) and 6.5% (12/185), respectively. ADI quartile was significantly associated with 30d ($p = 0.01$) and 90d ($p=0.002$) mortality. Evaluating ADI as a continuous variable, the unit and range odds ratios for 90d mortality were 1.021 (CI: 1.004 - 1.04) and 8.11 (CI: 1.5 - 47.83), respectively. ADI was also associated with late (30-90d) complications ($p=0.04$), though there were no significant differences in 30 and 90d complications, readmission rates, or length-of-stay between ADI quartiles.

Conclusions: ADI was significantly associated with late complication and 30 and 90d mortality, with nearly half of all 90d deaths occurring in the most disadvantaged ADI quartile. Our findings suggest that post-cystectomy morbidity and mortality may be partially attributable to socioeconomic factors. ADI may be useful in patient counseling and risk stratification.

Funding: Case Comprehensive Cancer Center

Impact of preexisting opioid-dependence on morbidity, length of stay, and inpatient cost of urologic oncologic surgery

Sohrab Arora¹, Chandler Bronkema¹, Buddima Ranasinghe¹, Hallie Wurst¹, Jacob Keeley¹, Akshay Sood¹, Daniele Modonutti¹, Giacomo Novara², Mani Menon¹, Craig Rogers¹, Firas Abdollah¹

¹*Vattikuti Urology Institute Henry Ford Hospital*, ²*University of Padua*

INTRODUCTION: While recent literature has focused on postoperative opioid use, there are limited data on patients who are already opioid dependent and need elective surgery. Our aim was to assess the impact of preexisting opioid-dependence before elective partial/radical nephrectomy, radical prostatectomy, and cystectomy on complications, length of stay, and in-hospital costs.

METHODS: We analyzed the National Inpatient Sample (2003-2014) to study 1,695,152 admissions for elective partial nephrectomy, radical nephrectomy, radical prostatectomy, and cystectomy procedures. Preexisting opioid abuse/dependence was identified using ICD-9 codes. Trends in the prevalence of opioid dependence were studied over the study-period. Multivariable analyses evaluated effect of opioid-dependence on complications, length of stay, and total cost, after adjusting for patient characteristics.

RESULTS: The prevalence of opioid-dependency increased from 7/1000 patients (2003), to 20/1000 (2014). Opioid-dependent patients had a higher rate of major complications (20% vs 11%; $p < 0.001$), longer length of stay (4 days [IQR 3-8] vs 2 days [IQR 1-4]; $p < 0.001$), and 47% increased overall cost (adjusted median cost \$18,565 [IQR 12,744-28,837] vs \$12,596 [IQR 9,324-18,071] in non-opioid dependent, $p < 0.001$). On multivariable analysis, opioid-dependence was independently associated with major complications (odds ratio [OR] 1.45; 95% confidence intervals [CI] 1.05-2.17), length of stay $\geq$ 4th quartile (OR 2.02 [95% CI 1.49-2.75]), and total cost $\geq$ 4th quartile (OR 2.06 [95% CI 1.49-2.85]).

CONCLUSIONS: Preexisting opioid dependence before elective urologic surgery is associated with higher major complication rates, hospital stay, and increased in-hospital costs. This underlies the need to better understand the challenges associated with opioid dependence before surgery.

Funding: N/A

COST-EFFECTIVENESS OF RETROGRADE INTRARENAL SURGERY, STANDARD AND MINI PERCUTANEOUS NEPHROLITHOTOMY, AND EXTRACORPOREAL SHOCK WAVE LITHOTRIPSY FOR THE MANAGEMENT OF 1-2CM RENAL STONES

Kevin Wymer, MD, Tristan Juvet, MD, Kevin Koo, MD, Vidit Sharma, MD, Aaron Potretzke, MD

Mayo Clinic

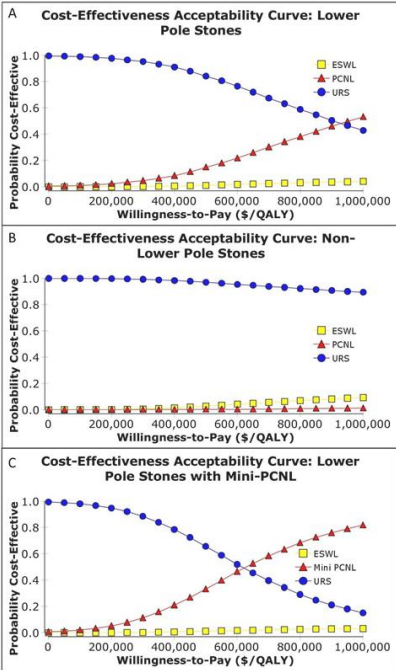
INTRODUCTION: 1-2cm renal stones can be treated with retrograde intrarenal surgery(RIRS), percutaneous nephrolithotomy(PCNL), or extracorporeal shock wave lithotripsy(ESWL). Despite the high prevalence and associated costs of nephrolithiasis, a cost-effectiveness evaluation comparing these treatments has not been performed.

METHODS: A Markov model was created to compare cost-effectiveness of PCNL, URS, and ESWL for 1-2cm lower pole stones. Probabilities and quality adjusted life years(QALYs) were based on the literature and costs based on Medicare rates. A willingness-to-pay(WTP) threshold of \$100,000/QALY was used. Sensitivity analyses were performed, as were additional analyses for non-lower pole stones and mini-PCNL.

RESULTS: At 3 years, mean costs per patient were \$10,290(PCNL), \$5,930(RIRS), and \$10,916(ESWL). PCNL resulted in the highest QALYs at 2.951 compared to 2.946 and 2.943 for RIRS and ESWL, respectively. For lower pole stones, RIRS was most cost-effective followed by PCNL(ICER \$948,101/QALY), and ESWL was dominated. Results were more pronounced for non-lower pole stones with RIRS dominating both PCNL and ESWL. Although mini-PCNL resulted in lower costs(\$10,109) and higher QALYs(2.953) compared to standard PCNL, it was not cost-effective against RIRS with ICER of \$633,228/QALY.

CONCLUSIONS: For 1-2cm renal stones, RIRS is most cost-effective. However, PCNL could become more cost-effective with lower costs, particularly for lower pole stones. Mini-PCNL offers a promising alternative warranting further investigation.

Funding: N/A



¹Northwestern University, ²Indiana University

Ambulatory percutaneous nephrolithotomy (aPCNL) was first described in 1986. Initially the criteria for aPCNL was very strict, but several groups have demonstrated aPCNL is safe despite expanding the inclusion criteria. The aim of our study was to compare the safety and cost-effectiveness of patients undergoing aPCNL against standard PCNL (sPCNL).

98 patients underwent PCNL by three expert surgeons from January 2020 to September 2020. sPCNL (n=75) and aPCNL (n=23). All patients had at least 30-days of follow up. The primary outcome of the study was to compare the 30-day rates of ED-visits, readmissions, and complications between sPCNL and aPCNL. Secondary outcomes included: cost analysis and stone free rates (SFRs). Statistical analysis was performed using independent t-tests for continuous variables and chi-square analyses for categorical variables.

Comparing sPCNL to aPCNL: the 30 day ED-visit rate was 8.0% vs 13.0%, $p=0.650$, the 30d ED visit rate was 6.7% vs 0.0%, $p=0.448$, and finally, there were no differences in the complication rate between the two groups $p=0.800$. aPCNL resulted in cost savings of $\$5689 \pm 237$ per case, a 29.6% reduction.

aPCNL appears safe to perform and does not have a higher rate of ED-visits or readmissions compare to sPCNL. aPCNL also is also cost-effective compared to sPCNL.

[illegible]

4:00 PM-5:00 PM

FPMRS and Transplant Poster Session

Location: Cuvee

Moderators:

Sarah Adelstein

Jannah Thompson

FRACTIONAL CARBON DIOXIDE VAGINAL LASER FOR THE TREATMENT OF URINARY SYMPTOMS: PRELIMINARY SHORT-TERM RESULTS

Annah Vollstedt¹, Lauren Tennyson¹, Michael Rezaee², Ly Hoang¹, Larry Sirls¹, Priya Padmanabhan¹, Kenneth Peters¹

¹Beaumont Hospital, ²Dartmouth-Hitchcock Medical Center

Introduction

It has been proposed that fractional carbon dioxide (fCO₂) vaginal laser can also treat stress urinary incontinence (SUI) by increasing collagen production. The aim of our study was to evaluate the effect of vaginal fCO₂ laser therapy in patients complaining of SUI.

Methods

This is a prospective, open-label study of women over 18 years old with complaints of urogenital symptoms. Women with a history of vaginal estrogen use within the last 3 months were excluded. Participants received 3 laser treatments 6 weeks apart. Cough stress test (CST) was performed at each visit. Incontinence-Quality of Life (I-QOL), Questionnaire for Urinary Incontinence Diagnosis (QUID), Female Sexual Function Index (FSFI), and Patient Global Impression of Improvement (PGI-I) were collected. ANOVA analysis was used.

Results

Fifty-eight participants were enrolled. Analysis was performed on the 30 participants who complained of SUI and had undergone three treatments. Baseline CST was positive in 20% (6/30). CST was positive in 16.7% at 6-months (2/12). No difference was seen in total FSFI, I-QOL, or QUID scores at 6-months. The mean PGI-I showed increased improvement after each treatment and at 6-months ($p < 0.01$), **Table 1**.

Conclusion

Preliminary results show no objective or subjective improvement in SUI. Patients reported global improvement. Further data are needed to confirm these early findings.

Funding: Philanthropy

Table 1. Survey Data at Each Treatment and at 6-month Follow-up

Survey	T1 Score (SD)	T2 Score (SD)	T3 Score (SD)	6-month Follow-up score (SD)	p-value
FSFI total	36.5 (9.8)	37.6 (11.1)	36.5 (10.9)	35.4 (10.5)	0.62
I-QOL	56.4 (27.6)	63.4 (26.3)	68.8 (23.9)	72.5 (24.6)	0.14
QUID-Urge	7.5 (4.1)	6.6 (3.7)	6.3 (3.7)	4.5 (3.1)	0.06
QUID-Stress	8.6 (4.6)	7.9 (3.8)	7.2 (4.6)	6.4 (4.3)	0.31
QUID-Total	36.3 (7.2)	14.5 (6.3)	13.3 (6.9)	10.9 (5.6)	0.06
PGI-I	N/A	3.4 (0.7)	2.9 (0.9)	2.7 (0.8)	<0.01

FSFI: higher score correlates to worse sexual function

I-QOL: higher score correlates to higher quality of life

QUID: higher score correlates to worse urinary incontinence

PGI-I: 3 = very much better, 2 = much better, 1 = a little bit better, 0 = no change, 5 = a little worse, 6 = much worse, 7 = very much worse

EFFECT OF PULSE WIDTH VARIATIONS ON SACRAL NEUROMODULATION FOR OVERACTIVE BLADDER: A PROSPECTIVE RANDOMIZED CROSSOVER STUDY

Jessica Rueb, MD¹, Howard B. Goldman, MD², Sandip Vasavada, MD², Courtenay Moore, MD³, Raymond Rackley, MD², Bradley Gill, MD, MS²

¹Prisma Health University of South Carolina, ²Cleveland Clinic, ³Ohio State University

Introduction: Evidence-based guidance on pulse width (PW) adjustment for optimizing sacral neuromodulation (SNM) is lacking. This prospective, randomized, single-blinded, 3x3 cross-over study assessed whether shortened or extended PW impacted patient-reported quality of life, SNM efficacy, and device utilization.

Methods: Eligible patients had urge incontinence or urgency-frequency and were satisfied with their implants at enrollment. A 3-day voiding diary, validated questionnaires, and device interrogation were done at baseline and after each randomized 4-week period on shortened (60ms), standard (201ms), or extended (420ms) PW. Eighteen subjects completed the study.

Results: Mean age was 68 years with implants intact for 4.4 years. Objective outcomes did not significantly differ by PW across the sample but battery life ($p=0.008$) and amplitude at sensory threshold $p=(0.016)$ did - shortened PW required higher mean amplitudes (4.10 vs 2.10) but improved average battery life (2.35 months). PW did not impact patient-reported stimulus sensation, such as location, quality, and intensity. At study end, 11 patients chose standard PW, 5 extended, and 2 shortened. Patients preferring alternative PW had improved urinary frequency with 2.23 ($p=0.015$) less voids per day. Those "much better" or "very much better" on extended PW improved in urinary frequency (8.5 to 5.6 daily voids, $p=0.005$) and nocturia (2.16 to 0.4 episodes, $p<0.001$). Those "much better" or "very much better" on shortened PW reported improved frequency (7.35 to 5.15 daily voids, $p=0.026$).

Conclusions: Adjusting pulse width of sacral neuromodulation for overactive bladder may provide a means of optimizing therapeutic outcomes while also improving battery life.

Funding: SUFU Neuromodulation Grant

VIBEGRON SHOWS MEANINGFUL CHANGES IN CLINICAL ENDPOINTS IN PATIENTS WITH OVERACTIVE BLADDER: ANALYSES FROM EMPOWUR

Matt T. Rosenberg, MD¹, Jeffrey Frankel, MD², David Staskin, MD³, Susann Varano, MD⁴, Michael Kennelly, MD⁵, Diane K. Newman, DNP, ANP-BC⁶, Cynthia J. Girman, DrPH, FISPE⁷, Denise Shortino, MS⁸, Rachael A. Jankowich, RN, MSN⁸, Paul N. Mudd, Jr., PharmD, MBA⁸

¹Mid-Michigan Health Centers, ²Seattle Urology Research Center, ³Tufts University School of Medicine, ⁴Clinical Research Consulting, ⁵Carolinas Medical Center, ⁶Perelman School of Medicine, University of Pennsylvania, ⁷CERobs Consulting, LLC, ⁸Urovant Sciences

Introduction: Reductions in bothersome symptoms of overactive bladder (OAB) are reported to demonstrate improvement in clinical trials, often without interpreting meaningfulness to patients. In the 12-week phase 3 EMPOWUR trial, vibegron significantly reduced micturitions, urgency episodes, and urge urinary incontinence (UUI) episodes vs placebo ($P < 0.01$, each). These analyses used an anchor-based approach to interpret the meaningfulness of symptom reduction with the patient global impression of change (PGI-C).

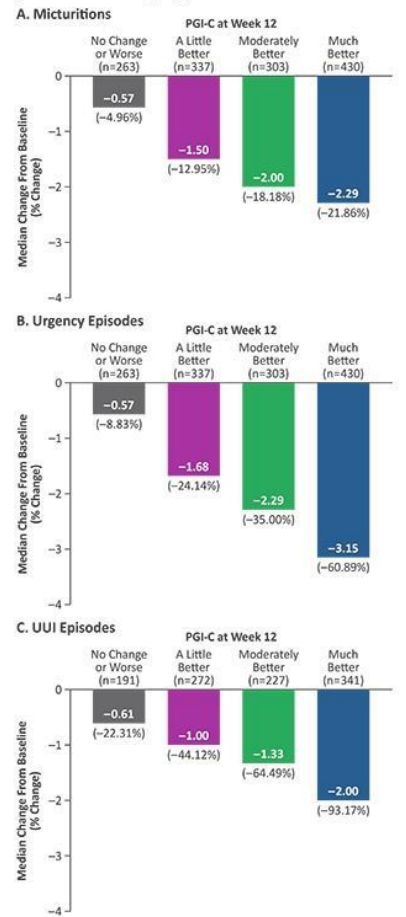
Methods: Median change from baseline (CFB) at week 12 in micturitions, urgency episodes, and UUI episodes was generated for each PGI-C category, pooled across treatments. Percentages of patients achieving these reductions in symptoms were determined.

Results: Patients who experienced greater CFB at week 12 in each endpoint reported greater improvement in PGI-C. Median reductions from baseline in OAB endpoints pooled across treatment groups were higher than thresholds patients perceived as improved based on PGI-C: $\geq 15\%$ reduction in micturitions (moderately better), $\geq 50\%$ reduction in urgency episodes (much better), and $\geq 90\%$ reduction in UUI episodes (much better; similar to $\geq 75\%$ reduction seen in EMPOWUR [PGI-C: moderately better]) (**Figure**). Significantly more patients receiving vibegron vs placebo achieved these reductions ($P < 0.05$, each).

Conclusion: Significantly more patients treated with vibegron vs placebo in EMPOWUR achieved meaningful reductions in micturitions and urgency/UUI episodes that were associated with patient-perceived improvement.

Funding: Urovant Sciences

Figure. Median (median percentage) change from baseline at week 12 by patient global impression of change (PGI-C) in (A) micturition frequency, (B) urgency episodes, and (C) urge urinary incontinence (UUI) episodes (pooled across treatment groups).



ALTERED CALCIUM SIGNALING AND SERCA DYSFUNCTION CONTRIBUTE TO BLADDER DYSFUNCTION IN METABOLIC SYNDROME

Leo Song¹, John Strobel², James Byrd³, Mouhamad Alloosh, MD, MS³, Michael Sturek, PhD, MS³, CR Powell, MD¹

¹Indiana University Department of Urology, ²Indiana University School of Medicine, ³Indiana University Department of Cellular and Integrative Physiology

Introduction: Bladder dysfunction in metabolic syndrome (MetS) remains poorly understood despite being one of its most common complications. We hypothesize that bladder dysfunction in chronic, late stage MetS results in underactive bladder driven in part by sarcoendoplasmic reticulum calcium transport ATPase (SERCA) dysfunction.

Methods: Age matched Ossabaw pig models of MetS were fed a hypercaloric, atherogenic diet for 12 months to induce MetS and compared with control pigs. Urodynamic parameters were obtained in-vivo. Detrusor smooth muscle (DSM) cells were enzymatically isolated and intracellular Ca^{2+} handling was interrogated with fura-2.

Results: MetS was confirmed by obesity, high blood pressure, serum glucose, and increased total and LDL cholesterol (n=2). MetS exhibited inhibited SERCA activity based on less rapid and less vigorous “undershoot” of the intracellular Ca^{2+} response to caffeine (5.6 ± 5 vs -10.8 ± 4 , $p=0.03$). Impaired SERCA is a potential cause of subsequent bladder dysfunction. MetS also exhibited a trend toward increased response to carbachol 10 μM but not 1 μM (72.5 ± 26 vs 47.8 ± 16 cmH₂O, $p=0.08$) and no difference in bladder pressure at capacity compared to controls (n=2).

Conclusion: This pilot study indicates that DSM from MetS pigs demonstrates decreased SERCA activity, highlighting a potential therapeutic target for bladder dysfunction in MetS. This is the first time SERCA dysfunction has been demonstrated in MetS DSM.

Funding: This project was supported by a Project Development Team within the ICTSI NIH/NCCR Grant Number RR025761 (Powell, PI) and NIDDK DiaComp Pilot & Feasibility project, sub-award DK076169 (Powell, PI) and NIH grant HL062552 (Sturek, PI), NIH UL1 RR025761 (Sturek, CO-I), NIH P30 DK097512 (Sturek Co-I), Indiana University MedSTAR program (Song)

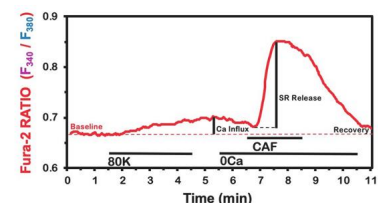


Figure 1 Fura-2 imaging of intracytoplasmic calcium concentration of detrusor smooth muscle in MetS pig following 80mM KCl and 5mM Caffeine solutions. Cells are bathed in 2CaNa solution unless otherwise noted.

Table 1: Urodynamic measurements of bladder tone.

	Lean (n=2)	MetS (n=2)	P-value
Max Pves* (cmH ₂ O)			
Saline	38.3 ± 16.7	52.8 ± 33.7	0.24
Carbachol 1 μM	46.0 ± 22.6	60.0 ± 21.2	0.29
Carbachol 10 μM	47.8 ± 15.7	72.5 ± 26.0	0.08

Max Pves, Intravesical pressure at capacity; *summarized by mean (standard deviation)

EFFECTS OF ONCE-DAILY VIBEGRON 75 MG ON AMBULATORY BLOOD PRESSURE IN PATIENTS WITH OVERACTIVE BLADDER: RESULTS FROM A DOUBLE-BLIND STUDY

Jennifer King, PharmD¹, Michael A. Weber, MD², William B. White, MD³, Ann Walker, MS⁴, Paul N. Mudd, Jr., PharmD, MBA¹, Cornelia Haag-Molkenteller, MD, PhD¹

¹Urovant Sciences, ²State University of New York Downstate College of Medicine, ³University of Connecticut School of Medicine, ⁴Apex Biostatistics, Inc

Introduction: Ambulatory blood pressure monitoring (ABPM) evaluates small changes in blood pressure (BP) and heart rate (HR). This randomized, placebo-controlled trial used ABPM to characterize the cardiovascular effect profile of vibegron in patients with OAB.

Methods: Patients were randomized to vibegron or placebo for 28 days. Change from baseline (CFB) to day 28 in mean daytime (primary endpoint) and 24-hour ambulatory systolic BP (SBP), diastolic BP (DBP), and HR were evaluated. Treatment group means and differences are presented with 2-sided 90% CIs.

Results: Overall, 197 patients (vibegron, n=96; placebo, n=101) had evaluable ABPM measurements at baseline and day 28; 39.6% and 30.7% receiving vibegron and placebo, respectively, had pre-existing hypertension. Least squares mean difference (90% CI) in CFB to day 28 for daytime SBP was 0.81 (−0.88, 2.49) mmHg for vibegron vs placebo. The 90% CIs included 0, implying no statistically significant differences were seen in daytime DBP or HR or in 24-hour SBP, DBP, or HR (**Table**). The most common treatment-emergent adverse event was hypertension (vibegron: n=5 [4.7%, 95% CI=1.6%–10.7%]; placebo: n=4 [3.7%, 95% CI=1.0%–9.2%]); no event of hypertension with vibegron was considered treatment related.

Conclusions: In patients with OAB, once-daily vibegron was not associated with clinically or statistically significant effects on BP/HR and had a favorable safety profile.

Funding: Urovant Sciences

Table. Change from baseline to day 28 in daytime and mean 24-hour SBP, DBP, and HR.

Change From Baseline to Day 28	Daytime		Mean 24-Hour	
	Placebo (N=101)	Vibegron (N=96)	Placebo (N=101)	Vibegron (N=96)
SBP, mmHg				
LS mean (90% CI)	0.01 (−1.37 to 1.39)	0.82 (−0.58 to 2.22)	0.03 (−1.23 to 1.29)	0.60 (−0.68 to 1.87)
LSMD (90% CI)*	–	0.81 (−0.88 to 2.49)	–	0.57 (−0.97 to 2.10)
DBP, mmHg				
LS mean (90% CI)	0.55 (−0.40 to 1.49)	0.50 (−0.46 to 1.47)	0.70 (−0.16 to 1.56)	0.51 (−0.38 to 1.40)
LSMD (90% CI)*	–	−0.04 (−1.20 to 1.11)	–	−0.19 (−1.25 to 0.87)
HR, bpm				
LS mean (90% CI)	0.19 (−0.74 to 1.12)	1.08 (0.12 to 2.03)	−0.15 (−1.01 to 0.70)	0.80 (−0.08 to 1.68)
LSMD (90% CI)*	–	0.88 (−0.26 to 2.03)	–	0.96 (−0.10 to 2.01)

BP, blood pressure; DBP, diastolic BP; HR, heart rate; LS, least squares; LSMD, LS mean difference; SBP, systolic BP.

*Vibegron – placebo.

VIBEGRON FOR THE TREATMENT OF PATIENTS WITH DRY OVERACTIVE BLADDER: A SUBGROUP ANALYSIS FROM THE EMPOWUR TRIAL

Matt T. Rosenberg, MD¹, David Staskin, MD², Jeffrey Frankel, MD³, Susann Varano, MD⁴, Michael Kennelly, MD⁵, Diane K. Newman, DNP, ANP-BC⁶, Denise Shortino, MS⁷, Rachael A. Jankowich, RN, MSN⁷, Paul N. Mudd, Jr., PharmD, MBA⁷

¹Mid-Michigan Health Centers, ²Tufts University School of Medicine, ³Seattle Urology Research Center, ⁴Clinical Research Consulting, ⁵Carolinas Medical Center, ⁶Perelman School of Medicine, University of Pennsylvania, ⁷Urovant Sciences

Introduction: Overactive bladder (OAB) is characterized by urgency and frequency with (OAB-wet) or without (OAB-dry) urge urinary incontinence (UUI). These post hoc analyses of the phase 3 EMPOWUR trial assessed efficacy outcomes in patients with OAB-wet and -dry.

Methods: In EMPOWUR, patients were randomized to vibegron 75 mg, placebo, or active control (tolterodine), respectively, for 12 weeks. OAB-wet criteria included an average of ≥ 8 micturitions and ≥ 1 UUI episode per diary day; OAB-dry (up to 25% of patients) included an average of ≥ 8 micturitions, ≥ 3 urgency episodes, and < 1 UUI episode per diary day. Change from baseline (CFB) in average daily number of urgency episodes and micturitions was assessed.

Results: Overall, 1127 patients (77%) had OAB-wet (vibegron, N=403; placebo, N=405; active control, N=319), and 336 (23%) had OAB-dry (vibegron, N=123; placebo, N=115; active control, N=98). At week 12, vibegron was associated with significant reductions vs placebo in least squares (LS) mean CFB in urgency episodes for the wet (-3.0 vs -2.4 , respectively) and dry (-2.6 vs -1.6) populations ($P < 0.05$, each) and in micturitions for the wet (-2.1 vs -1.7) and dry (-1.8 vs -1.0) populations ($P < 0.05$, each). Significant reductions were also seen with vibegron vs placebo at week 2 in the wet population for both outcomes and weeks 4 and 8 for both populations and outcomes ($P < 0.05$, each).

Conclusions: Vibegron is associated with significant reductions vs placebo in daily urgency episodes and micturitions in patients with OAB-wet and OAB-dry, suggesting that vibegron works similarly for these endpoints in both populations.

Funding: Urovant Sciences

COMPARING OUTCOMES BETWEEN PESSARY USE AND SURGERY FOR SYMPTOMATIC PELVIC ORGAN PROLAPSE: A PROSPECTIVE SELF-CONTROLLED STUDY

Brian Linder, MD, John Gebhart, MD, Amy Weaver, MS, Emanuel Trabuco, MD, John Occhino, MD
Mayo Clinic

Introduction: This study compares the degree of pelvic floor symptom improvement between pessary use and prolapse surgery.

Methods: Pessary-naïve women, who elected to undergo surgery for prolapse, were enrolled and utilized a pessary >1 week preoperatively. Pelvic floor symptoms were assessed at baseline, following pessary use, and 3 months postoperatively. The primary outcome was symptom improvement assessed via Patient Global Impression of Improvement Score(PGI-I) and concordance assessed between pessary use and surgery. Secondary outcomes focused on pelvic floor symptoms, assessed with validated questionnaires (POPDI-6, PFIQ-7, OABSS, IIQ).

Results: In total, 61 participants were enrolled from 3/2016-4/2019, of which 58 utilized a pessary. Due to improvement with pessary use, 11 did not proceed with surgery. The mean age was 60.7(SD 10.7), with 24.1% having a prior hysterectomy, and 14% having prior prolapse surgery. While both treatments demonstrated symptomatic improvement, concordance in the degree of overall improvement on PGI-I was poor(n=40), with responses significantly favoring greater improvement after surgery ($p<0.001$). Both pessary use and surgery were associated with significant improvements in prolapse symptoms from baseline on POPDI-6(both $p<0.001$) and PFIQ-7(both $p<0.001$), overactive bladder symptoms on OABSS(pessary $p=0.03$, surgery $p=0.005$), and colorectal symptoms on CRAIQ-7(pessary $p=0.03$, surgery $p=0.007$). The degree of improvement was larger following surgery on POPDI-6($p<0.001$), PFIQ-7($p=0.004$), and OABSS($p=0.004$), but not the CRAIQ-7($p=0.3$).

Conclusion: Both pessary use and surgery significantly improved pelvic floor symptoms from baseline. However, concordance between the degrees of improvement between these treatments was poor, with more favorable outcomes after surgery for prolapse and overactive bladder symptoms.

Funding: Pelvic Floor Disorders Research Foundation

CONCORDANCE BETWEEN ANTIBIOTIC RESISTANCE GENES BY MULTIPLEX POLYMERASE CHAIN REACTION AND ANTIBIOTIC SUSCEPTIBILITY BY POOLED ANTIBIOTIC SENSITIVITY TESTING IN SYMPTOMATIC PATIENTS WITH URINARY TRACT INFECTION

Annah Vollstedt¹, Dakun Wang², Natalie Luke³, David Baunoch³, Kirk Wojno⁴, Howard Korman⁵, Natalie Gaines⁶, Shuguang Huang², Mohammand Jafri⁵, David Wenzler⁵, Patrick Cacdac³, Frank Burks⁵, Larry Sirls⁵

¹Beaumont Hospital, ²Stat4ward, ³Pathnostics, ⁴Comprehensive Urology, ⁵Comprehensive Urology, ⁶Amarillo Urology Associates

Introduction

Studies have shown many genes influence antibiotic resistance, and the relationship between genotypic and phenotypic antibiotic resistance is unclear. We sought to analyze the concordance between the presence of antibiotic resistance (ABR) genes and antibiotic susceptibility results.

Methods

Urine samples were collected from patients presenting with possible UTI to 37 Urology clinics from July 2018 to February 2019. Multiplex polymerase chain reaction (M-PCR) was used to test for 33 ABR genes. Pooled Antibiotic Susceptibility Testing (P-AST) was performed against 14 different antibiotics. The concordance rate between the ABR genes and P-AST results was generated. The concordance rates for each antibiotic between monomicrobial and polymicrobial infection were compared using chi-square analysis.

Results

Urine samples were collected from 2,512 patients. Bacteria were detected in 1,579 (63%). ABR gene genotyping and P-AST analysis was performed for 1,155. ABR genes were detected in 36.3% (419/1155) of specimens. Overall, the presence or absence of ABR genes was 60% concordant with antibiotic susceptibility patterns. Discordant rate was 40%. **Table 1.** Concordance rates were significantly lower for polymicrobial infections for vancomycin, meropenem, and piperacillin/tazobactam ($p < 0.05$).

Conclusion

The concordance rate of the ABR genes and phenotypic resistance was 60%. In 40%, the reliance on ABR report without the phenotypic sensitivity may lead to inappropriate treatment.

Funding: Pathnostics

		ABR			
		Present	Absent		
Bacteria Sensitive	No	11.5%	25%	Concordant (60%)	
	Yes	15%	48.4%	Discordant (40%)	

The Altis® Mid-urethral Sling: One Surgeon's Experience with Immediate Post-operative Adjustment

Jennifer Nguyen¹, Brett Friedman¹, Annah Vollstedt, MD², Mireya Diaz, PhD³, Ly Hoang Roberts, MD², Larry Sirls, MD^{1,2}

¹Oakland University William Beaumont School of Medicine, Rochester, MI,

²Beaumont Health System, Royal Oak, MI, ³Western Michigan University, Department of Biomedical Sciences

INTRODUCTION

The Altis® transobturator sling uses a dynamic anchor on a pulley suture for intraoperative tension adjustment. Given the potential for over-tensioning seen with any sling, we have adopted a technique using the pulley suture that allows for sling tightening should stress urinary incontinence (SUI) persist in the immediate post-operative period or sling loosening if there is bladder outlet obstruction. Our objective is to describe our technique and rate of post-operative adjustment.

METHODS

In this single-surgeon experience, retrospective chart review, demographic and clinical data were collected on patients who had received the Altis® sling between 2014 and 2020. Descriptive statistics were used.

RESULTS

197 patients underwent the Altis® sling placement. Eighty-three percent (165/197) of the patients did not receive postoperative adjustment. Of the 32 patients who received post-operative adjustment, 8 (4.1%) had loosening performed and 24 (12.2%) had tightening performed at an average of 10 days post-op. All 24 tightening procedures were done in the clinic. Of the 8 patients who had post-operative loosening performed, 6 were performed in the clinic and 2 in the operating room under general anesthesia. Of these two patients, one was still an inpatient and one required an additional concomitant procedure.

CONCLUSION

This novel Altis® sling technique provides the surgeon with the ability to tighten or loosen postoperatively depending on immediate post-operative results. Overall, in the hands of one surgeon, 16% of patients were adjusted in the post-operative period. All tightening procedures and all but two loosening procedures were performed in the clinic.

Funding: N/A

FACTORS ASSOCIATED WITH CONTAMINATION IN FEMALES SUBMITTING A PREOPERATIVE CLEAN CATCH URINE CULTURE

Brenton Sherwood¹, Gina Lockwood¹, Bradley Ford², Elizabeth Takacs¹

¹*University of Iowa Hospitals and Clinics, Department of Urology, Iowa City, IA*, ²*University of Iowa Hospitals and Clinics, Department of Pathology, Iowa City, IA*

Introduction

The clean catch (CC) method of urine culture is prone to contamination in females. Our institution uses a no-wipe method for CC collection with refrigeration and preservative tubes to maintain accuracy. This study aims to describe the contamination rate of CC and catheterized preoperative urine cultures among females and to determine factors associated with CC culture contamination.

Methods

We utilized Epic reporting software to conduct a retrospective review of adult female urology patients who were scheduled for a surgical procedure at our academic hospital from 3/15/2018-3/15/2020 who had a preoperative CC or catheterized urine culture. Determination of culture collection method was by providers and was not randomized. We noted contamination rates, collection method, body-mass-index (BMI), American Society of Anesthesiologists (ASA) score, smoking status, diabetes, and transplant history to determine factors associated with culture contamination.

Results

Of the 1,176 females who had a preoperative urine culture, 648 (55%) initial cultures were CC and 528 (45%) were catheterized. 339 (52%) CC cultures were contaminated while 106 (20%) catheterized cultures were contaminated. BMI was significantly associated with contamination (OR 1.051; 95% CI 1.029-1.074), the predicted odds of contamination increasing by 5.1% for each one-unit increase in BMI. Smoking, ASA, diabetes, and transplant history were not associated with contamination in CC cultures.

Conclusion

Over 50% of female CC urine cultures were contaminated vs. 20% for catheterized cultures. BMI was associated with increased risk of CC culture contamination. BMI may be considered when deciding the collection method for preoperative urine cultures in female patients.

Funding: N/A

The Effect of Hemodialysis Duration on Post-Renal Transplant Urinary Function

Tasha Posid, MA, PhD¹, Austin Seaman, BS², Alejandro Diez, MD³, Aroh Pandit, MD¹, Alicia Scimeca, BA¹, Dinah Diab, BS¹, Nima Baradaran, MD¹

¹*Department of Urology, The Ohio State University Wexner Medical Center,* ²*The Ohio State University College of Medicine,* ³*Department of Internal Medicine, The Ohio State University Wexner Medical Center*

Introduction: Hemodialysis duration correlates with amount of daily urine production in patients with end stage renal disease and patients with long term dialysis are often anuric or severely oliguric at the time of renal transplant. The effect of anuria on post-transplant bladder function is unknown. We sought to evaluate that relationship between pre-transplant dialysis duration and post-transplant bladder function.

Methods: This study included two components, a retrospective chart review from our single institution for patients undergoing kidney transplantation between July 2015 and January 2020 (N=327) and a prospective survey (n=66) collected post-transplant, which included the International Prostate Symptom Score (IPSS), King's Health Questionnaire (KHQ), and a health related quality of life questionnaire (HRQL), which served as our outcome measures.

Results: The final cohort had a mean age of 41.4 years (SD=12.5, Range=20.2-75.9), was 65.1% male, and was 64.2% Caucasian. Mean dialysis duration prior to transplant was 5.22 years (Median=3.07 years; Range=0-12.1 years). Regression modeling on our outcome symptom scores (KHQ Part 1, KHQ Part 2, KHQ Part 3, KHQ Global Score, IPSS, HRQL) indicated that dialysis duration did not impact any of these outcomes (all ps>0.05). KHQ Global Score and HRQL were significantly impacted by a history of previous kidney transplant (p=0.041, p=0.002, respectively). Correlation analyses were also non-significant (ps>0.05).

Conclusion: Findings of this study suggest that dialysis duration does not impact bladder function and urinary quality of life after successful renal transplant.

Funding: N/A

A CONTEMPORARY EVALUATION OF UROLOGIC OUTCOMES AFTER RENAL TRANSPLANTATION

David Cao¹, Robert Esterquest², Melissa Lee², Sarah Adelstein¹

¹Rush University Medical Center, ²Rush Medical College

Renal transplantation is the gold standard for restoring kidney function in ESRD patients. However, urologic evaluation is not uniformly part of a patient's workup. We looked at five years of kidney transplant patients to define how often urologic evaluation was performed and subsequent interventions.

This was a retrospective chart review. Adults who received a kidney transplant between 2012-2017 with at least one-year follow-up were included. ICD/CPT codes were used to query the patients' record for baseline characteristics and post-transplant outcomes.

569 patients qualified for the study, with 49 patients established with urology prior to transplantation and 55 seen by urology postoperatively. These patients were older at time of transplant than the general population (57 to 52.36 years). There were no graft failures one-year postoperatively due to urologic issues, nor was there a significant difference in serum creatinine between groups. Patients undergoing urologic evaluation were more likely to be male and had higher rates of urologic findings, including postoperative retention and urinary tract infections.

Nearly 20% of kidney transplant patients in this five-year range required urologic evaluation, with over half of patients needing urologic workup after transplant. Patients requiring postoperative urologic workup experienced more urologic morbidity. Our findings suggest older men may be at risk for needing urologic evaluation.

Funding: N/A

Patient Group	Neurogenic bladder	History of UTI	Obstructive uropathy	Kidney stones	Renal cell carcinoma	Urinary retention	Bladder cancer	BPH	LUTS	Previous TURP
Group 1	2.04%	18.15%	4.18%	18.17%	14.29%	30.30%	2.04%	16.31%	4.08%	2.04%
Group 2	0.00%	4.05%	0.58%	4.23%	2.12%	3.47%	0.00%	4.63%	0.00%	0.00%
p<*	0.0012	0.0002	0.0003	0.0003	0.0004	0.0238	0.0012	0.0007	0.0004	0.0012

Table 1. Preoperative urologic findings: patients with preoperative urologic history (Group 1) compared to patients without preoperative urologic history (Group 2). UTI: urinary tract infection; BPH: benign prostatic hyperplasia; LUTS: lower urinary tract symptoms; TURP: transurethral resection of prostate

Patient Group	Urinary retention	Urinary incontinence	Hematuria	Pyelonephritis	Sepsis	TURP	Urethral dilation	Urethrostomy
Group 3	49.09%	21.82%	30.91%	21.82%	52.73%	1.82%	10.91%	1.82%
Group 4	9.52%	11.90%	17.97%	9.51%	32.47%	0.00%	0.43%	0.00%
p<*	0	0.0089	0.022	0.0466	0.001	0.004	0	0.0019

Table 2. Postoperative urologic findings: patients with postoperative urologic workup (Group 3) compared to transplant patients without any urologic workup (Group 4). TURP: transurethral resection of prostate

RENAL TRANSPLANTATION DURING COVID-19 PANDEMIC: A SINGLE INSTITUTION EXPERIENCE

Advait Deshmukh, B.S., Kwabena Nkansah-Amankra, M.D., Jennifer Espinales, M.D., Puneet Sindhwani, M.D.
University of Toledo College of Medicine

Introduction: COVID-19 has been identified to be especially troublesome in immunosuppressed population; renal transplant patients being one such group. Thus, transplants performed during the early months of the pandemic required steps to ensure safe and successful transplantation. We present our experience and outline the employed strategies to ensure this. We compare these outcomes to those generated prior to the pandemic.

Methods: A retrospective review was done of transplanted patients at University of Toledo Medical Center between February through May 2019 and February through May 2020. We compared the two groups to determine any significant difference in clinical outcomes.

Results: 28 transplant surgeries were performed during COVID-19 and 30 during the non-COVID-19 era. Less frequent use of T-cell depleting agents was noted during COVID-19 era transplants (14/28 vs. 30/30; $p=0.0001$). The length of stay for patients during COVID-19 was shorter (3.29 vs. 4.03 days; $p=0.0178$). There was no difference in the creatinine levels at discharge post-transplant (4.14 vs. 4.29; $p=0.843$). No difference in rates of delayed graft function (7/28 vs. 5/30; $p=0.5248$) or rates of acute rejection (2/28 vs. 1/30; $p=0.6053$) were observed. And most importantly, none of the patients contracted COVID-19.

Conclusions: Our institutional experience shows that renal transplantation can be done safely during these times. Institutional changes such as adoption of early discharge home or use of non-T-cell depleting agents contributed to outcomes that were comparable--in some cases superior—to non-COVID-19 era transplants. It is our belief that these strategies can be employed at other institutions.

Funding: N/A

5:00 PM-7:00 PM

Networking Reception

Location: Imperial Ballroom (B2 Level)

FRIDAY, OCTOBER 8, 2021

6:00 AM-5:30 PM

Registration/Information Desk Hours

Location: International Foyer (Level 2)

6:00 AM-5:30 PM

Speaker Ready Room Hours

Location: Royal Room (B2 Level)

6:30 AM-7:30 AM

Benign Video Session

Location: Gold

Moderator:

Matthew Ziegelmann

Video #7

Robotic-Assisted Nephrolithotomy in a Calyceal Diverticulum

Michael Levin, MD¹, Chase Cavayero, DO²

¹Beaumont Hospital Troy, ²McLaren Macomb Hospital

Funding: N/A

Video #8

Robotic Assisted Ureteroscopy: Combined Approach to Treating Strictures and Stones

Daniel Lybbert, MD, Bradley Schwartz, DO, Maria Monn, MD

Southern Illinois University School of Medicine

Funding: N/A

Video #9

Robotic-assisted-laparoscopic pyeloplasty in a right pelvic kidney

Anuj Desai, Bailey Goyette, Marne Louters, Diana Bowen, Stephanie Kielb

Department of Urology, Feinberg School of Medicine, Northwestern University

Funding: None

Video #10

Rectal Mucosal Graft Urethroplasty

Ruel Neupane, MD¹, Kirtishri Mishra, MD¹, Laura Bukavina, MD MPH¹, Sharon L. Stein, MD², Shubham Gupta, MD¹

¹University Hospitals, Department of Urology, Cleveland, OH, ²University Hospitals, Department of Colorectal Surgery, Cleveland, OH

Funding: n/a

Video #11

McIndoe Neovagina Creation in the Management of Vaginal Agenesis

Brian Linder, MD, John Gebhart, MD

Mayo Clinic

Funding: N/A

Video #12

Rectourethral Fistula Repair Using Robotic Transanal Minimally Invasive Surgery (TAMIS) Approach

Kevin Hebert, MD, Nimesh Naik, MD, Ahmed Allawi, M.B.Ch.B., Elizabeth Bearrick, MD, Scott Kelley, MD, Boyd Viers, MD

Mayo Clinic

Funding: N/A

6:30 AM-7:30 AM

Bladder Malignant Podium Session

Location: International Ballroom

Moderators:

Cheryl Lee

Vignesh Packiam

PHASE III TRIAL OF INTRAVESICAL NADOFARAGENE FIRADENOVEC IN PATIENTS WITH HIGH-GRADE, BCG-UNRESPONSIVE, NON-MUSCLE INVASIVE BLADDER CANCER: TWO YEAR FOLLOW-UP IN THE TA/T1 COHORT

Yair Lotan, MD¹, Anne K. Schuckman, MD², Stephen A. Boorjian, MD³, Katherine E. Cilwa, PhD⁴, Colin P. N. Dinney, MD⁵

¹*Department of Urology, University of Texas Southwestern Medical Center, Dallas, TX*, ²*USC Institute of Urology, Norris Comprehensive Cancer Center, University of Southern California, Los Angeles, CA*, ³*Department of Urology, Mayo Clinic, Rochester, MN*, ⁴*FerGene Inc., Cambridge, MA*, ⁵*Department of Urology, University of Texas MD Anderson Cancer Center, Houston, TX*

Introduction:

Patients (pts) with high-grade (HG) non-muscle invasive bladder cancer (NMIBC) who develop BCG-unresponsive disease have limited therapeutic options. Nadofaragene firadenovec is a novel gene-mediated therapy that confers the human IFN α 2b gene to bladder urothelium following intravesical instillation and results in prolonged expression of IFN α 2b. Herein, 24 month (mo) follow-up to the published Phase 3 trial are presented for the HG Ta/T1 cohort.

Methods:

A multicenter, open-label Phase 3 trial enrolled pts 50 BCG-unresponsive, HG Ta/T1 pts. Efficacy analysis included 48 pts. Nadofaragene (3×10^{11} vp/mL [75 mL]) was administered once every 3 mos for up to 4 doses. All pts HG recurrence free (HGRF), following mandatory biopsies, at 12 mos were offered continued treatment at the investigator's discretion.

Results:

As of the September 2020, 9/48 (18.8%) pts had received 24 mos of treatment, and 33/48 (68.8%) remained on study. Of 48 pts, 16 (33.3%) were HGRF at 24 mos. Of those HGRF at 3 mos, 16/35 (45.7%) were HGRF at 24 mos. Cystectomy-free survival was 69.8% at 24 mos, with 11/48 (22.9%) pts having underwent cystectomy. The majority of drug-related adverse events (AEs) were Grades 1/2. One (2%) pt had any AE leading to discontinuation. There was one Grade 4 AE (not related to study drug/procedure) and no adverse events occurred leading to pt death.

Conclusion:

Nadofaragene firadenovec was well tolerated and demonstrates durability of response in pts with HG Ta/T1, BCG-unresponsive NMIBC in 24 mos follow-up after first intravesical treatment. Clinical trial information: NCT02773849.

Funding: FKD Therapies Oy.

DEVIATIONS IN CYCLES OF NEOADJUVANT CHEMOTHERAPY FOR MUSCLE-INVASIVE BLADDER CANCER AND IMPLICATIONS FOR PATHOLOGIC RESPONSE AND SURVIVAL

Enrique Blanco-Martinez¹, Hiten D. Patel, MD MPH², Sunil H. Patel, MD², Jake Kuzbel³, Victor S. Chen, MD², Aleksander Druck¹, Elizabeth L. Koehne, MD², Parth M. Patel, MD², Chirag P. Doshi, MD², Trinity J. Bivalacqua, MD PhD³, Max Kates, MD³, Marcus L. Quek, MD²

¹Loyola University Chicago Stritch School of Medicine, Maywood, Illinois, ²Department of Urology, Loyola University Medical Center, Maywood, Illinois, ³The James Buchanan Brady Urologic Institute and Department of Urology, The Johns Hopkins University School of Medicine, Baltimore, Maryland

INTRODUCTION: Ideal length of neoadjuvant chemotherapy (NAC) before cystectomy for muscle-invasive bladder cancer (MIBC) is uncertain. Trials initially studied 3 cycles, but 4 cycles are often used in clinical practice despite toxicity sometimes leading to incomplete therapy. If toxicity of NAC correlates with biologic activity, patients deviating in therapy may still maintain similar benefit. We evaluated pT0 and survival rates between patients deviating from 4 NAC cycles relative to those completing ≥ 4 cycles.

METHODS: Patients receiving NAC for MIBC from two institutions were included. A major deviation was defined as < 4 cycles of NAC or change in agent. Adverse events were tabulated for major deviations due to toxicity. We compared pT0 rates between study groups and sub-stratifications (cT2N0M0, urothelial cell carcinoma (UCC), gemcitabine-cisplatin (GC) & dose-dense-methotrexate-vinblastine-doxorubicin-cisplatin (ddMVAC)). Cox proportional hazards regression compared overall survival.

RESULTS: Of 406 patients included, 42 intentionally had ≤ 3 cycles of NAC. Of the remaining 364, 140 (38.5%) were unable to complete 4 cycles due to one or more toxicities (renal insufficiency (26.7%), thrombocytopenia (25.6%), neutropenia (24.4%), and constitutional symptoms (23.3%)). Patients with major deviations had similar pT0 rates across stratifications (30.5% vs. 27.6% cT2NanyM0; 33.1% vs. 30.0% restricted to cT2N0M0+UCC+GC/ddMVAC) and no difference in survival (HR 1.08 (95%CI 0.69-1.70), $p=0.74$) compared to patients completing ≥ 4 NAC cycles. Patients receiving 1-2 cycles appeared to have lower response.

CONCLUSION: Almost 40% of patients intended to receive 4 NAC cycles before cystectomy will have a major deviation. However, most complete 3 cycles and maintain similar benefits in pathologic response and survival.

Funding: N/A

THE IMPACT OF AGENT ORANGE EXPOSURE ON BLADDER CANCER OUTCOMES

Kyle A. Richards, MD, FACS^{1,2}, Taylor Penn, BS¹, Alexa Rose, BS¹, Tudor Borza, MD, MS^{1,2}, Tracy M. Downs, MD, FACS¹, E. Jason Abel, MD, FACS¹, David F. Jarrard, MD¹, William A. Ricke, PhD¹

¹University of Wisconsin-Madison, ²William S. Middleton Memorial Veterans Hospital

INTRODUCTION:

Environmental exposures are potential risk factors for bladder cancer (BCa). Agent Orange (AO) was an herbicide used during the Vietnam War and has been labeled as a probable human carcinogen with potential links to BCa. We explored the effect of AO exposure on BCa outcomes in patients receiving *Bacille-Calmette Guerin* (BCG) for non-muscle invasive BCa (NMIBC).

METHODS:

We retrospectively examined the association between AO exposure in patients with NMIBC in national VA databases who were being treated with BCG. Patients were diagnosed from 2000-2010 with follow-up through 2018. Clinical, pathological, and demographic variables were compared by AO exposure. Associations of AO exposure with overall survival, cancer-specific survival, and progression were performed using Cox proportional hazard models after inverse propensity score weighted (IPSW) and competing risks adjustments.

RESULTS:

7,651 patients were identified of which 753 (9.8%) were exposed to AO. The median follow-up time was > 10 years. AO exposed patients were younger (age 61 vs 71 years, $p < 0.001$), but had similar Charlson comorbidity scores and stage/grade distribution as the non-AO exposed patients. In our Cox multivariable analyses, AO exposure was not associated with worse overall survival (HR 1.07, 95% CI 0.91-1.27, $p = 0.41$), cancer-specific survival (HR 1.31, 95% CI 0.92-1.87, $p = 0.13$), or progression (HR 1.08, 95% CI 0.86-1.36, $p = 0.51$).

CONCLUSION:

AO exposure was not associated with worse oncologic outcomes in patients receiving BCG for NMIBC. While this is reassuring, additional research is needed in other patient populations to determine if the effect is consistent.

Funding: N/A

Single Cell Transcriptomics of Murine Bladder Cancer Implicates Androgen Signaling and T cell Exhaustion

Jessica Brown, BS, Bradley Blaser, MD PhD, Jami Shaffer, BS, Hyunwoo Kwon, BS, Anil Parwani, MD PhD, William Carson, MD, Zihai Li, MD PhD, Purnima Dubey, PhD, Debasish Sundi, MD
Ohio State

Introduction: Recently single-cell RNA sequencing (scRNA-Seq) has increased our depth of understanding of genomic features of distinct cellular populations. To reveal the dynamics of bladder carcinogenesis, we applied a scRNA-Seq based analysis to murine bladders undergoing malignant transformation secondary to exposure to N-Butyl-N-(4-hydroxybutyl) nitrosamine (BBN).

Methods: 4 week old female C57BL6 mice (Jackson Labs) were exposed to 0.05% BBN *ad libitum* in drinking water for up to 20 weeks. At 5, 10, 17 weeks, and 23 weeks after the start of BBN exposure, bladders harvested and processed into a single cell suspension for scRNA-Seq (10x Genomics).

Results: Under these conditions, histologic evidence of urothelial dysplasia was detected at 5-10 weeks, and high grade carcinoma *in situ* (CIS) by 17-23 weeks. Several bladder cancer intrinsic subtype signatures were presents, suggesting broad generalizability to human cancer. Over time, urothelial and myeloid immune cell clusters demonstrated enrichment of several druggable target such as EGFR, FGFR3, and HIF1A. The most significant change over time was an increase in androgen receptor (AR) expression within T cells. SLAMF6 and NR4A1 expression increased in parallel with AR in the T cell cluster, which is notable as all of these signals have likely roles in T cell exhaustion, which may permit carcinogenesis.

Conclusions: During bladder carcinogenesis, androgen signaling pathways increase significantly within T cells. The T cell cluster also features parallel increases in gene expression related to exhaustion. These findings support the emerging link between androgen signaling and T cell exhaustion in bladder cancer pathogenesis.

Funding: Urology Care Foundation

ESTIMATING RECURRENCE-FREE SURVIVAL IN NON-MUSCLE INVASIVE BLADDER CANCER (NMIBC) AFTER INTRAVESICAL THERAPY: A SOUTHWEST ONCOLOGY GROUP (SWOG) S0337 POST-HOC ANALYSIS

Nicholas Corsi, BS¹, Akshay Sood, MD², Jacob Keeley, MS³, Markus Jamil, MD², Deepansh Dalela, MD², Chandler Bronkema, BS², Nikola Rakic, BS², Craig Rogers, MD², Firas Abdollah, MD²

¹Wayne State University School of Medicine, ²Vattikuti Urology Institute (VUI), Henry Ford Hospital, Detroit, MI, ³VCORE – Vattikuti Urology Institute Center for Outcomes Research, Analytics and Evaluation, Henry Ford Hospital, Detroit, MI

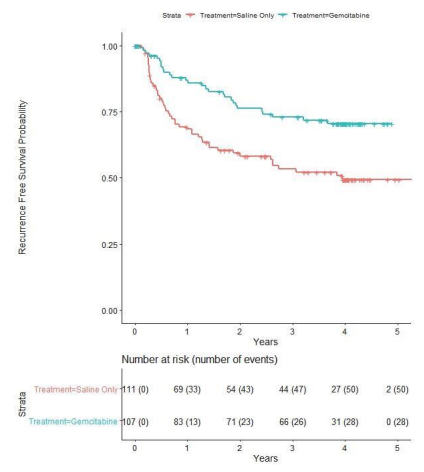
Non-muscle invasive bladder cancer (NMIBC) frequently recurs with variable oncological outcomes. We utilized decision tree learning methods to develop risk-groups. We then evaluated the effect of a single, post-operative instillation of intravesical chemotherapy on each group to their control-counterparts.

Utilizing the SWOG S0337 cohort, we performed a post-hoc analysis of 406 patients with suspected low-grade NMIBC, underwent transurethral resection, and randomized to post-operative intravesical therapy. Regression tree analysis generated a low-risk group – single tumor and aged ≤ 57 years, intermediate-risk – single tumor and aged > 57 years, and high-risk – multiple tumors. Cox proportional hazard models tested the impact of treatment on recurrence-free rate, and after adjustment to available covariates.

Median age was 66 years, with 84.7% of the cohort being males. The intermediate-risk group treated with Gemcitabine had a 6-, 24-, and 36-month recurrence free-rate of 93%, 76%, and 73% respectively vs. 80%, 58%, and 53% in the control (Log-rank $p = 0.001$). This survival difference was confirmed on multivariable analysis, as patients in the Gemcitabine intermediate-risk group had a more favorable recurrence-risk (HR: 0.48, 95% CI: 30-76%, $p < 0.001$).

The main beneficiaries of immediate intravesical instillation of Gemcitabine are those > 57 years with a single tumor (Figure 1). These represent almost half of the population who present with low-grade NMIBC.

Funding: N/A



EFFICACY OF INTRAVESICAL NADOFARAGENE FIRADENOVEC FOR PATIENTS WITH CARCINOMA IN SITU (CIS), BCG-UNRESPONSIVE, NON-MUSCLE INVASIVE BLADDER CANCER (NMIBC): LONGER-TERM FOLLOW-UP FROM THE PHASE III TRIAL

Anne K. Schuckman, MD¹, Yair Lotan, MD², Stephen A. Boorjian, MD³, Katherine E. Cilwa, PhD⁴, Colin P. N. Dinney, MD⁵

¹USC Institute of Urology, Norris Comprehensive Cancer Center, University of Southern California, Los Angeles, CA, ²Department of Urology, University of Texas Southwestern Medical Center, Dallas, TX, ³Department of Urology, Mayo Clinic, Rochester, MN, ⁴FerGene Inc., Cambridge, MA, ⁵Department of Urology, University of Texas MD Anderson Cancer Center, Houston, TX

Introduction:

An unmet need exists for effective, bladder-preserving options for patients (pts) with BCG-unresponsive NMIBC. Nadofaragene firadenovec is a non-replicating recombinant type 5 adenovirus vector-based gene therapy that delivers a copy of the human IFN α 2b gene. Herein, 24-month (mo) follow-up to the published Phase 3 trial is presented for the CIS+Ta/T1 cohort.

Methods:

A multi-center, open-label Phase 3 trial enrolled 107 BCG-unresponsive CIS $\pm$ Ta/T1 pts. Efficacy analysis included 103 pts. Nadofaragene (3×10^{11} vp/mL [75 mL]) was administered intravesically once every 3 mos for up to 4 doses. All pts HG recurrence free (HGRF), following mandatory biopsies, at 12 mos were offered continued tx beyond 12 mos at the investigator's discretion.

Results:

As of September 2020, 64/103 (62.1%) remained on study and 18/103 (17.5%) pts had received 24 mos of tx. At 24 mos, 20/103 (19.4%) pts continued to remain HGRF. Of those who achieved a CR, 20/55 (36.4%) remained HGRF at 24 months. By 24 mos 33/103 (32%) pts had undergone cystectomy with cystectomy-free survival of 64.6% . Nadofaragene firadenovec was well tolerated. Overall, 1 grade 4 non-tx-related AE was reported. The majority of drug-related AEs were Grades 1/2. Two (1.9%) pts discontinued due to drug-related AEs (1 instillation site discharge, 1 bladder spasm).

Conclusions:

Nadofaragene firadenovec instilled intravesically once every 3 mos demonstrates sustained durability of response with longer follow-up in pts with HG, BCG-unresponsive NMIBC. Clinical trial information: NCT02773849.

6:54 AM #91

**A CONTEMPORARY ANALYSIS OF URETHRAL
RECURRENCE FOLLOWING RADICAL CYSTECTOMY**

Abhinav Khanna, Andrew Zganjar, Timothy Lyon, Paras Shah, Matthew
Tollefson, R Jeffrey Karnes, Robert Tarrell, Prabin Thapa, Robert Houston
Thompson, Igor Frank, Stephen Boorjian
Mayo Clinic

WITHDRAWN

PROLONGED OPERATIVE TIME IS A USEFUL METRIC TO PREDICT POSTOPERATIVE COMPLICATIONS AND READMISSION RATES IN PATIENTS UNDERGOING RADICAL CYSTECTOMY

Peter Hanna, Dr.¹, Joseph Zabell, Dr.¹, Christopher Warlick, Professor¹, Badrinath Konety, Professor²

¹University of Minnesota, ²Rush University

Objective:

To assess the operative time in patients undergoing radical cystectomy and its impact on 90-day postoperative complications and readmission rates.

Methods:

Retrospective cohort study including 296 patients undergoing radical cystectomy and urinary diversion from 2010 to 2018 in our institution. Operative time 369 minutes was set as a cutoff value between short and long operative time groups. Primary outcome was 90-day postoperative complication rates. Secondary outcomes were gastrointestinal recovery time, length of hospital stay (LOS), and 90-day readmission rates.

Results:

The overall incidence of 90-day postoperative complications was 80.4 % where 63.2 % representing minor complications, and 36.8 % representing major complications. GIT and infectious complications are the most common complications in our data set (45.9 %, 45.6 %, respectively). On multivariable analysis, prolonged operative time was significantly associated with odds of high-grade complications (OR 2.340, 95 % CI 1.288-4.250, $p=0.005$) even with adjusted other variables. A higher incidence of major complications was identified in the long operative time group 69 (42.6 %) compared to 40 (30.5 %) in the short operative time group ($p=0.034$). Though, a shorter GIT recovery time was noticed in the short operative time group ($p=0.026$), no differences in LOS between both groups. Prolonged operative time was associated with a higher 90-day readmission rate on univariate and multivariate analysis ($p=0.001$, $p < 0.0001$, respectively).

Conclusion:

Prolonged operative time (> 369 min.) is associated with an increased risk of postoperative complications and readmission rates. Optimization of operative time could translate into better operative outcomes.

Funding: N/A

Upper tract urothelial carcinoma following radical cystectomy: a risk-adapted scoring model for stratifying surveillance intensity

Tanner Miest, MD, PhD¹, Abhinav Khanna, MD, MPH², Vidit Sharma, MD, MS², Patrick Hensley, MD¹, Rebecca Campbell, MD³, Prabin Thapa², Andrew Zganjar, MD², Matthew Tollefson, MD², Houston Thompson, MD², Igor Frank, MD², Jeffrey Karnes, MD², Aaron Potrezke, MD², Surena Matin, MD¹, Prithvi Murthy, MD³, Georges-Pascal Haber, MD, PhD³, Byron Lee, MD, PhD³, Stephen Boorjian, MD²

¹*Department of Urology, MD Anderson Cancer Center*, ²*Department of Urology, Mayo Clinic*, ³*Glickman Urologic and Kidney Institute, Cleveland Clinic*

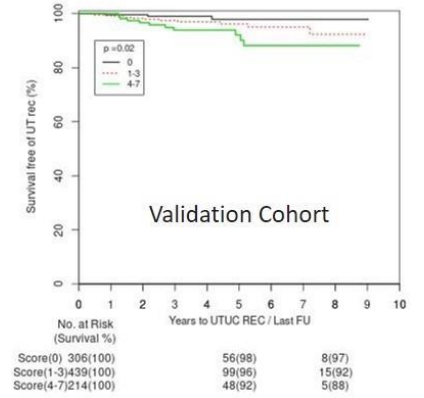
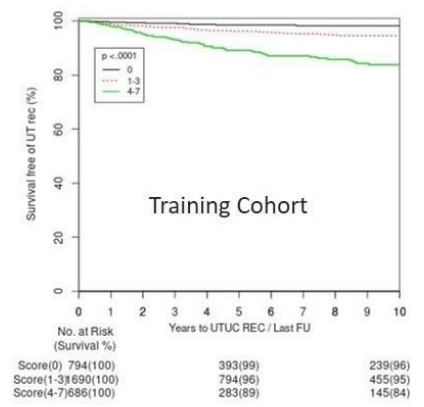
Introduction: Metachronous upper tract urothelial carcinoma (UTUC) is diagnosed in approximately 5% of patients following radical cystectomy (RC) for urothelial carcinoma. We sought to develop and validate an UTUC diagnosis risk score to optimize UT surveillance after RC.

Methods: Retrospective analysis of RC patient clinicopathologic variables was performed using multivariable Cox proportional hazard models to develop and validate an UTUC diagnosis risk score using two independent institutional cohorts.

Results: 3170 and 959 RC patients were included in the training and validation cohorts, respectively. At a median follow-up after RC of 4.6 years (IQR 2.1-8.7), 167/4129 (4.0%) patients were diagnosed with UTUC. Significant associations with UTUC on multivariable analysis included any positive margin (hazard ratio [HR] 2.35, 95% confidence interval [CI] 1.62-3.41, $p < 0.01$), history of BCG (HR 2.24, 95% CI 1.60-3.14, $p < 0.01$), CIS at RC (HR 2.07, 95% CI 1.42-3.03, $p < 0.01$), and pre-RC hydronephrosis (HR 1.49, 95% CI 1.021-2.17, $p = 0.04$). A scoring model capable to stratifying patients as low (0 points), intermediate (1-3 points), and high-risk (4+ points) for subsequent UTUC diagnosis was developed and validated using independent training and validation cohorts (**Figure 1**).

Conclusion: We developed and validated a post-RC UTUC risk score using two independent institutional cohorts to optimize UTUC surveillance protocols after RC.

Funding: N/A



THE IMPACT OF SARCOPENIA AND OBESITY ON THE TOLERABILITY OF NEOADJUVANT CHEMOTHERAPY IN PATIENTS WITH MUSCLE INVASIVE BLADDER CANCER

Thomas Stout, MD¹, Ranveer Vasdev¹, Subodh Regmi, MD¹, Jacob Albersheim-Carter, MD¹, Peter Hanna, MD¹, Badrinath Konety, MD, MBA², Arpit Rao, MD¹, Gautam Jha, MD¹, Christopher Weight, MD³, Joseph Zabell, MD¹

¹University of Minnesota, ²Rush University, ³Cleveland Clinic

Introduction: Sarcopenia is associated with poor outcomes in muscle-invasive bladder cancer (MIBC). We investigated the impact of sarcopenia and obesity on the tolerability of neoadjuvant chemotherapy (NAC) in patients with MIBC.

Methods: Patients with MIBC who underwent NAC and radical cystectomy from 2009-2018 were reviewed. Skeletal muscle (SMI) and fat mass indices (FMI) were calculated based on preoperative axial imaging to determine patients who were sarcopenic ($\text{SMI} \leq 38.5 \text{ cm}^2/\text{m}^2$ in females, $\leq 52.4 \text{ cm}^2/\text{m}^2$ in males) and/or obese ($\text{FMI} \geq 13 \text{ kg}/\text{m}^2$ in females, $\geq 9 \text{ kg}/\text{m}^2$ in males). NAC intolerability was defined as completion of < 3 cycles.

Results: Of the 98 patients included, the majority were both sarcopenic (53%) and obese (51%). Of the 25 patients who had NAC intolerability, the most common reasons were cytopenia (39%) and acute kidney injury (27%). Sarcopenic patients were more likely to have NAC intolerability due to cytopenia compared to non-sarcopenic patients (51% vs 31%, $p=0.03$). There was no difference in NAC tolerability between patients with and without sarcopenia, however fewer obese patients skipped ≥ 1 doses of NAC compared to non-obese patients (12.0% vs 27.1%, $p=0.04$). On multivariable regression Gemcitabine-Cisplatin (OR 6.77, 95% CI 1.56 – 29.35) and a CCI ≥ 2 (OR 9.13, 95% CI 1.61 – 51.66) were associated with NAC intolerability, while obesity was protective (OR 0.16, 95% 0.04 – 0.69).

Conclusions: Sarcopenic patients are more likely to stop NAC due to cytopenia. In this study obesity was protective against NAC intolerability, the use of a standard comorbidity index was most predictive.

Funding: N/A

The impact of diagnostic modality for upper tract urothelial carcinoma on intravesical recurrence after radical nephroureterectomy: a single institution series and updated meta-analysis

Tanner Miest, MD, PhD¹, Vidit Sharma, MD, MS¹, Tristan Juvet, MD¹, Amir Toussi, MD², Vignesh Packiam, MD³, Karim Chamie, MD⁴, Surena Matin, MD⁵, Stephen Boorjian, MD¹, Houston Thompson, MD¹, Igor Frank, MD¹, Matthew Tollefson, MD¹, Aaron Potretzke, MD¹

¹*Department of Urology, Mayo Clinic*, ²*Department of Urology, University of Pittsburgh Medical Center*, ³*Department of Urology, University of Iowa Medical Center*, ⁴*Department of Urology, University of California, Los Angeles*, ⁵*Department of Urology, MD Anderson Cancer Center*

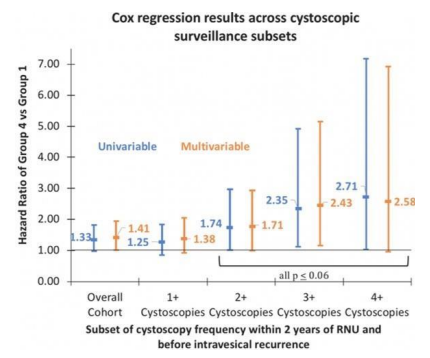
Introduction: Diagnostic ureteroscopic biopsy for upper tract urothelial carcinoma (UTUC) has been hypothesized to increase intravesical recurrence of urothelial carcinoma after radical nephroureterectomy (RNU). Herein, we compare post-RNU intravesical recurrences across UTUC diagnostic modalities.

Methods: RNU patients from 1995-2019 were categorized by UTUC diagnostic modality: 1) no ureteroscopy or percutaneous biopsy; 2) percutaneous biopsy; 3) ureteroscopy without biopsy; 4) ureteroscopic biopsy. Intravesical recurrences were compared using Kaplan-Meier analyses and cox-proportional hazard models. Results from group 4 vs 1 were pooled with the literature using a fixed effects meta-analysis.

Results: In a cohort of 834 RNU patients, 210 (25.2%) underwent no ureteroscopy, 58 (6.6%) percutaneous biopsy, 125 (15.0%) ureteroscopy without biopsy, and 442 (53.0%) ureteroscopic biopsy. Two-year intravesical recurrence rates were 15.0%, 12.7%, 18.4%, and 21.9% for groups 1-4, respectively (p=0.09). On multivariable analysis, only group 4 had increased intravesical recurrences (HR 1.41, p=0.03) relative to group 1. Group 4 remained associated with intravesical recurrence on subset analyses accounting for post-RNU surveillance cystoscopy frequency (Figure 1). On meta-analysis including eleven other series, ureteroscopic biopsy was associated with intravesical recurrence (HR 1.45, p<0.01).

Conclusion: Ureteroscopic biopsy before RNU was associated with increased intravesical recurrence. Clinical trials of intravesical chemotherapy after ureteroscopic biopsy are warranted to reduce intravesical recurrences.

Funding: N/A



DOES BLUE LIGHT CYSTOSCOPY TURBT FAVORABLY IMPACT OUTCOMES IN T1 BLADDER CANCER?

Tyler Sheetz, MD¹, Noah McGreal, BS¹, Tasha Posid, MA, PhD¹, Megan Merrill, DO², Kamal S Pohar, MD¹

¹The Ohio State University Wexner Medical Center, ²Kaiser Permanente South Sacramento Medical Center

Introduction

Repeat transurethral resection of bladder tumor (TURBT) identifies high rates of residual cancer and unrecognized muscle invasion in T1 bladder cancer. Use of enhanced cystoscopy likely influences findings at repeat TURBT. This study evaluates the influence of using blue light cystoscopy (BLC) at first TURBT on pathologic findings at repeat TURBT and recurrence in T1 bladder cancer.

Methods

A retrospective review of T1 bladder cancer patients at our institution who underwent a visibly complete first TURBT compared outcomes of white light cystoscopy (WLC) TURBT (n=40) to BLC TURBT (n=29). All patients had repeat TURBT and muscularis propria present at first TURBT.

Results

As seen in Table 1, BLC identified more patients with CIS at first TURBT. Although there was no difference in the number of patients with residual disease at repeat TURBT no patient in the BLC group had any residual invasive cancer and none were understaged compared to 6 and 3 patients, respectively, in the WLC group. The number of cancer recurrences was lower in the BLC group (p=0.026) on long term follow up.

Conclusions

A visibly complete first TURBT performed with BLC leads to lower rates of residual invasive cancer and upstaging at repeat TURBT when compared to a similarly performed WLC TURBT.

Funding: N/A

Table 1. Outcomes of T1 bladder cancer treated with WLC compared to BLC

First TURBT	WLC (n=40)	BLC (n=29)	p-value
Demographic			
Age (mean years)	70.9	67.3	0.127
Gender			
Male	30 (75%)	27 (93%)	
Female	10 (25%)	2 (7%)	0.050
First TURBT			
Multifocal tumor	18 (45%)	18 (62%)	0.161
Tumor > 5cm	13 (33%)	13 (45%)	0.327
Presence of CIS	3 (8%)	6 (21%)	0.108
Repeat TURBT			
Days after first TURBT (mean)	43.6	36.4	0.085
Performed with BLC	0	13 (45%)	
Residual disease	17 (43%)	13 (45%)	0.847
pT3	6 (15%)	5 (17%)	
pT4	5 (13%)	8 (28%)	
pT1	3 (8%)	0	
pT2	3 (8%)	0	
Follow up			
Time (mean years)	8.11	4.28	
Induction BCG	25 (63%)	22 (76%)	0.240
Number of recurrences	17 (43%)	5 (17%)	0.026

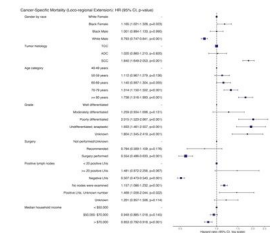
BCG - Bacillus Calmette-Guérin, BLC - blue light cystoscopy, CIS - carcinoma in situ, TURBT - transurethral resection of bladder tumor, WLC - white light cystoscopy

THE BLACK FEMALE: THE MOST NEGLECTED PERSON IN BLADDER CANCER

Amr Mahran, MD MS¹, April Miller, BS², Camilo Arenas-Gallo, MD², Megan Prunty, MD³, Kevin Ginsburg, MD MS⁴, Sarah Markt, ScD, MPH⁵, Adam Calaway, MD MPH³, Fredrick Schumacher, PhD MPH⁵, Laura Bukavina, MD MPH³

¹Case Comprehensive Cancer Center, Cleveland, OH, ²Case Western School of Medicine, Cleveland, OH, ³University Hospitals Cleveland Medical Center, Department of Urology, Cleveland, OH, ⁴Fox Chase Cancer Center, Philadelphia, PA, ⁵Case Western School of Medicine, Department of Population and Quantitative Health Sciences, Cleveland, OH

Objectives: To examine survivorship disparities stratified by gender and race for bladder cancer variants (transitional, adenocarcinoma, and squamous) in patients with regional and distant metastatic disease at the time of presentation.



Methods: We used the SEER registries over an 18 year period to examine survivorship disparities by sex and race/ethnicity and risk status classified by histologic grade for the most common bladder cancer variants (transitional cell carcinoma, adenocarcinoma, and squamous cell carcinoma) for all patients with metastatic bladder cancer (n= 216,184). Kaplan-Meier (K-M) and Cox Proportional hazard methods were used for survival analysis.

Results: Among all patients with metastatic urinary bladder cancer (n=17,783), there were 16,119 (90.1%) transitional cell, 568 (3.0%) adenocarcinoma (ADC), and 1,096 (6.9%) squamous cell carcinoma (SCC). An excess hazard of death was present in the Black Female (BF) population for all bladder cancer types (TCC, ADC, and SCC). Black females experienced a cancer specific HR of 1.1.65 (1.02-1.33, p=0.23) compared to WF; being a WM was protective for all tumor types at 5 years (HR 0.93, CI 0.87-0.988, p=0.02) (Figure 1)

Conclusion: Black women with metastatic bladder cancer experience the worst cancer specific mortality, even when compared to Black male counterparts in three major histopathological variants of bladder cancer.

Funding: n/a

6:30 AM-7:30 AM

Endourology and BPH Poster Session

Location: Ambassador

Moderators:

Carley Davis

Ephrem Olweny

Use of a Hysteroscope and TruClear Tissue Removal System for the Treatment of Large, Organized Bladder Clots

Benjamin Goldman, DO¹, Amy Wright, MD², Jeffery Greski, DO², Anil Kumar, MD²

¹*Ascension–Macomb Oakland Hospital*, ²*Ascension Providence Rochester Hospital*

Introduction:

We provide our experience with a novel application of a hysteroscope with tissue removal system to clear a large, organized bladder blood clot following urologic procedure.

Methods:

Here we describe our experience using the Medtronic TruClear tissue removal system in the management of recurrent, tenacious, organized bladder clot: the first case of this nature reported in the literature.

Results:

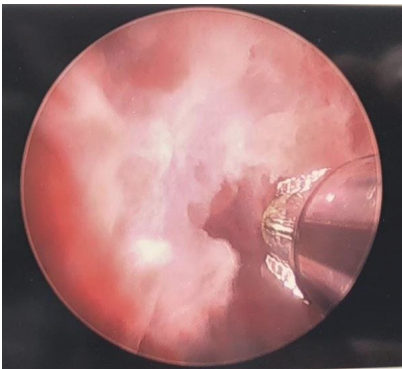
A 36-year-old female developed extensive, recurrent organized bladder clot following ureteroscopy and laser lithotripsy. Initial management was attempted with conservative measures, consisting of a three-way Foley catheter, followed by cystoscopy with an Ellik evacuator, and attempted TUR of bladder clot. Clots formed and organized quickly and were resistant to conservative therapy and initial operative interventions. We implemented the TruClear tissue removal system and extracted the bladder clot in its entirety. Total anesthesia time was 43 minutes. Bladder clot size was 233cc. The patient tolerated the procedure well with no intraoperative, device related or immediate post-operative complications.

Conclusions:

There are many options for treatment of hematuria with clot retention at the urologist's disposal. Few of these options are ideal for management of tenacious and/or large, organized bladder clots. Here we demonstrate the feasible application of a technology that is widely available in both academic and community hospitals.

Intra-operative image

Funding: n/a



Opioid Free Ureteroscopy: what is the true failure rate?

Matthew Lee, MD¹, Mark Assmus, MD², Deepak Agarwal, MD², Marcelino Rivera, MD², Tim Large, MD², Amy Krambeck, MD¹

¹Northwestern University, ²Indiana University

Introduction

Opioid overdose has become the leading cause of death for adults <55 years. Urologists have been working to eliminate unnecessary opioid use e.g. opioid-free ureteroscopy (OF-URS). However, the OF-URS success is defined as “was the patient prescribed opioid at discharge?” which doesn’t account for patients who obtain opioids from other physicians. We sought to determine the true failure rate of OF-URS and rates of new-persistent opioid use by utilizing a national prescription drug monitoring program (PDMP).

Methods

239 patients underwent OF-URS from February 2018-March 2020. A PDMP was then utilized to determine the number of patients who failed OF-URS (receipt of opioids within 31 days postoperatively) as well as rates of new-persistent opioid use (receipt of opioid 91-180 days after surgery). Statistical analyses were two-sided and significance was set at $p < 0.05$.

Results

We found a OF-URS failure rate of 16.6% and 14.0% in the total and opioid naïve cohorts, respectively. Rates of new-persistent opioid use were 0.9% and 1.2%, respectively (lower than published expected rate of ~6%). Benzodiazepine users had a lower risk of OF-URS failure on multivariate analysis.

Conclusion

The true failure rate of OF-URS is higher than previously thought at 16.6% and 14.0%. Efforts to reduce opioid prescriptions with OF-URS pathways have successfully reduced new-persistent opioid use.

Funding: N/A

Preoperative characteristics	Total Study	100% Study	75% Study	50% Study	25% Study	<i>P</i>	<i>OR</i>
Age (years)	36.6 (10.7)	35.7 (10.7)	37.5 (10.7)	36.5 (10.7)	36.7 (10.7)	.537	
Gender						.999	
Male	128 (50.0)	128 (50.0)	128 (50.0)	128 (50.0)	128 (50.0)		
Female	128 (50.0)	128 (50.0)	128 (50.0)	128 (50.0)	128 (50.0)		
Mean age of 1st seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 2nd seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 3rd seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 4th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 5th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 6th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 7th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 8th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 9th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 10th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 11th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 12th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 13th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 14th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 15th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 16th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 17th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 18th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 19th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 20th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 21st seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 22nd seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 23rd seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 24th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 25th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 26th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 27th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 28th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 29th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 30th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 31st seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 32nd seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 33rd seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 34th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 35th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 36th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 37th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 38th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 39th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 40th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 41st seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 42nd seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 43rd seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 44th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 45th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 46th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 47th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 48th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 49th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 50th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 51st seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 52nd seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 53rd seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 54th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 55th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 56th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 57th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 58th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 59th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 60th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 61st seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 62nd seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 63rd seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 64th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 65th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 66th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 67th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 68th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 69th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 70th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 71st seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 72nd seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 73rd seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 74th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 75th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 76th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 77th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 78th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 79th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 80th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 81st seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 82nd seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 83rd seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 84th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 85th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 86th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 87th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 88th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 89th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 90th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 91st seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 92nd seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 93rd seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 94th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 95th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 96th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 97th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 98th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 99th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	
Mean age of 100th seizure (years)	12.8 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	14.7 (5.0)	.000	

RENAL DISPLACEMENT WITH SUPINE TO PRONE POSITIONAL CHANGE: EFFECT OF SEX AND BMI

Advait Deshmukh, B.S., Puneet Sindhwani, M.D.

University of Toledo College of Medicine

Introduction: Imaging prior to percutaneous nephrolithotomy is most commonly performed with the patient in supine, with eventual prone positioning during surgery. Knowledge of how these structures move on position change is vital.

Methods: CT scans of 75 subjects who underwent supine and prone imaging were retrospectively analyzed. Measurements were taken for anterior-posterior, medial-lateral, cranial-caudal, skin-to-calyx distance, kidney-to-liver distance, and kidney-to-colon distance in both positions.

Results: Pronation shortens the distance from the skin to calyx for both the right (99.62 mm vs. 85.14 mm; $p < 0.00001$) and left (96.67 mm vs. 90.80 mm; $p < 0.00001$) sides. The reduction in left-side tract length for obese patients is significantly greater than that of normal weight patients (11.88 mm vs. -5.02 mm; $p = 0.001$). The left kidney displaces ventrally (11.12 mm vs. 18.59 mm; $p < 0.00001$) while the right kidney does not (14.26 mm vs. 15.30 mm; $p = 0.30$). The right kidney displaces cranially (62.76 mm vs. 79.51 mm; $p < 0.00001$) while the left kidney does not (64.35 mm vs. 66.52 mm; $p = 0.14$). The left kidney in females moves medially while no change is seen in males (4.22 mm vs. -0.48 mm; $p = 0.0004$). The left kidney in females displaces towards the descending colon while it moves farther away in males (2.73 mm vs. -2.01 mm; $p = 0.011$).

Conclusions: Both sex and BMI had effects on the movement of the kidneys upon pronation. This can be clinically useful to help pre and intraoperative planning.

Funding: N/A

OMEPRAZOLE LOWERS 24-HOUR URINARY MAGNESIUM EXCRETION IN PATIENTS WITH A HISTORY OF UROLITHIASIS: SINGLE CENTER EXPERIENCE

Kristina L. Penniston, PhD, RDN, Shuang Li, PhD, Stephen Y. Nakada, MD, R. Allan Jhagroo, MD

University of Wisconsin School of Medicine and Public Health

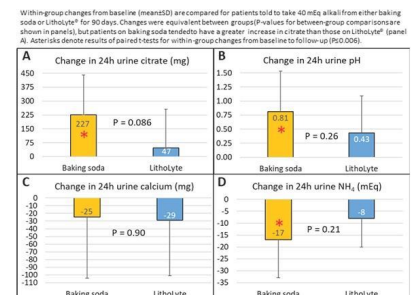
INTRODUCTION AND OBJECTIVE: Urine magnesium (Mg) inhibits calcium oxalate (CaOx) stone formation. Proton pump inhibitors, used for gastric reflux and peptic ulcer, inhibit intestinal Mg absorption. We hypothesized that patients taking omeprazole (OM) have lower UMg.

METHODS: With IRB approval, we evaluated sequential patients with h/o urolithiasis seen in our clinic and identified their first 24h urine collections, i.e., while naïve to treatment. We separated patients into those taking OM (OM+) vs. not (OM-).

RESULTS: Between 7/15/2020 to 1/15/2021 we identified 276 patients; they were 43% female; 91% white Caucasian; and 58±14 y. The OM+ group (n=45) took 24±8.2 mg/d (median 20 mg) and were taking it for 7.3 y (median 6.4 y). Compared to OM- (n=231), patients in OM+ had significantly lower UMg (figure) while no other 24U parameters were different. Though the prevalence of bowel disease (which can affect UMg) was different between groups (15 vs 42% for OM- vs OM+, respectively), the prevalence of UMg ≤70 mg/d was not (56 vs 44% for OM- vs OM+, respectively; P=0.39, Chi square), suggesting bowel disease was not a confounder.

CONCLUSIONS: Patients taking OM have lower UMg, increasing their risk for CaOx stone recurrence. Studies to investigate whether Mg supplementation reverses low UMg in patients taking OM are needed.

Funding: N/A



HOLMIUM LASER ENUCLEATION OF THE PROSTATE IS SAFE AS AN OUTPATIENT PROCEDURE; REVIEW OF 250 CONSECUTIVE CASES

Margaret Knoedler, Christopher Manakas, Daniel Gralnek
University of Wisconsin, Department of Urology, Madison, WI

Introduction

Holmium laser enucleation of the prostate (HOLEP) is a safe, effective treatment for benign prostatic hyperplasia (BPH) of any size prostate. Our objective was to assess the feasibility of HOLEP as a day surgery.

Methods

We reviewed 250 consecutive HOLEP cases done at a single teaching institution. All were done by a single surgeon using the Lumenis Pulse P120H holmium laser system with the Wolf Piranha morcellator. Patients were divided between same day discharge, planned admission, and unplanned admission. We looked for variables and causes for admission.

Results

Of 250 cases, 205 patients (82%) were successfully discharged the day of surgery, 33 (13.2%) were planned admissions for existing cardiopulmonary, hemophilia or social reasons and 12 (4.8%) were unplanned admissions. Of the 12 unplanned admissions, 9 required CBI for ongoing hematuria and 3 were admitted for non-urologic issues (1 fall, 1 new oxygen requirement and 1 panic attack/corneal abrasion). The most common connection of all cases not discharged home was the time-of-day surgery was completed, with cases completed after 430PM having the highest risk of discharge failure. Of those admitted, 42 (93%) were discharged on hospital day one. One discharged day 2, one on day 3 and one on day 58.

Conclusion

HOLEP can be safely done in an outpatient setting in most patients. This allows for appropriate and timely treatment of patients with BPH without utilizing scarce resources such as inpatient beds. This is particularly relevant in the time of COVID-19 when hospital beds are at a premium.

Funding: N/A

HIGHER OSCILLATION RATE OF TISSUE MORCELLATOR DURING PROSTATE ENUCLEATION MAY LEAD TO FASTER MORCELLATION

Deepak Agarwal, Tim Large, Erica Damler, Matthew Lee, Mark Assmus, Marcelino Rivera

Department of Urology, Indiana University School of Medicine

Introduction: Tissue morcellation has become safer, more efficient and expedient in removing prostate adenoma at the time of transurethral enucleation. Limited data exists on how the rate of oscillation by the morcellator blades affects total morcellation time.

Methods: A retrospective review was performed of holmium laser enucleation of the prostate (HoLEP) performed by two surgeons during 2020. All tissue morcellation was performed with the Wolf Pirahna device. Surgeon 1 routinely uses 1500 oscillations/min (low rate) and Surgeon 2 uses a rate of 6000 oscillations/min (high rate). Morcellation efficiency (grams/minute) were analyzed between the two surgeons.

Results: A total of 203 HoLEPs were analyzed, 135 by Surgeon 1 and 68 by Surgeon 2. There were no differences in preoperative prostate volume or operative specimen weight between the two groups. Enucleation time was longer in low rate group (60 vs 44.1 min, $p<0.0001$). Morcellation time was longer in the low rate group (9.8 vs 6.9 min, $p=0.005$) and morcellation efficiency was lower in the low rate group (9.4 vs 12 g/min, $p=0.0002$). The difference in morcellation efficiency was inversely proportional to specimen weight, with no statistically significant difference in ME above 76 g of specimen weight or above 148g of preoperative prostate volume.

Conclusion: Higher oscillation rate during morcellation may lead to decrease in morcellation time and increased morcellation efficiency during prostate enucleation. This finding is inversely proportional to prostate volume/specimen weight, likely due to time spent changing filter and suction canister.

Funding: N/A

ROLE OF UROCUFF IN EVALUATION OF LUTS IN MEN WITH PRIOR OUTLET PROCEDURE

Tal Cohen, MD¹, Masaya Jimbo, MD, PHD¹, Jonathan Warner, MD², Derek Gearman, MD¹, Tobias Kohler, MD¹

¹*Mayo Clinic, Department of Urology*, ²*City of Hope, Division of Urology and Urologic Oncology*

Introduction: UroCuff is a noninvasive alternative to traditional urodynamic study in evaluating men for presence or absence of outlet obstruction. We report findings of our initial BPH treatment patient cohort.

Methods: Characteristics of men undergoing same day as initial visit urocuff studies are reported. Indications to obtain the study included failed prior intervention, traditional neurogenic risk factors and recurrent infections.

Results: Of 54 patients presenting with LUTS, the mean age was 68. 22 Zone 1 Obstructed (40%), 12 Zone 2 Nonobstructed (22%) , 12 Zone 3 High Pressure High Flow (22%), 8 Zone 4 Low pressure, Low Flow (14%). Mean PVR was 171 and mean peak flow was 10.6. 23 (42%) patients in the cohort underwent a procedure after Urocuff.

Conclusions: Urocuff offers efficient insight into patient with BPH LUTs and can help guide management. Notably, several patients requesting procedures were found to be unobstructed.

Funding: N/A

RISK FACTORS FOR A FAILED TRIAL WITHOUT CATHETER FOLLOWING CONVECTIVE WATER VAPOR THERMAL THERAPY (REZUM)

Kaylin Kim¹, Michael Felice, MD², Erin Fruth, APN², William Adams, PhD³, Ahmer Farooq, MD², Kevin McVary, MD²

¹Loyola University Chicago Stritch School of Medicine, ²Loyola University Medical Center, ³Loyola University Chicago Health Sciences Division

Introduction: The majority of patients who undergo convective water vapor thermal therapy (CWVTT-Rezum) will leave the site of care with a Foley catheter in place. There is no evidence to guide duration of catheterization. Furthermore, some men will fail their trial without catheter (TWOC). We aim to identify risk factors for TWOC failure that may improve provider decisions and patient counseling on post-Rezum management.

Methods: Patients who underwent CWVTT, from 10/2018 – 11/2020, were retrospectively identified through CPT codes 53852, 53854. Patient, operative and outcomes data were extracted. Patients with neurogenic bladder, pre-operative catheter-dependent urinary retention, and UTIs were excluded. Risk factors for failed TWOC were assessed through univariate and multivariate logistic regression.

Results: 94 patients qualified for analysis. 69% (65/94) and 92% (87/94) completed pre-operative urodynamic testing and prostate volume imaging, respectively. Mean prostate volume was 49.9cc (SD 21.7). Mean time to first TWOC was 3.8 days (SD 1.8). 20% (19/94 patients) had a failed TWOC. Only elevated PVR (per 5mL increase) was predictive of TWOC failure on logistic regression (adjusted OR 1.03, p= 0.02). The distribution of ER and acute clinic visits was higher among those who failed TWOC (M 1.84, SD 0.76) than those who succeeded (M 1.29, SD 0.70; p < .001).

Conclusion: 1 in 5 patients failed a TWOC. The risk of failed TWOC increases ~3% with each 5mL increase in pre-operative PVR . Failed TWOC is associated with increase acute care visits.

Funding: N/A

IS ASTHMA SEVERITY LINKED TO SEVERITY OF URINARY STONE DISEASE?

Naveen Kachroo, MD, PhD^{1,2}, Suzy Comhair, PhD², Serpil Erzurum, PhD², Manoj Monga, MD³

¹Henry Ford Hospital, Detroit, MI, ²Cleveland Clinic, Cleveland, OH, ³University of California-San Diego, San Diego, CA

Introduction

Recent evidence has shown an association between asthma and urinary stone disease (USD) incidence in a pediatric population. Our study aimed to assess whether asthma severity is associated with USD severity in a large contemporary adult cohort.

Methods

Retrospective chart review of all adult patients (≥ 18 yrs) seen at a large tertiary referral center between January 2018 and December 2019 with a documented diagnosis of USD was performed. Asthma was identified by diagnosis and treatment codes, with severity categorized according to US National Asthma Education and Prevention Program guidelines. USD severity was quantitatively assessed according to frequency of acute office visits, emergency room visits, hospitalizations, ICU admissions and procedure numbers primarily related to USD.

Results

A total of 5066 USD patients were identified, of which 491 (9.7%) had co-existent asthma. Asthma patients had a significantly earlier onset of USD (mean age 51.3 vs 56.4 yrs, $p < 0.0001$) and higher BMI (mean 32 vs 31.6, $p < 0.0001$). 'Severe' asthma patients had more USD hospitalizations (mean 0.57 vs 0.34, $p = 0.04$) and more acute USD office visits (mean 1.44 vs 1.03, $p = 0.02$) than 'non-severe' asthma patients and also non-asthma patients (mean 1.44 vs 1.07, $p = 0.0098$).

Conclusions

USD Patients with co-existent asthma have an earlier disease onset and those with severe asthma have a particularly increased severity of USD with significantly more hospitalizations than non-severe asthma patients and significantly more acute USD-related office visits than those patients with less severe or no asthma diagnosis.

Funding: None

LOST TO FOLLOW-UP: A PROSPECTIVE RISK FACTOR ANALYSIS OF FORGOTTEN URETERAL STENTS

Florian Stroie, DO, Danna Raslan, MD, Alicia Roston, MD, Michaela Krajmerova, DO, Antoine Ghorayeb, DO, James Stinson, MD, Courtney Hollowell, MD, Mark Wille, MD
Cook County Health

Introduction:

Ureteral stents are of fundamental importance to contemporary urologic practice. Routine maintenance is an important preventative measure for ureteral encrustation. There is a paucity of data exploring risk factors that make patients less likely for timely ureteral stent management. Herein, our objective is to identify these risk factors.

Methods:

A single-institution prospective analysis of patients who underwent first-time ureteral stent placement between 2018 and 2021 completed the study survey. Patients with stents beyond the intended maximal stent life of 6 months were considered to have retained stents (n=20). Patients who followed up for timely ureteral stent maintenance were designated as controls (n=15).

Results:

Average indwelling stent time in the retained cohort was 35.5 months. 85% had less than a college education and 65% relied on external means of transportation to the hospital. The majority reported being informed that their ureteral stent needed maintenance, however; only half understood the implications of developing a retained stent. 65% did not know how long a stent can safely remain indwelling. Statistically significant findings were noted in that the retained cohort was more likely to have no symptoms (p=0.036), more likely to have an annual income of less than \$20,000 (p=0.015) and less likely to have private insurance (p=0.014).

Conclusions:

Retained ureteral stents carry complex urologic sequelae. The study emphasizes identifiable patient risk factors for developing retained ureteral stents in order to mitigate expensive and complicated urologic interventions. Additional measures should be undertaken in patients with lower socioeconomic status to prevent forgotten stents.

Funding: N/A

CAN SMART TECHNOLOGY IMPROVE ADHERENCE TO FLUID MANAGEMENT AND URINE OUTPUT IN KIDNEY STONE FORMING PATIENTS?

Henry Wright, M.D.¹, Luay Alshara, M.D.², Heidi DiGennaro, CNP¹, Yvonne El Kassis, M.D.³, Jianbo Li, PhD¹, Manoj Monga, M.D.⁴, Juan Calle, M.D.¹, Sri Sivalingam, M.D.¹

¹Cleveland Clinic, ²Albany Medical College, ³University of Pennsylvania Medicine, ⁴University of California San Diego

Introduction: Smart technology (ST) can enhance chronic disease management, yet little is known about ST and kidney stone prevention. **Study aim:** prospectively evaluate the impact of two different ST modalities on follow-up adherence rates and urine output (UOP) in patients with nephrolithiasis.

Methods: Kidney stone patients with low UOP (< 2.5L/24 hours) were randomized into three intervention groups: 1) standard dietary/medical counseling (control), 2) control + smartphone fluid management application (app), and 3) control + smart water bottle (bottle). Demographics, adherence rates, kidney stone events, and 24-hour UOP were collected and analyzed at baseline, 3-6 months, and 12 months.

Results: We randomized 111 patients (37 per group). There was no difference in baseline demographics or stone history between groups ($P>0.05$). Twenty (55%), 8 (26%), and 10 (33%) patients completed the 12-month follow-up in the control, app, and bottle groups respectively. Control group patients were the most likely to adhere to follow-up ($p=0.004$). Overall mean 24 hour UOP increased by 0.4L in each group ($p<0.05$), with no difference in mean baseline (1.6L) and 12 month 24 hour UOP (2.0 L) between groups ($p>0.05$). Twenty-nine percent of adherent patients achieved a daily UOP goal of >2.5L across the treatment groups ($p<0.001$).

Conclusion: In this prospective study, 24 hour UOP improved across all groups compared to baseline, although adherence to follow up remained low. Notably, the use of ST did not further augment UOP, underscoring the importance of dietary/medical counseling for kidney stone prevention.

Funding: Cleveland Clinic Research Programs Committee Grant

ARE TWO STENTS WORSE THAN ONE? COMPARING PAIN SCORES AMONG PATIENTS UNDERGOING UNILATERAL VS BILATERAL URETEROSCOPIC STONE TREATMENT

Matt Mocol¹, Michael Borofsky², Andrew Portis², Susan Neises²

¹*University of Minnesota Medical School*, ²*Healtheast Kidney Stone Institute*

INTRODUCTION: There is a paucity of data comparing patient experience with bilateral ureteral stents (BL) to unilateral ureteral stents (UL), with no prior studies utilizing a formal pain scale for this purpose. We sought to quantify differences in pain experience among patients with unilateral vs bilateral stents following ureteroscopic stone management (URS).

METHODS: Patients undergoing bilateral ureteroscopic stone treatment between 01/2015-12/2018 through a kidney stone subspecialty clinic were identified retrospectively and compared 3:1 to a matched cohort by age and gender of patients undergoing unilateral URS. PROMIS ® pain intensity and pain interference T-scores were collected prospectively. Primary outcomes were PROMIS ® T-scores between groups and paired analysis within groups pre-operatively and prior to cystoscopic stent removal.

RESULTS: 57 patients undergoing BL URS were compared to 171 undergoing UL URS. Mean pain intensity and pain interference scores were not statistically different at the time of stent removal. Upon paired analysis, patients undergoing UL URS reported similar mean pain intensity relative to preop with an improvement in pain interference. Conversely, those undergoing BL URS reported greater pain intensity and interference relative to preop (Fig 1).

CONCLUSIONS: Patients undergoing BL URS reported greater changes in pain after URS than those undergoing UL URS. Patient experience should be balanced with clinical objectives.

Funding: N/A

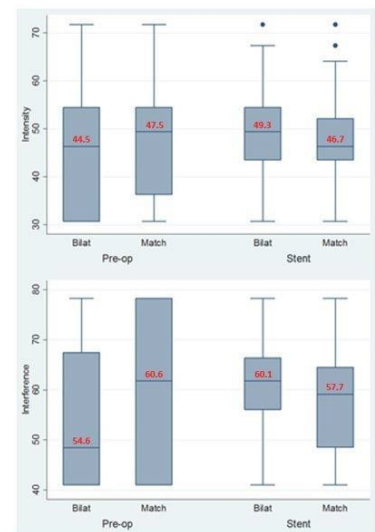


Figure 1. Whisker plots representing pain intensity and interference (top/bottom) prior to URS and at time just prior to stent removal. Mean scores are shown in red. On paired analysis, the UL (match) cohort reported similar mean pain intensity scores and a decrease in pain interference scores relative to preop ($p=0.42$, $p=0.02$). Conversely, the BL (bilat) cohort reported a greater degree of pain intensity and interference relative to preop ($p=0.0019$, $p=0.0039$).

EFFICIENT HOLMIUM LASER ENUCLEATION OF THE PROSTATE CAN BE PERFORMED AFTER PROSTATIC ARTERY EMBOLIZATION FOR MASSIVE PROSTATE GLANDS (> 250 GRAMS)

Jordan Krieger, MD¹, Margaret Knoedler, MD¹, Chris Manakas, MD¹, Aaron Eifler, MD², Dan Gralnek, MD¹

¹University of Wisconsin, Dept. Urology, Madison, WI, ²University of Wisconsin, Dept. Radiology, Madison, WI

Introduction

Prostatic artery embolization (PAE) has the ability to decrease blood supply to the prostate and shrink the prostate, but it is unclear if PAE causes changes to the prostate making surgical intervention on the prostate technically difficult. Our objective was to evaluate if holmium laser enucleation of the prostate (HOLEP) could be performed efficiently and safely after PAE for massive prostate glands (> 250 grams).

Methods

Patients with prostate glands over 250 grams on imaging (CT or MRI) and symptomatic BPH were offered HOLEP with PAE ahead of time.

Preoperative demographics were evaluated along with PAE and HOLEP procedural times, enucleated volume and postoperative complications.

Results

Nine patients had prostate glands >250 grams and underwent HOLEP with PAE prior. Prostate size on pre-operative imaging was 290.3±38.5 grams and 6 (66%) patients were catheter dependent prior to intervention. 8 (89%) patients underwent bilateral PAE while one patient underwent unilateral PAE with a procedure time of 174.4±64.6 minutes. HOLEP was successfully performed in all patients with procedural time of 159.4±48.5 minutes, enucleation time of 91.4±22.3 minutes, and enucleated volume of 130.8±41.5 grams. Enucleation efficiency was 1.43 grams per minute. All patients passed a void trial on their first attempt after surgery. One patient required repeat surgery for morcellation of a retained fragment.

Conclusion

HOLEP can be performed efficiently without increased complications after PAE by an experienced surgeon. This is important as PAE has the potential to be an adjunct treatment in massive prostate glands that are otherwise technically difficult to resect.

Funding: N/A

ACUTE SEGMENTAL TESTICULAR INFARCTION RESULTING FROM ILLICIT ANABOLIC STEROID USE

Jacob Stephens, MD, Frank Burks, MD

Department of Urology, William Beaumont Hospital, Royal Oak, MI

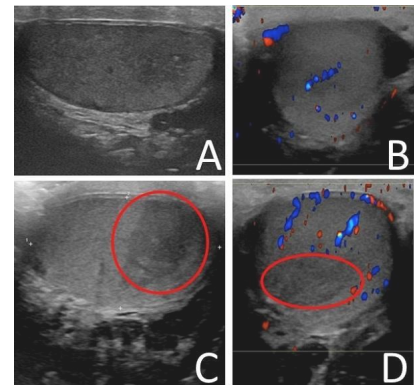
Introduction: Segmental testicular infarction (STI) is a rare cause of acute scrotum of unknown etiology. The diagnosis is often made by color Doppler ultrasonography (CDUS) demonstrating absent perfusion in a well-defined testicular region. Previously patients underwent surgical exploration, but currently conservative therapy is recommended.

Methods: We report a case of STI related to anabolic steroid use.

Results: A 44-year-old male with a history of hypertension presented to the emergency room with acute, severe right testicular pain which was unprovoked and constant. Physical exam was notable only for tenderness at the inferior right testicle. CDUS showed small bilateral hydroceles but preserved blood flow (Figure 1A-B). Upon receiving analgesics with moderate relief, he left AMA but returned the following day with unrelenting pain. Exam was unchanged though repeat CDUS demonstrated a wedge of absent perfusion in the inferior right testicle (Figure 1C-D). Serum tumor markers were normal, though patient was polycythemic with a hemoglobin of 18.7 g/dL. On further questioning, patient revealed that he takes anabolic steroids for body-building. He was admitted for pain control and discharged two days later but unfortunately lost to follow up.

Conclusion: STI, once properly diagnosed, can be safely managed conservatively. Our patient's polycythemia, a consequence of exogenous testosterone, likely created a low-flow state leading to STI.

Funding: N/A



6:30 AM-7:30 AM

Trauma and Reconstruction Poster Session

Location: Cuvee

Moderators:

Matthew Grimes

John Stoffel

A NOVEL APPROACH TO SHORT BULBAR URETHRAL STRICTURES: VENTRAL URETHROTOMY FOR A NON-TRANSECTING EXCISION AND PRIMARY ANASTOMOSIS

Alexander Geisenhoff, MD, Samantha Kraemer, MD, Frank Burks, MD
Beaumont Health, Royal Oak, MI

Introduction: Excision and primary anastomosis (EPA) has been the gold standard procedure for definitively managing short bulbar urethral strictures. A non-transecting approach was developed to help preserve proximal blood supply of the urethra. The previously described technique involves a dorsal urethrotomy and excision of the stricture without disrupting the anterior spongiosum. We describe a novel approach by performing a ventral urethrotomy leaving the posterior spongiosum intact. By not requiring urethral rotation, we believe this technique is simpler and does not compromise outcomes.

Methods: Retrospective chart review was performed on 8 consecutive patients from April 2019 to February 2021 who underwent non-transecting EPA with ventral urethrotomy for short bulbar urethral strictures. We reviewed demographics and when available pre and postoperative data points including uroflow, post-void residuals, SHIM and AUA scores.

Results: All 8 patients underwent the aforementioned procedure. Average age was 48.6 years, and average stricture length was 1.375 cm. All 8 patients underwent postoperative voiding cystourethrogram at 2 weeks which confirmed no contrast extravasation and no residual stricture. We had a stricture free rate of 100% (8/8 cases) with median follow-up time of 4 months (range 0-14 months). Average increase in Q-max was 14.2 mL/s.

Conclusion: Our case series demonstrates that non-transecting EPA with ventral urethrotomy is a safe and effective alternative to dorsal urethrotomy for the management of short bulbar urethral strictures with the added benefit of requiring less complexity.

Funding: N/A

ILEAL CONDUIT URETERAL STRICTURE: WHAT IS THE DIFFERENCE BETWEEN LEFT AND RIGHT OPEN REIMPLANTATION?

Paholo Barboglio Romo, Zhina Sadeghi, Giulia Lane, John T Stoffel
Division of Neurourology and Pelvic Reconstructive Surgery, Department of Urology, University of Michigan Medicine, Ann Arbor, MI

AIMS: To investigate whether left uretero-enteric strictures are associated with worse outcomes when performing open ureteral reimplant for ileal-conduit stricture.

METHODS: We identified patients who underwent open ureteral reimplantation to ileal-conduit from 2017-2020. All patients underwent percutaneous nephrostomy (PCN) with antegrade nephro-ureterogram (AN) within 3-months prior to surgery. Pre-op and intraoperative stricture location were compared, which was defined as most distal site of viable ureter identified after dissection. Pre and post-op variables as well as complications were analyzed for 24-months postoperatively.

RESULTS: There were 25 subjects, of which 18 (72%) were male with mean age of 69 (8.9) included. Of these 10 (40%) had right (RT), 11 (44%) had left (LT), and 4 (16%) had bilateral strictures. Preop-AN showed that all RT sided strictures were distal, and this matched intraoperative findings for all patients. Preop-AN showed that 10 (66%) LT strictures were distal, and this was less consistent with intraoperative findings. Single RT side reimplants had shorter operative times than left sided or bilateral strictures (220min vs 284min, $p=0.053$). Laterality was associated with robotic vs open cystectomy (37% LT vs 100% RT vs 63% bilateral, $p=0.02$).

At mean follow-up of 14 months postoperatively, no patients required repeat stent/PCN, none had hydronephrosis. 7 (28%) suffered moderate to severe complications and complication rates did not differ based on laterality ($p>0.05$).

CONCLUSION: Open left ureteral reimplant to ileal-conduit is associated with more proximal stricture location that may not be detected on preoperative-AN. Early and mid-term outcomes and complications are not associated with laterality.

Funding: NA

OPEN URETERAL REIMPLANTATION: EARLY TO MID-TERM OUTCOMES AND COMPLICATIONS IN CONDUIT URINARY DIVERSIONS

Zhina Sadeghi, Giulia Lane, John T Stoffel, Paholo Barboglio Romo
Division of Neurourology and Pelvic Reconstructive Surgery, Department of Urology University of Michigan Medical School, Ann Arbor, MI

Introduction: To investigate outcomes and complications after open ureteral reimplantation in ileal-conduit in adult patients.

Methods: This is a retrospective review of patients undergoing open ureteral reimplantation into ileal-conduits from 2017-20. All patients had preoperative antegrade-nephrostogram within 3-months of surgery. The following outcomes were assessed: need for percutaneous nephrostomy tube or stent (PCN/stent), new/worsening hydronephrosis; worsening glomerular filtration estimate (GFR) compared to preop, and Clavien-Dindo (CD) complications with ≥ 3 as severe.

Result: A total 175 ureteral reimplantations were performed, of which 25 were to ureteral ileal-conduit. Out of 25 patients the mean age was 69 most (72%) were male. No patients required re-operation for recurrent stricture and all were PCN/stent free by 3-months. There was increase in GFR at 3-months (55 vs. Preop: 49, $p=0.001$), however this difference was no longer significant at latest follow-up (mean 14-months) (52 vs. 49, $p=0.174$). No patients suffered new/worsening hydronephrosis. In the first 3-months 8 (32%) patients had complications, of which only 1(4%) was severe (CD 3b). There were 8 late complications (>3 months postop) of which 7 were $\geq$ CD3 including 6 parastomal/abdominal hernias. There was no association between complications and age, gender, BMI, type of original cystectomy (open vs. robotic), history of radiation, intraoperative blood loss, side of the reimplantation, conduit revision, length of hospitalization.

Conclusion: Open ureteral reimplantation for ureteral obstruction in ileal-conduit has excellent early outcomes with relatively low risk for severe complications. but was associated with over 25% risk of requiring future hernia repair within the first two years.

Funding: NA

HYPOALBUMINEMIA IS ASSOCIATED WITH INCREASED 30-DAY COMPLICATIONS FOLLOWING RECTOURETHRAL FISTULA REPAIR: A NSQIP STUDY

M. Ryan Farrell, MD, MPH, Alex J. Vanni, MD

Center for Reconstructive Urologic Surgery, Lahey Hospital and Medical Center, Burlington, MA

Introduction: Surgical management of rectourethral fistula (RUF) is complex. Hypoalbuminemia, a marker of poor nutrition, has been associated with increased complications in other major surgical procedures including cystectomy and colorectal surgery. We utilized a large national database to describe the population of men undergoing RUF repair and evaluated the effect of hypoalbuminemia on postoperative complications.

Methods: The American College of Surgeons National Surgical Quality Improvement Program (ACS NSQIP) database was queried for all male patients who underwent RUF repair (2006-2018). Postoperative 30-day complications included wound infection, organ space surgical site infection, wound dehiscence, urinary tract infection, sepsis, venous thromboembolism, pneumonia, mortality, and return to operating room.

Results: A total of 250 patients were identified. Concurrent procedures during RUF repair were bowel diversion (17.2%), bowel resection (13.6%), cystectomy (8.0%), and urethroplasty (14.8%). Overall, median age was 66.0 years (IQR 59.0-72.0), BMI 26.6 kg/m²(IQR 23.7-29.5), and 98.8% were functionally independent. Comorbidities included hypertension (56.0%), smoking (22.0%), diabetes (6.8%), COPD (4.4%), and CHF (0.4%). Hypoalbuminemia (<3.5 g/dL) was present in 19.8%. Overall, 20.4% of patients experienced a complication within 30 days of surgery including wound infection (5.6%), sepsis (5.2%), organ space infection (4.4%), urinary tract infection (3.2%), and venous thromboembolism (3.2%). Hypoalbuminemia was associated with increased odds of an adverse event (OR 3.1, p=0.02). Median hospital length of stay was 5.0 days (IQR 3.0-8.0). Overall 30-day mortality was 2.0%.

Conclusion: Hypoalbuminemia was associated with increased odds of an adverse event after RUF repair, thereby suggesting a role for preoperative nutritional optimization.

Funding: N/A

Infectious Osteomyelitis Secondary to Urosymphyseal Fistula: Do Preoperative Cultures Adequately Predict Intraoperative Bone Cultures?

Kevin Hebert, MD, Elizabeth Bearrick, MD, Jack Andrews, MD, Matthew Houdek, MD, Katherine Theisen, MD, Boyd Viers, MD
Mayo Clinic

Introduction: Urosymphyseal fistula (UF) by definition implies infection of the joint space. The frequency of adjacent bone involvement resulting in infectious osteomyelitis is unknown. In an effort to further understand the extent of pubic bone resection required at the time of UF reconstruction, we sought to characterize histopathologic results and assess concordance of preoperative urine and bone biopsy culture results with intraoperative bone cultures.

Methods: A retrospective, single institution, review of men undergoing UF reconstruction between 2009 and 2021 was performed using the electronic medical record. Culture results and histopathologic data were assessed.

Results: UF and bone resection was identified in 37 men [median age 70 (IQR 66,74)] of which 95% received prostate cancer therapy. Bladder neck obstruction with prior endoscopic management was common (N=26; 70%). Preoperative urine cultures prior to pubectomy were available in 29 patients, of which 27 (93%) were positive. Preoperative bone biopsies prior to pubectomy were available in 12 patients, of which 8 (66%) were positive. Positive intraoperative bone cultures were present in 81% (N=30) and 76% (N=28) had histopathologic findings consistent with infectious osteomyelitis. Discordance between preoperative urine cultures 23/26 (88%), bone biopsy 10/12 (83%), and intraoperative bone culture was common. Multiple organisms (N=20; 59%) and yeast were commonly present on final bone culture (N=11; 32%).

Conclusion: UF associated infectious osteomyelitis is common and discordance between preoperative and intraoperative bone cultures is high. While extent of bone resection to control infection remains unknown, intraoperative bone culture is warranted to guide targeted antimicrobial therapy.

Funding: N/A

BICYCLE RELATED UROGENITAL TRAUMA IN THE UNITED STATES

Rachael Gotlieb¹, Philipp Dahm²

¹University of Minnesota, Medical School, Minneapolis, MN, ²University of Minnesota, Department of Urology, Minneapolis, MN

Aim Bicycle riding in the United States is highly popular and safer than ever before. Nevertheless, urogenital injuries remain a risk of this activity. Herein, we aimed to quantify and analyze these injuries.

Methods Ten-year query of National Electronic Injury Surveillance System (NEISS) database identified bicycle-related urogenital trauma. Data included patient demographics, injury type, injured body part, case narratives, and disposition.

Results A total of 1522 bicycle-related urogenital injuries were identified. Over the first nine years of the study the incidence of these injuries decreased by 21%. Laceration was the most common type of injury (528/1522; 34.69%). There were no significant differences between males and females regarding injury type or disposition. The incidence of female urogenital trauma was significantly higher in children than adults (47.3% vs. 26.6%, respectively; $p < 0.0001$) while the incidence of male urogenital trauma was significantly higher in adults than children (73.4% vs. 52.7%, respectively; $p < 0.0001$). Children were more likely to be treated and discharged than adults (91.5% vs. 86.9%, respectively; $p < 0.01$).

Conclusions Bicycle-related urogenital trauma is a common occurrence in the United States. Participants, especially in the pediatric population, should take cautions to prevent these injuries, like soft saddles, padded cross bars, and adequate clothing.

Funding: N/A

Adult Patient's Opinions on Surgical Correction of Penile Curvature

Matthew Ziegelmann, MD¹, Jordan Holler², Tal Cohen, MD¹, Anthony Herndon, MD³, Carlos Villanueva, MD⁴, Nora Kern, MD⁵

¹Mayo Clinic, ²University of California San Francisco, ³Children's Hospital of Richmond at VCU, ⁴Phoenix Children's, ⁵University of Virginia

Introduction

Pediatric urologists recommend surgery for penile curvature (PC) based on severity, with previous work identifying $\geq 30^\circ$ as the threshold. We sought to assess adult patients' opinions on willingness to consider surgery for PC in order to determine if this aligns with pediatric urologists.

Methods

A survey was administered to adult patients and their partners (> 18 years of age; n=300, response rate 77%) in general adult urology clinics at 3 geographically separate institutions. Respondents were asked to select what images they would want surgically corrected for themselves or their partners based on panel of PC models (range 10-90°). Statistical analyses were performed to identify variables associated with willingness to consider correction.

Results

80% stated they would surgically correct PC. Among those who endorsed willingness to correct PC, the mean threshold was 40.5° (SD 25.3). There was a significant difference in willingness to undergo PC surgery based on gender, age, sexual orientation, and region (Table 1). Male patients were more likely to consider surgery at a lower degree of PC compared to females (36.6° vs 50.6°, $p < .001$). Midwestern residents endorsed an average threshold for correction of 21.5° compared to other regions varying between 40° to 60° ($p < .001$). Regional differences remained significant on multivariable analysis ($p < .001$).

Conclusions

In surveying adult patients, we identified an average PC threshold of 40° beyond which surgical correction was desired, slightly higher than that recommended by pediatric urologists based on previous work. Midwest US residence was the only factor associated with a lower threshold for correction.

Funding: N/A

CHARACTERIZATION OF KIDNEY STONE MANAGEMENT AMONG PATIENTS WITH CEREBRAL PALSY

Ashley Alford, MD¹, Katherine Theisen, MD², Sean Elliott, MD¹, Michael Borofsky, MD¹

¹University of Minnesota, ²Mayo Clinic

Introduction

Individuals with congenital neurogenic bladder are at heightened risk for nephrolithiasis and may have multiple comorbidities that make surgical treatment more challenging. Patients with spina bifida (SB) are recognized to have increased risk of post-operative complications; however, less is known about surgical outcomes among patients with cerebral palsy (CP). Herein we present the largest series to date of patients with CP undergoing endoscopic stone removal.

Methods

A retrospective review of patients with SB or CP undergoing kidney stone removal at a single center between July 2016 and July 2019 was performed. Control data was collected from July 2018 to July 2019. Patient demographics, surgical outcomes and stone analyses were evaluated and compared.

Results

Patients with CP undergoing URS had comparable outcomes to those with SB as well as controls. CP patients undergoing PCNL were at heightened risk of complications compared to controls (58.3% vs 9.1%, $p < 0.05$) and had similar complication rates as SB patients. The majority of stones in the CP and SB cohorts were calcium phosphate-based, compared to calcium oxalate among controls (Table 1).

Conclusions

Patients with CP appear to have comparable peri-operative profiles as those with SB, with increased potential for complications with percutaneous approaches.

Funding: N/A

Table 1: Demographics and surgical outcomes of cerebral palsy patients relative to those with spina bifida and controls.

(a) Patients undergoing ureteroscopy with laser lithotripsy					
	p-value	SB (n=8)	CP (n=14)	Control (n=58)	p-value
Age (years) (mean)		28.75	28.0	26.2	
Scoliosis present, N (%)		7 (87.5)	8 (57.1)	0 (0)	
Spinal hardware present, N (%)		4 (50)	4 (28.6)	0 (0)	
Catheterize, N (%)		8 (100)	3 (21.4)	0 (0)	
Number of procedures		9	18	60	
Total stone burden (cm) (mean)	0.97	1.27	1.26	1.12	0.68
Operative time (minutes) (mean)	0.46	78	72	73	0.90
Positive preoperative urine cultures, N (%)	0.10	7 (77.8)	9 (50)		
Stone free after surgery, N (%)	0.50	8 (88.9)	14 (77.8)	10 (16.7)	0.81
Complications, N (%)	0.21	0 (0)	3 (18.7)	6 (10)	0.44
Stone analysis					
Calcium phosphate/brushite		6 (66.7)	11 (65.1)	10 (16.7)	
Calcium oxalate		3 (33.3)	1 (5.6)	39 (63.3)	
Other		0 (0)	4 (22.2)	6 (10)	
No specimens		0 (0)	2 (22.2)	6 (10)	

(b) Patients undergoing percutaneous cystolithotomy					
	p-value	SB (n=6)	CP (n=10)	Control (n=21)	p-value
Age (years) (mean)		30.2	36	28.6	
Scoliosis present, N (%)		4 (66.7)	7 (70)	0 (0)	
Spinal hardware present, N (%)		4 (66.7)	3 (30)	0 (0)	
Catheterize, N (%)		4 (66.7)	3 (30)	0 (0)	
Number of procedures		6	12	22	
Total stone burden (mm) (mean)	0.04	2.1	3.6		
Operative time (minutes) (mean)	0.05	95	136	3.1	0.35
Positive preoperative urine cultures, N (%)	0.03	4 (100)	6 (50)	150	0.53
Stone free after surgery, N (%)	0.07	4 (100)	6 (50)	4 (18.2)	0.18
Complications, N (%)	0.35	2 (33.3)	7 (58.3)	2 (9.1)	0.09
Stone analysis					
Calcium phosphate/brushite		1 (16.7)	4 (50)	3 (13.6)	
Calcium oxalate		2 (33.3)	5 (41.7)	15 (68.2)	
Other		0 (0)	1 (8.3)	3 (13.6)	
No specimens		3 (50)	0 (0)	1 (4.5)	

Reoperative indications and outcomes in the reconstructed adult cloacal and bladder exstrophy patient

Brandon McNichol, Meera Ganesh, Nicole Handa, Stephanie Kielb, MD
Department of Urology, Northwestern University Feinberg School of Medicine, Chicago, IL, USA

Introduction

Patients with exstrophy-epispadias complex (EEC) have rare congenital malformations requiring a multitude of reconstruction surgeries from birth into adulthood. We describe the Northwestern experience of operative revisions in the previously reconstructed adult patient.

Methods

This was a retrospective observational study examining indications, complications, and outcomes of bladder revision surgeries in patients with EEC at a tertiary care hospital from 2000-2021.

Results

Nine patients were included with median age at time of reconstruction 24 years old, ranging from 8 – 54 years of age. Procedure performed consisted of revision of Indiana Pouch (n=1), conversion/creation of an ileal conduit (n=3), revision Mitrofanoff appendicovesicostomy (n=2), ileovesicostomy (n=2) and bladder augmentation (n=1). Indications included incontinence, poor bladder compliance and/or capacity, and progressive hydronephrosis. There were no intraoperative complications, median blood loss 250 cc (IQR 175, 300 cc), and median hospital stay 8 days (IQR 7, 10 days). Post-operative complications within 90 days included UTI (n=2), pyelonephritis (n=2), sepsis (n=2), renal stones (n=1), bowel obstruction, (n=1) and ureteral stricture requiring reimplantation (n=1). Prior to surgery, 6 patients were continent via CIC and 3 were incontinent. Post-operatively, 8 patients were continent via CIC and 1 patient converted to an incontinent diversion. Seven operations involved a multidisciplinary team including colorectal (n=3), pediatric surgery, plastic surgery, gynecological surgery, and neurosurgery.

Conclusion

This study reports the experience at our center with revision surgeries in patients with EEC, highlighting the importance of a multidisciplinary surgery team in order to effectively deliver care and address the complex needs of this patient population.

Funding: N/A

DO SEXUAL MEDICINE PROFESSIONAL SOCIETIES WEBSITES SERVE AS A PUBLIC RESOURCE FOR SEXUAL MEDICINE?

Marissa Falkiewicz, Katharine Tippins, Brian Le

University of Wisconsin-Madison, Dept Urology, Madison, WI

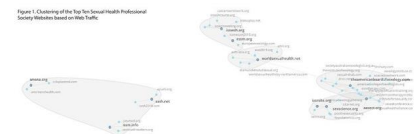
Introduction: Professional societies in the field of sexual medicine have multiple missions including professional development, networking, education and advocacy. Seeking to better understand their public-facing goals of education and advocacy, we compared the web traffic patterns of the top ten societies.

Methods: The top ten professional societies for sexual health were selected based on results of the 4 most used search engines and were analyzed using Alexa.com web-traffic analysis. Alexa uses a proprietary methodology that combines a site's estimated traffic and visitor engagement over the past three months. Analysis was limited to the past 3 years prior to February 2021.

Results: The top ten societies are: issm.info, aasect.org, smsna.org, essm.org, iasrsite.org, theamericanboardofsexology.com, sash.net, sexscience.org, worldsexualhealth.net, isswsh.org. The ISSM website has the highest global rank and page views. The AASECT is the most linked site. Most visits are achieved through search engines and often directly, suggesting a member audience. Anejaculation, climacturia, and male anorgasmia were the most common organic search terms. Searches for conferences, professional certification, and licensed therapists was 3 times more common.

Conclusions: Sexual medicine societies' websites mainly serve a member-facing focus and does not appear to direct public web traffic. It is rare to end up at a professional society's website using the most common sexual medicine keywords.

Funding: N/A



UNDERSTANDING POST SSRI/SNRI SEXUAL DYSFUNCTION (PSSD) AND AMELIORATING FACTORS IN PATIENTS WITH PRIOR SSRI/SNRI USE

Margaret Gannon¹, Alania Studt¹, Joanna Orzel², Ashley Vaughan¹, Amy Pearlman³

¹*Carver College of Medicine, University of Iowa*, ²*Georgetown University School of Medicine*, ³*Department of Urology, University of Iowa*

Introduction: There is little known about the sexual side effects of selective serotonin reuptake inhibitors (SSRIs) and serotonin norepinephrine reuptake inhibitors (SNRIs) despite medication cessation or how to manage these side effects. The purpose of this study was to characterize post-SSRI/SNRI sexual dysfunction (PSSD) from affected individuals and investigate potential treatments.

Methods: The survey was posted on various PSSD online support groups. Eligible participants were at least 18 years of age with a history of SSRI/SNRI use.

Results: We received 239 survey responses spanning 39 countries and 6 continents. Most commonly reported persistent sexual side effects included decreased sex drive (74%), difficulty becoming aroused (70%), erectile dysfunction (65% of males), and decreased genital sensation (62%). Side effects were persistent (30%) or worse in severity (23%) in a majority of respondents after discontinuing the SSRI/SNRI. Nearly half of respondents pursued treatment (44%), most of which worsened or had no effect on symptoms (59%). Few respondents (12%) received counseling regarding potential sexual side effects and almost all rated the effect of PSSD on their quality of life as extremely (65%) or very negative (25%).

Conclusion: Sexual side effects persisting after SSRI/SNRI use can persist despite cessation, are largely treatment resistant, and profoundly impactful on quality of life. Pre-treatment counseling about these risks is imperative as work to find durable treatments is underway.

Funding: N/A

PATIENT PERCEPTIONS AFTER PENILE IMPLANT REVISION FOR MALFUNCTION

Tobias Kohler, MD, Niki Parikh, MD, David Yang, MD, Engy Habashy, MD,
Matt Ziegelmann, MD, Sevann Helo, MD
Mayo Clinic, Rochester, MN

Introduction: IPP revision after implant malfunction yields rare insight into patient preference and perception of penile implant variations in brand and size.

Methods: Retrospective review of all patients undergoing revision surgery for purely mechanical malfunction (fluid leak) at Mayo Clinic since 2017. Patients > 6 months follow up after revision were contacted to comment on changes in penile size and device preference.

Results: 18 patients were identified that met criteria with an average of 70.7 Coloplast, 2 Mentor, 9 AMS were revised. Device brand used to replace the broken IPP was n= 15 for Coloplast and n=3 for AMS. Mean time to revision was 8 years overall (2-26). Fluid leak location showed no discernable pattern. Total average implant length increased from 20.3 cm to 22.9 cm. 8 patients were identified that had both AMS and Coloplast devices (all of which had initially AMS devices). Despite change in implanted length, most patients did not discern a change in penile length unless cylinders increased by > 4 cm (likely reflecting undersizing of initial implant). Girth and device rigidity however, was notably stated as improved with Coloplast devices. Pump preference varied between brands. Several patients felt consistently cycling the device after revision led to length improvement and ease of use.

Conclusion: Our small cohort of IPP revision patients for mechanical failure reveals that revision often requires longer cylinders but this is often imperceptible to the patient. Post operative daily device cycling appears important.

Funding: n/a

TENSILE STRENGTH OF PENILE TUNICA ALBUGINEA IN A PRIMATE MODEL

Alexander M. Kandabarow, MD¹, Eric Chuang², Kevin McKenna, PhD³, Brian Le, MD⁴, Kevin McVary, MD¹, Alberto Colombo, PhD¹

¹Loyola University Medical Center, ²Loyola University Chicago Stritch School of Medicine, ³Northwestern University Feinberg School of Medicine,

⁴University of Wisconsin School of Medicine and Public Health

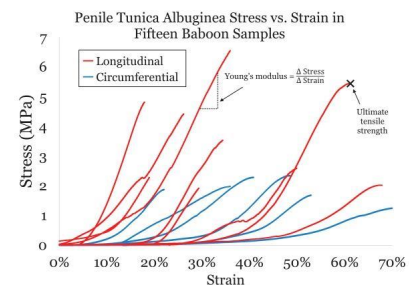
The penis is fundamentally a biomechanical implement. Penile load-bearing is assumed by the tunica albuginea, a sheet of collagenous tissue enveloping the corpora cavernosa. Quantifying the tunica's biomechanical properties is essential for understanding erectile dysfunction and safe functioning of penile prostheses. These quantities have been directly measured in human cadavers and cingulates but never in fresh primate specimens.

We procured penile tissue from freshly sacrificed male baboons (*Papio anubis*). To generate experimental samples, strips of tunica were prepared in both longitudinal and circumferential orientations. To calculate the elasticity and failure strength of a sample, we generated a stress-strain curve via mechanical extensometry. From this curve the Young's modulus and ultimate tensile strength were calculated.

Fifteen samples from six penes produced a mean Young's modulus of 26.4 MPa (SD 10.0) longitudinally (n=9) and 11.9 MPa (SD 4.2) circumferentially (n=6). The mean ultimate tensile strength was 3.8 MPa (SD 1.6) longitudinally and 1.9 MPa (SD 0.4 MPa) circumferentially. These values show tunica albuginea has a similar elasticity and failure strength to cartilage.

These first measures of the biomechanical properties of fresh primate penile tunica albuginea will be compared to fresh human tissues and applied to computational models.

Funding: n/a



7:00 AM-3:30 PM

Exhibit Hall Hours

Location: Imperial Ballroom (B2 Level)

7:30 AM-8:00 AM

Break - Visit Exhibits

Location: Imperial Ballroom

7:30 AM-11:00 AM

Spouse/Guest Hospitality Suite Hours

Location: Embassy Room (Level 2)

8:00 AM-9:00 AM

**Joint Young Urology and Women Urology Session:
Balancing Work and Personal Responsibilities with your
Partner**

Location: International Ballroom

Moderator:

Adam Kadlec

Panelists:

Kristin Baldea

Anthony Baldea

Edward Cherullo

Lisa Cherullo

Sarah Vij

Alok Vij

8:00 AM-9:00 AM

Bizarre and Interesting Cases Podium Session

Location: Gold

Moderator:

Bradley Schwartz

A RARE CASE OF PURE N4-ACETYL-SULFAMETHOXAZOLE NEPHROLITHIASIS ASSOCIATED WITH TRIMETHOPRIM-SULFAMETHOXAZOLE TREATMENT OF PULMONARY NOCARDIOSIS

Alexander Geisenhoff, MD, Sugandh Shetty, MD
Beaumont Health, Royal Oak, MI

Introduction: Trimethoprim-sulfamethoxazole is a commonly used antibiotic for treatment of urinary tract infections (UTIs). It is also commonly used to treat nocardia infections. Less common are reports of nephrolithiasis consisting purely of N4-acetyl-sulfamethoxazole, the primary metabolite of trimethoprim-sulfamethoxazole.

Case: A 70-year-old male with history of mantle cell lymphoma and T-cell leukemia treated with bone marrow transplant now with nocardia lung infection receiving trimethoprim-sulfamethoxazole for the past 6 months who presented to the emergency room with confusion and a fall. He had no prior history of nephrolithiasis, but during hospitalization developed renal colic and was found to have obstructing right proximal ureteral calculi associated with declining renal function. The patient required ureteral stenting followed by interval ureteroscopy. During ureteroscopy, numerous small calculi were seen in the proximal ureter that were soft and dark orange in color. When he presented for stent removal 2 weeks postoperatively his stent was unretrievable and had to be removed later under general anesthesia. Stone analysis showed 100% N4-acetyl-sulfamethoxazole. The patient was referred to infectious disease for adjustment of antibiotic regimen.

Conclusion: Pure N4-acetyl-sulfamethoxazole stones are exceptionally rare and have only been documented in a few case reports in patients receiving long term sulfonamides. This case provides an important reminder that although uncommon trimethoprim-sulfamethoxazole related stones can lead to significant morbidity. Alternative antibiotics and treatment including alkalization of the urine and diuresis can be considered for stone prevention and dissolution.

Funding: N/A

BLACK BLADDER: A CASE OF BENIGN BLADDER HEMOSIDEROSIS

Paige Nichols, Madeleine Manka, Aaron Potretzke
Mayo Clinic - Rochester

Introduction: A 68-year-old male with past medical history of obesity, nicotine dependence, and rheumatoid arthritis presents for evaluation of hematuria and dysuria. CT urogram demonstrates focal thickening of the anterior bladder with adjacent perivesicular stranding concerning for malignancy. Office cystoscopy demonstrates thickened bladder urothelium with black discoloration throughout the bladder (figure 1) in addition to bladder calculi.

Methods: Cystolitholapaxy and transurethral resection of the anterior bladder is performed for tissue diagnosis.

Results: Pathology demonstrates subacute and chronic cystitis with surface urothelium showing black coarse foreign pigmentation with underlying iron positive hemosiderin laden macrophages. Bladder calculi were composed of 100% magnesium ammonium phosphate (struvite). Subsequent serum iron studies performed show normal levels. No evidence of local or distant metastasis identified at one-year follow-up.

Conclusion: Only a few cases of bladder hemosiderosis have been reported in the literature. Hemosiderin is an intracellular storage form of iron that is produced by phagocytic digestion of hematin. Excessive iron storage in tissue is known as hemosiderosis. Almost all previously reported cases of bladder hemosiderosis have been associated with underlying malignancy. A possible explanation for this patient's hemosiderosis could include reaction to infection associated with his bladder calculi, however, the ultimate etiology of his bladder hemosiderosis remains a mystery.

Figure 1. Cystoscopic exam demonstrating bladder hemosiderosis

Funding: N/A



UTILIZATION OF A RECTAL HYDROGEL SPACER FOR VAGINOPLASTY IN A CADAVER MODEL

Crystal An¹, Kirtishri Mishra, MD^{2,1}, Laura Bukavina, MD, MPH^{2,1}, Itunu Arojo, MD², Rachel Pope, MD², Shubham Gupta, MD²

¹Case Western Reserve University School of Medicine, Cleveland, OH, USA, ²Urology Institute, University Hospitals – Cleveland Medical Center, Cleveland, OH, USA

Background:

A major source of complications in vaginoplasty results from injury to the rectum during dissection of the neovaginal cavity. The SpaceOAR™ System is a rectal hydrogel spacer. We hypothesized that if the rectal spacer can be injected into the Denovilliers' fascia, then it may facilitate dissection of the vaginal canal and decrease the rate of rectal injuries.

Description of Technique:

Prior to standard cavity dissection, SpaceOAR™ was injected transperineally into the Denonvilliers' fascia under guidance of transrectal ultrasound. Perineal dissection was then proceeded in a standard manner anterior to the rectum.

Patients and Methods:

This was a feasibility study performed in a single cadaveric perineum.

Results:

Dissection of the neovaginal cavity with spacer gel was qualitatively assessed to be significantly easier, allowing for a blunt and quick approach. A satisfactory vaginal length was achieved rapidly and safely.

Conclusion:

We show that transgender vaginoplasty using this adaptation of SpaceOAR™ is technically feasible in the cadaveric model and may reduce the incidence of rectal injury or rectovaginal fistula during neovaginal cavity creation. Future experimental endeavors should focus on the reproducibility of this approach and characterize the degree of rectal protection provided.

Funding: N/A

METASTATIC CROHN'S DISEASE; A CASE OF GENITAL CUTANEOUS CROHN'S DISEASE INVOLVING THE PENIS AND SCROTUM

Zubin Shetty, MD, MS, Megan Schober, MD, PhD
Beaumont Health, Dept. of Urology, Royal Oak, MI

Introduction: Crohn's disease is an autoimmune inflammatory disorder affecting the gastrointestinal tract. Rarely, Crohn's disease can cause cutaneous manifestations that are non-contiguous with the GI tract or "metastatic." Genital Cutaneous Crohn's Disease (CCD) is the most frequent presentation of CCD in the pediatric population and has shown to be difficult to manage.

Case: A 13 year old boy with a history of fistulizing Crohn's disease presented with severe penile and scrotal edema for the previous 4 years. While his gastrointestinal symptoms were responsive to Adalimumab, his genital swelling only minimally and temporarily improved between treatments. He was referred to pediatric urology for an excisional biopsy which revealed dermal fibrosis, perilymphatic inflammatory infiltrate composed of lymphocytes, plasma cells, and histiocytes. Additionally, poorly formed granulomas of histiocytes and multinucleated giant cells were identified. The scrotal and penile biopsies were both compatible with the diagnosis of metastatic Crohn's disease.

Discussion: We describe a rare case of genital CCD in a patient with well controlled Crohn's. After the positive biopsy, the patient began Azathioprine and Adalimumab combination therapy with substantial improvement in genital swelling. Although there are no treatment guidelines for CCD, literature suggests combination systemic therapy with immunomodulators to be the most beneficial. We highlight treatment options.

Funding: N/A



MASSIVE LYMPHADENOPATHY IN PENILE CANCER: A CASE REPORT

Megan Sharpe, BS¹, Megan Prunty, MD², Laura Bukavina, MD, MPH², Adam Calaway, MD, MPH²

¹Case Western Reserve University School of Medicine, ²Case Western / University Hospitals

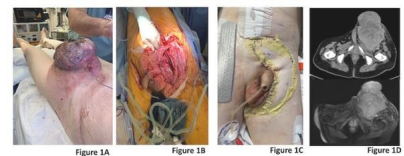
Introduction: Lymph node (LN) status is a key prognostic factor in squamous cell carcinoma of the penis. A multi-disciplinary approach consisting of neoadjuvant chemotherapy, possible radiation followed by consolidation surgery improves the outcomes of advanced, and locally invasive penile cancer. Lymphadenectomy is the mainstay treatment of node positive penile cancer and may be curative, if not palliative in patients with lymph node dissection.

Methods: Retrospective chart review was performed.

Case Presentation: We herein describe a case of a 51-year-old otherwise healthy Amish male with SCC of the penis, with a 15 cm soft tissue mass consistent with metastatic penile cancer. Neoadjuvant (NAC) chemotherapy was initiated, which the patient was unfortunately unable to tolerate due to toxicity. Follow up MRI revealed enlarging left inguinal LN mass with invasion into the adductor muscles, with femoral vessel involvement (Figure 1D). Due to substantial local symptoms and imminent vascular compromise, bilateral inguinal/bilateral pelvic (ILND) resection was performed (Figure 1 a,b), with subsequent right rectus abdominis myocutaneous flap reconstruction (Figure 1c) of the left inguinal region. Contralateral ILND was performed for possible vein harvesting, while access to the pelvis was obtained for vascular control.

Conclusion: For patients with advanced penile cancer with advanced disease and local symptoms, palliative resection may be considered.

Funding: N/A



A UNIQUE CASE OF RENAL PELVIC UROTHELIAL CARCINOMA WITH EXTENSIVE SMALL ROUND CELL SARCOMA DIFFERENTIATION SHOWING EWSR1 GENE REARRANGEMENT

Zubin Shetty, MD, MS¹, Mitul Amin, MD², Savitha Balaraman, MD³,
Sugandh Shetty, MD^{1,4}

¹Beaumont Health, Dept. of Urology, Royal Oak, MI, ²Beaumont Health, Dept. of Pathology, Royal Oak, MI, ³Beaumont Health, Dept. of Medical Oncology, Royal Oak, MI, ⁴Comprehensive Urology, Royal Oak, MI

Introduction: Ewings-like sarcoma is a rare subgroup of small round cell sarcoma with immunohistochemistry and morphological similarities to Ewing Sarcoma. We report a rare case of renal pelvis invasive urothelial carcinoma with small round cell sarcoma differentiation showing EWSR1 gene rearrangement.

Case: An 84 year old male presented with 6 months of intermittent painless gross hematuria. Workup revealed a 5.4cm left renal pelvicalyceal mass suspicious for transitional cell carcinoma and a 2.5cm enhancing left renal cortical lesion. The patient underwent an uncomplicated robotic left nephroureterectomy. Pathology revealed small round cell sarcoma composing greater than 80% of the renal pelvis tumor with the remainder composed of conventional invasive high grade urothelial carcinoma. Additionally, there were focal areas resembling chondroid differentiation. FISH examination of the round cell component was positive for a variant complex EWSR1 gene rearrangement. The renal mass was consistent with renal clear cell carcinoma. Margins were negative.

Discussion: This case may be the first documented case of upper tract urothelial carcinoma with small round cell sarcomatoid differentiation showing EWSR1 gene rearrangement. Literature review reveals only one case report of a urothelial carcinoma of the bladder with underlying “Ewing Sarcoma” features. Genetic testing will guide adjuvant chemotherapy recommendations.

Funding: N/A

A CASE OF PENILE FRACTURE WITH BILATERAL CORPORAL INJURY AND COMPLETE URETHRAL DISRUPTION

Brett Watson, MD, Samantha Kraemer, MD, Bradley Rosenberg, MD
Beaumont Health, Dept of Urology, Royal Oak, MI

Introduction

Penile fracture with bilateral corporal rupture and complete urethral disruption is an uncommon injury, with approximately 60 cases reported in the literature.

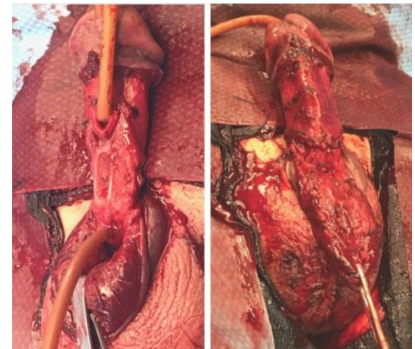
Case

A 54-year-old man presented with penile pain, ecchymosis, and detumescence, as well as urethral bleeding after blunt trauma sustained during vaginal intercourse. Clinical diagnosis of penile fracture was made and he was taken to the operating room for penile exploration. Complete transection of the urethra and bilateral disruptions of the corpora cavernosa were identified in the proximal penile shaft. The corpora were repaired with 3-0 vicryl. Primary urethroplasty was then performed using 4-0 PDS. Foley catheter was left in place for two weeks. At 3-month follow-up, the patient has a normal urinary stream and partial return of erectile function.

Discussion

Rupture of the bilateral corpora cavernosa is a rare presentation of penile fracture, and is often associated with urethral injury. In patients suspected of having penile fracture, blood at the meatus and urinary retention should raise concern for urethral involvement. Primary urethral repair at the time of injury is the preferred management strategy.

Funding: N/A



AN UNUSUAL COMPLICATION OF RETROPUBIC MIDURETHRAL SLING PLACEMENT: OBTURATOR NEURALGIA

NIKI PARIKH, MD¹, ROBERT SPINNER, MD², MATTHEW TOLLEFSON, MD¹, BRIAN LINDER, MD¹

¹Mayo Clinic, Urology, ²Mayo Clinic, Neurosurgery

Introduction:

Midurethral sling placement is a common treatment for stress urinary incontinence with low morbidity. This case serves to highlight an unusual complication.

Methods:

A 48-year-old female presented with nine-month pelvic and right lower extremity pain following synthetic retropubic midurethral sling placement at an outside facility. On evaluation, she had right-sided obturator neuralgia, without evidence of pelvic floor myalgia or mesh exposure. MRI was consistent with obturator nerve injury. Having failed conservative management, patient opted for excision of right arm of the sling using combined vaginal and robotic-assisted abdominal approach.

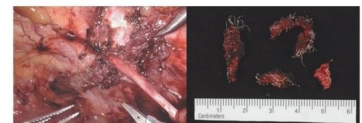
Results:

The sling was identified vaginally, transected, dissected circumferentially, and the right arm tagged. The robot was docked and the space of Retzius and obturator fossa dissected to identify the retropubic sling along its course throughout the pelvis. The sling was adherent to the obturator nerve and travelled lateral to it, coursing through the obturator fossa. With careful dissection the right arm of sling was removed, preserving the obturator nerve (Figure 1). Postoperatively her pain completely resolved, and she remained continent.

Conclusion:

Retropubic midurethral slings are safe and effective procedures for SUI, however complications can arise. If patients present with persistent groin and thigh pain after retropubic midurethral sling placement, the diagnosis of obturator neuralgia should be considered.

Funding: N/A



LARGE PELVIC HEMATOMA AFTER UROLIFT PROCEDURE

Max Roehmholdt, MD, MS, Dennis Bentley, MD
Cleveland Clinic Akron General, Department of Urology

INTRODUCTION: The UroLift procedure is a minimally invasive technique used to treat BPH in the office or the hospital setting. As of 2021, over 200,000 of these procedures have been performed, with an excellent safety profile. We present a case report of a patient who underwent a UroLift procedure and was found to have a 16.5cm pelvic hematoma, within 16 hours.

METHODS: This study was done as a retrospective chart review. In addition, a comprehensive review of the literature was performed and all relevant government and company websites were review for thorough evaluation.

RESULTS: The patient had an uncomplicated inpatient UroLift procedure for BPH using 5 implants and was discharged from the hospital without incident. The patient presented to the emergency department with abdominal pain 16 hours after the procedure and a 16.5cm pelvic hematoma was found on CT scan. Since 2015 there have been 27 cases of pelvic hematoma after UroLift reported to the FDA and only 1 case published in the literature. Our patient required hospital admission for 3 days, 3 units of packed red blood cells, but no surgical exploration or intervention. The procedure was technically successful as it relieved the patient's LUTS and improved his voiding symptoms as of 2 month follow up.

CONCLUSION: We present a rare complication of a large pelvic hematoma after a minimally invasive BPH procedure using UroLift. Potential etiologies include implant firing depth beyond the extent of the prostate, as well as treatment of the middle lobe.

Funding: N/A

MALIGNANT MIXED EPITHELIAL AND STROMAL TUMOR OF THE KIDNEY (MESTK) IN AN ADULT MALE PATIENT: A RARE PRESENTATION

Eiftu Haile, MD¹, JJ Zhang, MD¹, Sunpreet Tandon, MD², Steven Campbell, MD PhD¹

¹*Glickman Urological and Kidney Institute, Cleveland Clinic, Cleveland, OH*, ²*Cleveland Clinic Imaging Institute, Cleveland Clinic, Cleveland, OH*

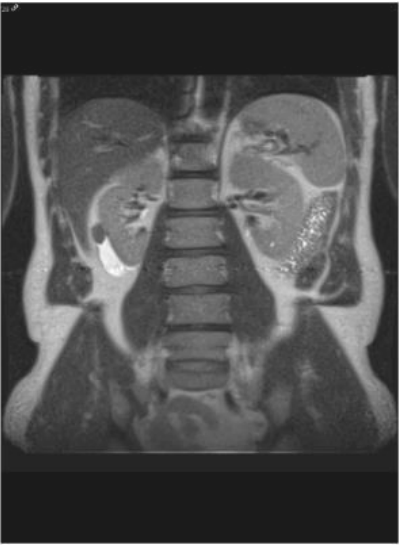
Introduction: Mixed epithelial and stromal tumor of kidney (MESTK) is a rare benign entity that occurs almost exclusively in postmenopausal women. In a large majority of cases, the immunohistochemical profile correlates with diffuse staining for progesterone and estrogen receptors. These tumors are difficult to distinguish from common mimickers (e.g. cystic nephroma, multicystic RCC, or retroperitoneal sarcoma). Only seven cases have been previously reported in men. We present the case of an ER-negative MESTK tumor in an adult male patient.

Methods: A 61-year old otherwise healthy male presented with right lower quadrant abdominal pain. The patient underwent imaging that demonstrated an incidental finding of a lesion adjacent to the right kidney. Further evaluation with MRI characterized the lesion as a cystic mass arising exophytically from the right lower pole with multiple enhancing nodules.

Results: The patient underwent open partial nephrectomy of the right renal mass off-clamp with final pathology demonstrated MESTK tumor, a rare biphasic neoplasm. The patient was without any radiologic evidence of tumor recurrence after one year of follow-up.

Conclusion: MESTK tumors are often diagnosed on the basis of radiographic findings, highlighting the necessity of quality cross-sectional imaging with contrast to differentiate these tumors from other benign cystic masses, solid neoplasms, or retroperitoneal masses to guide clinical decision-making.

Funding: N/A



ROLL OF THE DICE(R): A RARE CASE OF PRENATALLY DIAGNOSED DICER1 NEGATIVE CYSTIC NEPHROMA

Esther Liu, DO¹, Yegappan Lakshmanan, MD², Bahig Shehata, MD²,
Rama Zaiat, MD², Abdul Hanan, MD², Janae Preece, MD²

¹*Detroit Medical Center*, ²*Children's Hospital of Michigan*

Introduction: A 26-week gestational age female fetus was found to have a right lower pole cystic renal mass on prenatal ultrasound. The mass was monitored throughout the remainder of gestation, noting progressive enlargement from 1.1 cm to 4.4cm. The patient was delivered at full term and at 18 days old underwent right radical nephrectomy with pericaval lymph node dissection.

Methods: Review of patient's electronic medical record was performed. Pub-Med literature review was performed for Cystic Nephroma (CN) and other cystic renal masses in the antenatal period.

Results: Pathology revealed no tumor involvement of the renal sinus, the renal vein or the renal capsule. The septa were delicate without thickening or masses identified, and were lined by low cuboidal cells with occasional hobnail pattern consistent with CN. Genetic workup was negative for *DICER1* mutation.

Conclusion: CN is a rare, benign tumor, which is generally identified in children around 2-3 years of age or in adults during the fifth and six decades of life. It has associations with mutations of the *DICER1* gene. Renal masses diagnosed in the perinatal period are most commonly mesoblastic nephroma. Other possible perinatal renal masses include hydronephrosis, multicystic dysplastic kidney, cystic Wilms tumor, or cystic renal cell carcinoma. To our knowledge, this is the first case reported in the English literature of a prenatally identified, *DICER1* negative CN in a viable fetus.

Funding: N/A

NECROTISING STAPHYLOCOCCUS EPIDERMIDIS ORCHITIS IN A CLINICALLY STABLE PATIENT

Magnus Cheesman, Urology Resident¹, Michael Stotzer, Consultant Urologist^{1,2}, Michael Vincent, Consultant Urologist^{1,2}

¹Southern District Health Board, Urology Department, Invercargill, New Zealand, OR, ²Southern Urology, Invercargill, New Zealand

47 year old “Mr M” presented to the Emergency Department with left testicular pain and swelling. His background included Type 1 Diabetes, heavy smoking, and in 2017 a left orchitis and complex hydrocele was treated with antibiotics. Routine vital signs, blood and urine tests were unremarkable and he was triaged as “acute not urgent”.

Examination noted an exquisitely tender left testicle, three times larger than the right. Crepitus within the testis, spermatic cord, and throughout the torso raised suspicion of potential gas forming infection without classical immune response. Given clinical stability, CT was performed and revealed extensive gas; predominantly within the scrotum and left testis, but also tracking within the abdominal wall to the level of the diaphragm.

Surgical exploration of the abdominal wall released subcutaneous gas, but revealed otherwise healthy tissue. Trans-scrotal exploration uncovered a necrotic, non-viable, left testis filled with an internal cavity of gas and pus. After left orchiectomy, a washout was performed with placement of drains, and interrupted sutures for skin closure. All swabs grew *Staphylococcus epidermidis*.

Antibiotic triple therapy was prescribed for necrotising infection, and changed to oral dual agent therapy once pain subsided. Mr M discharged home after six days; clinical and radiological follow up is anticipated.

Literature review found no similar described cases.

Funding: N/A



Right to Left: Coronal and sagittal plane CT views displaying a gas forming infection of the left testicle.

SLOW FLOW DOWN BELOW: A CURIOUS CASE OF SCROTAL PAIN AND SWELLING

Tal Cohen, MD, David Yang, MD, Matthew Ziegelmann, MD
Mayo Clinic, Department of Urology

Intro: Venous malformations involving male genitalia are exceedingly rare. They may present with pain, swelling, and/or a compressible mass with bluish discoloration. Often, this can be misdiagnosed as a varicocele. We present a case of a male with right scrotal pain and swelling who presented with what was thought to be a recurrent varicocele.

Methods: A 40 year-old male with hx of a right varicocelectomy as a teenager presented to our clinic with right scrotal pain and swelling over the last few years.

Results: Initial evaluation with an ultrasound demonstrated concerns for a chronically thrombosed recurrent varicocele with venous flow detected on ultrasound. CT and MRI demonstrated a large soft tissue mass in the right hemiscrotum with multiple phleboliths (Figure 1A/B). A right gonadal venogram was performed which did not demonstrate any connection with the scrotal venous malformation. Findings were determined to be most consistent with a slow flow scrotal venous malformation involving the right hemiscrotum as well as the subcutaneous fat of the right sided penile shaft, separate from the spermatic cord.

Conclusion: After a thorough discussion, and given the bothersome nature of the mass, the patient opted to pursue surgical resection. [Figure 1C] Final pathology demonstrated a benign vascular malformation.

Funding: N/A

18 YEAR SURVIVAL AFTER DIAGNOSIS OF SMALL CELL CARCINOMA OF THE BLADDER.

Magnus Cheesman, Urology Registrar¹, Ming Yu, Consultant Pathologist², Michael Vincent, Consultant Urologist¹, Michael Stotzer, Consultant Urologist¹

¹Department of Urology, Southern District Health Board, New Zealand, ² Department of Pathology, Southern District Health Board, New Zealand

Small cell carcinoma of the bladder has an incidence of 0.14 per 100,000 population in the US, with 11 month median survival¹.

72 year old "Mrs S" presented to the emergency department with non-specific symptoms. Serum Creatinine, previously normal, was 398umol/L; non-contrast CT reported bladder floor thickening and bilateral hydronephrosis, suspicious for tumour encroaching both ureteric orifices (UOs). Bilateral nephrostomy tubes were inserted inducing a post-obstructive diuresis.

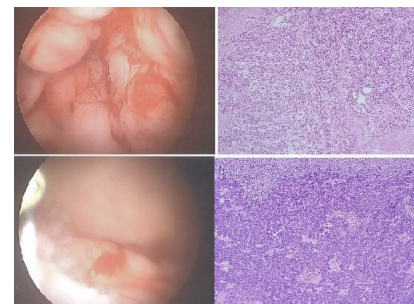
After stabilisation, operative management ensued: cystoscopy noted widespread pale, polypoidal, tissue mounds with prominent superficial vessels. The UOs were unidentifiable despite extensive tumour de-bulking. Anterior vaginal wall biopsies were taken for an identified region of probable invasion. Pathology reported urothelial carcinoma with probable neuro-endocrine component, though staining was inconclusive. Due to significant comorbidity, treatment goals were palliative.

18 years prior, Mrs S had an alleged small cell carcinoma of the bladder managed with local resection, chemo-radiotherapy and surveillance cystoscopy. Follow up was discontinued after 10 years without recurrence.

Archived pathology specimens re-analysed in 2020 re-confirmed a predominantly neuro-endocrine tumour with a minor urothelial carcinoma component; Traditional staining supported this diagnosis.

1. Koay EJ, Teh BS, Paulino AC, Butler EB, A Surveillance, Epidemiology, and End Results analysis of small cell carcinoma of the bladder: epidemiology, prognostic variables, and treatment trends **Cancer** 2011; 117:5325.

Funding: N/A



Top Left: Anterior vaginal wall; Top Right: 2020 Histology - urothelial carcinoma w/ minor component NET; Bottom Left: Bladder floor; Bottom Right: 2002 Histo - NET w/ minor component urothelial carcinoma

LIPIODOL LYMPHANGIOGRAPHY AS A CURATIVE THERAPY FOR CHYLOUS ASCITES: A CASE REPORT

Megan Sharpe, BS¹, Megan Prunty, MD², Laura Bukavina, MD, MPH², Adam Calaway, MD, MPH²

¹Case Western Reserve University School of Medicine, ²Case Western Reserve University / University Hospitals

Introduction: Lymphatic leakage is a rare complication that occurs after surgical procedures or after radiation treatment. Typically, conservative treatment resolves most cases of chylous ascites. Lymphangiography (LG) is a valuable tool when identifying persistent lymphatic leakage. We introduce a case where lymphangiography was both diagnostic and therapeutic.

Case Presentation: A 61-year-old male presented with pT3N1M0 embryonal nonseminomatous germ cell tumor, stage IIB, good risk. Patient completed Bleomycin/Etoposide/Cisplatin (BEP) x3. Follow up imaging revealed a persistent left 1.3 cm para-aortic lymph node. Tumor markers were negative. Patient underwent a standard bilateral retroperitoneal lymph node dissection. He was readmitted with high-output chylous ascites (1.5 L/day average) on postoperative day 12. Conservative treatment was unsuccessful, despite dietary changes, paracentesis, and placement of a pleural catheter. To identify the location of the leak, lipiodol lymphangiogram was performed, revealing lymphatic leakage at L4-L5 (Figure 1a). Following lymphangiography, the volume of discharge steadily decreased, with complete resolution of the chylous ascites and removal of pleural catheter seven days after lymphangiogram.

Conclusion: Lipiodol lymphangiography (LG) for chylous leakage is traditionally diagnostic and can identify point of leakage for surgical planning. Our case reports success with therapeutic LG as an embolic sealant, thus reducing this patient's need for surgical and procedural intervention.

Funding: N/A



Figure 1. Abdominal CT demonstrating 1.3cm left para-aortic lymph node prior to surgical dissection.



Figure 2. Lymphangiogram CT demonstrating lymphatic leak with pooling of contrast at L4-L5.

PENETRATING CROSSBOW ARROW INJURY TO THE PENIS: A CASE REPORT

Fabrice Henry, MD¹, Olivia Green, MS², Hannah Agard, MD¹, Michael Gangel, MD¹

¹Cleveland Clinic Akron General, Department of Urology, Akron, OH, ²North East Ohio Medical University

Background

Civilian cases of penetrating trauma to the penis are rare and there are currently no documented cases of crossbow arrow injuries to the penis.

Case Presentation

We report the case of a 30-year-old black male with a history of bipolar disorder and drug abuse who presented with a penetrating crossbow arrow injury to the penis. Physical exam revealed that the arrow had entered at the base of his penis, traveled through his right medial thigh, and then exited through his right buttocks. The patient complained of right lower extremity paralysis and a CT scan revealed bleeding around the sciatic nerve. The patient subsequently underwent penoscrotal explorative surgery that revealed no injury to the testicles, spermatic cord, or urethra and showed that the arrow had traversed both corporal bodies. The corporal injuries were irrigated, debrided and then repaired with extensive reconstruction. At his two-month follow-up, he reported normal voiding behaviors, with some complaint of erectile dysfunction (ED). Considering the patient's history of sciatic nerve injury, atypical antipsychotic medication, and extensive injury, the patient was trialed on sildenafil prior to a more invasive work up of ED. Patient did have a good response to initial trial of sildenafil.

Conclusion

The goals of surgery are to maintain urethral integrity, normal voiding function, and cosmetic appearance, as well as to prevent erectile dysfunction. Through timely intervention via conservative debridement with minimal loss of tunica albuginea and cavernous tissue, return of satisfactory erectile function can be expected with adequate PDE5i treatment.

Funding: N/A

8:00 AM-9:00 AM

Preparing for Retirement

Location: State

Speakers:

Steven Siegel

Nannan Thirumavalavan

9:00 AM-9:10 AM	AUA Update <i>Speaker:</i> Scott Swanson
9:10 AM-10:00 AM	NCS Annual Business Meeting
10:00 AM-10:30 AM	Break - Visit Exhibits Location: Imperial Ballroom
10:30 AM-10:50 AM	Microaggressions <i>Guest Speaker:</i> Olufenwa Milhouse
10:50 AM-11:20 AM	Reflections on a Career as a Mentor and Coach <i>Speaker:</i> Gary Faerber
11:20 AM-11:45 AM	Treatment and Surveillance for Non-muscle Invasive Bladder Cancer: Update 2021 <i>Guest Speaker:</i> Sam Chang
11:45 AM-1:00 PM	Industry Sponsored Lunch Symposium Location: Gold
11:45 AM-1:00 PM	Industry Sponsored Lunch Symposium Location: State
1:00 PM-1:20 PM	PCA Cryoablation <i>Speaker:</i> Lance Mynderse
1:20 PM-2:00 PM	Presidential Address <i>President:</i> Jeffrey Triest
2:00 PM-3:00 PM	Panel Discussion: Bladder Cancer Cases Location: International Ballroom <i>Moderator:</i> Cheryl Lee <i>Panelists:</i> Laura Bukavina Sam Chang Vignesh Packiam
2:00 PM-3:00 PM	Power Hour: FPMRS and Health Care Policy Location: Gold <i>Moderator:</i> Sarah McAchran

2:00 PM-2:10 PM	The Compound Vagina <i>Speaker:</i> Samuel Grampsas
2:10 PM-2:20 PM	Rapid Fire Tips and Tricks for Sacral Neuromodulation <i>Speaker:</i> Steven Siegel
2:20 PM-2:30 PM	Urologic Healthcare Advocacy: Taking a Seat at The Table <i>Speaker:</i> Peter Knapp
2:30 PM-2:40 PM	Everything you Need to Know About Hypercalciuria <i>Speaker:</i> Ryan Steinberg
2:40 PM-2:50 PM	Asymptomatic Bacteriuria – The Good, The Bad, and The Ugly <i>Speaker:</i> Samuel Grampsas
2:50 PM-3:00 PM	Treating Outpatient Pediatric UTIs: Best Initial Antibiotic Choices <i>Speaker:</i> Ruthie Su
3:00 PM-3:20 PM	Break - Visit Exhibits Location: Imperial Ballroom
3:20 PM-4:20 PM	Breakout Session 1 Location: International Ballroom <i>Moderator:</i> Bradley Schwartz
3:20 PM-3:50 PM	Opioid Crisis 2021 <i>Speaker:</i> Tudor Borza
3:50 PM-4:20 PM	Burning Bright without Burning Out <i>Speaker:</i> Peter Knapp
3:20 PM-4:20 PM	Breakout Session 2 Location: Gold <i>Moderator:</i> Larissa Bresler

3:20 PM-3:50 PM

Stop! Did I Listen? Don't Let Implicit Bias Interfere with Great Care.

Speaker:

Jannah Thompson

3:50 PM-4:20 PM

Health Care Disparities

Speaker:

Tope Rude

4:20 PM-5:20 PM

Endourology and BPH Podium Session

Location: International Ballroom

Moderators:

Casey Dauw

Bodo Knudsen

USING INTRAOPERATIVE PORTABLE CT SCAN TO MINIMIZE REINTERVENTION RATES IN PCNL: A PROSPECTIVE TRIAL

Parth M. Patel, MD¹, Alexander M. Kandabarow, MD¹, Eric Chuang², Kevin McKenzie², Aleksander Druck², Christopher Seffren², Edward Capoccia, MD¹, Ahmer Farooq, MD¹, Jeffrey Branch, MD¹, Thomas MT Turk, MD¹, Kristin G Baldea, MD¹

¹Loyola University Medical Center, ²Loyola University Chicago Stritch School of Medicine

Up to 60% of patients undergoing initial percutaneous nephrolithotomy (PCNL) require further interventions due to residual stone fragments. Intraoperative portable CT scanning (PCT) can allow surgeons to immediately extract residual stones, reducing the need for subsequent procedures. We evaluated how this technology affects the need for subsequent interventions, length of stay, and radiation dose.

We prospectively enrolled all eligible patients undergoing initial PCNL for this trial (n=37), allowing them to undergo a single intraoperative CT-abdomen and ipsilateral ureteroscopy during initial PCNL. These patients were then compared to a retrospective cohort of all patients undergoing initial PCNL at our institution in 2018-2019 (n=178). We studied their perioperative imaging, intraoperative findings, and postoperative clinical courses. Univariate analysis was performed using chi-squared and Student's t-tests.

There was no difference between the two cohorts regarding demographic properties, stone characteristics, or location of percutaneous access. Of the patients enrolled, 89% underwent PCT, 52% of PCT scans identified residual fragments prompting continuation of surgery, and 88% of these patients were rendered stone-free within the same operation. The prospective cohort had significantly lower rate of 90-day reintervention, fewer perioperative complications, reduced CT-based radiation dose, and shorter length of stay.

Obtaining an intraoperative PCT scan during initial PCNL can offer substantial benefits to both patients and surgeons.

Funding: n/a

Intraoperative findings	Prospective cohort (n = 37)		Retrospective cohort (n = 178)		p value
	Count	%	Count	%	
PCT demonstrates residual stone(s)	17	52%	36	31.5%	<0.01*
Residual stone(s) identified and extracted	15	88%	12	6.7%	0.23
<i>Perioperative outcomes, categorical</i>					
Reintervention within 90 days ("second-look")	1	3%	17	9.6%	0.08*
Severe complications (Clavien-Dindo ≥IIa)	0	0%	12	6.7%	0.23
Ipsilateral ureteral obstruction within 90 days	0	0%	12	6.7%	0.23
<i>Perioperative outcomes, continuous</i>					
Fluoroscopy radiation dose (DAP, Gy*cm ²)	Mean	SD	Mean	SD	p value
	5.6	5.0	22.5	113.7	0.43
CT radiation dose (DLP, mGy*cm)	Mean	SD	Mean	SD	p value
	511.5	384.4	975.0	654.4	<0.01*
Length of procedure (min)	Mean	SD	Mean	SD	p value
	93	37	84	45	0.25
Length of stay (days)	Mean	SD	Mean	SD	p value
	2.3	1.2	3.4	2.5	<0.01*

*denotes statistical significance at 95% confidence level

CLINICAL COMPARISON OF NON-PRESCRIPTION OVER-THE-COUNTER URINARY ALKALINIZING AGENTS: EFFECTS ON URINARY CITRATE EXCRETION AND URINE PH

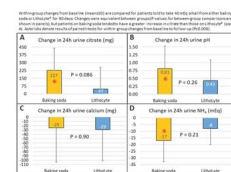
Kristina L. Penniston, PhD, RDN, Mariana L. Coughlin, BS, Riley J. Medenwald, BS, Stephen Y. Nakada, MD, R. Allan Jhagroo, MD
University of Wisconsin School of Medicine and Public Health

INTRODUCTION AND OBJECTIVE: Low urine citrate (Cit) and pH increase risk for calcium and uric acid stones. We tested effects of 40 mEq alkali from baking soda (BS) or Litholyte® (LL) in patients with low 24U Cit, pH, or both.

METHODS: Patients with h/o urolithiasis in this IRB-approved randomized study had low 24U Cit (<420 mg) and/or pH <5.9. Patients took 20 mEq of LL in AM and PM or ¼ level tsp BS in water in AM and ½ tsp in PM. At the end 90 days, patients completed a 24U collection. Patients were excluded if creatinine in their 24U collections differed by >35%. We measured changes in 24U Cit, pH, NH₄, and calcium.

RESULTS: Patients did not differ at baseline for 24U Cit, pH, NH₄, or calcium nor for prevalence of low 24U Cit, pH, or both (54 vs 50%, 69 vs 88%, and 46 vs 38%, respectively). Both treatments increased 24U Cit and pH (figure).

However, within-group changes in 24U Cit, pH, and NH₄ were significant only with BS (asterisks in figure). 24U calcium did not change in either group.



CONCLUSIONS: BS and LL both increased 24U Cit, pH, and NH₄ without increasing calcium. While all changes were clinically relevant, within-group changes were significant only with BS.

Funding: LithoLyte product was donated by Ryan Holland, MD

DIETARY ASSESSMENT OF LITHOGENIC FACTORS IN PLANT-BASED MEAT PRODUCTS

Kevin Koo, MD¹, Jared Winoker, MD², Aaron Potretzke, MD¹, Brian Matlaga, MD², John Lieske, MD¹

¹Mayo Clinic, Rochester, MN, ²Johns Hopkins University, Baltimore, MD

Introduction: Kidney stone patients are advised to limit animal protein intake. Plant-based meat products have recently gained popularity and may be an alternative protein source for these patients. However, the potential lithogenic risks associated with plant-based meat are not well-characterized.

Methods: US Department of Agriculture databases were queried with a sample of plant-based meat products widely available to US consumers. Nutrient profile data were compared to animal protein data. Oxalate content was extrapolated based on dietary data sources.

Results: Plant-based meat products simulating beef (n=16), pork (n=11), chicken (n=10), and seafood (n=10) were analyzed. Compared to respective animal protein sources, most plant-based alternatives contained fewer calories, less protein, and less fat (Table). In terms of oxalate content, 55% of plant-based products used soy protein as the primary protein source. Soy-based beef contained the highest average oxalate content (18 mg/serving), while soy-based seafood had the lowest (7 mg/serving). In contrast, animal protein contained negligible oxalate. Sodium content was higher in most plant-based products overall (34 products, 72%) and in each class; individual products contained as much as 216% of sodium vs. animal protein.

Conclusion: The majority of plant-based meat products consist of high-oxalate protein sources and have higher sodium content compared to animal protein, with dietary implications for stone-forming patients.

Funding: N/A

Table. Average comparison of 47 plant-based meat substitutes to animal protein by class

	Beef (n=16)	Pork (n=11)	Chicken (n=10)	Seafood (n=10)
Calories	77%	94%	86%	83%
Protein	68%	96%	53%	54%
Fat	58%	109%	76%	63%
Cholesterol	0.6%	0%	1%	0%
Oxalate, mg (mean, SD)*	18 (2.9)	10 (3.6)	11 (3.5)	7.4 (0.8)
Sodium	109%	128%	100%	148%

*Soy-based meat products, per serving

THE 10-ITEM LURN SYMPTOM INDEX (LURN SI-10) DETECTS ADDITIONAL SYMPTOMS AND SHOWS CONVERGENT VALIDITY WITH THE AUA-SI IN MEN WITH BENIGN PROSTATIC HYPERPLASIA

Clark Judge¹, Tanya Kristof¹, Richard Fantus², Brian Helfand², Abigail Smith³, James Griffith⁴, Alexander Glaser²

¹University of Chicago, Urology. Chicago, IL, ²Northshore University HealthSystem, Urology. Evanston, IL, ³Arbor Research Collective for Health. Ann Arbor, MI, ⁴Northwestern University, Medical Social Sciences. Chicago, IL

Introduction: The Lower Urinary Tract Dysfunction Research Network (LURN) developed a 10-item symptom index (LURN SI-10) designed for practical clinical use for the assessment of lower urinary tract symptoms (LUTS). We compare the LURN SI-10 with the American Urological Association Symptom Index (AUA-SI) in men with benign prostatic hyperplasia (BPH)/LUTS to assess validity and determine how frequently the LURN SI-10 identifies symptoms missed by the AUA-SI.

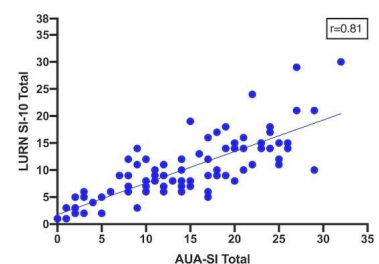
Methods: LURN SI-10 and AUA-SI questionnaires were prospectively administered to men presenting with BPH/LUTS. Post void dribbling (PVD), bladder pain/discomfort, and urgency urinary incontinence (UUI) were considered present if the patient indicated occurrence of about half the time or more. Responses were tabulated and Pearson correlations between LURN SI-10 and AUA-SI scores were assessed.

Results: The LURN SI-10 and AUA-SI correlate strongly in men with BPH/LUTS ($r=0.81$; Figure). The LURN SI-10 identified PVD in 29% (26/91) of patients, bladder pain/discomfort in 13% (12/91) of patients, and UUI in 16% (15/91) of patients.

Conclusions: The LURN SI-10 correlates strongly with the AUA-SI. Additionally, the LURN SI-10 can help identify PVD, bladder pain/discomfort, and UUI in men with BPH, symptoms not identified by the AUA-SI. Further prospective study of the LURN SI-10 in men with BPH, including before and after medical and surgical treatment, is warranted.

Funding: N/A

AUA-SI Score vs LURN SI-10 Score in men with BPH/LUTS



A COMPARISON OF PERIOPERATIVE OUTCOMES IN MINIMALLY INVASIVE TREATMENTS FOR LARGE GLAND BENIGN PROSTATIC HYPERPLASIA: HOLEP VS ROBOTIC SIMPLE PROSTATECTOMY

Tyler Wittmann, MD, John Fitzgerald, BS, Jeffrey Bejma, MD, Amy Guise, MD, Kenneth Jacobsohn, MD, Scott Johnson, MD, John Lacey, MD, Meghan Schaefer, MD

Medical College of Wisconsin, Department of Urology, Milwaukee, WI

Introduction: Benign prostatic hyperplasia (BPH) is a common disease in older men, affecting nearly 75% of US men aged 60 years or older. Transurethral resection of the prostate (TURP) was previously the gold standard, however it can be suboptimal in the setting of large glands (>80g). Both holmium laser enucleation (HoLEP) and robotic simple prostatectomy (RSP) have proven to be suitable surgeries for large glands. Our objective was to examine perioperative outcomes in patients undergoing HoLEP and RSP at a single institution. **Methods:** A chart review identified patients who underwent HoLEP or RSP for BPH at the Medical College of Wisconsin between 2013 and 2020. Perioperative factors were collected and compared between the two cohorts. **Results:** The review yielded 191 HoLEP patients and 22 RSP patients. Both groups had similar ages and Charlson Comorbidity Indices. A similar proportion of patients in both cohorts required catheterization pre-operatively (73.2% vs 72.7%). There was a significant difference in average specimen weight (43.6g vs 96.5g, $p<0.001$) between the two groups. HoLEP operative time was shorter than RSP (112 minutes vs 166 minutes, $p<0.001$). The average duration of catheterization post-operatively was shorter in the HoLEP group (2.3 days vs 14.4 days, $p<0.001$). Both groups had similar transfusion rates (3.1% vs 4.5%). There was no difference in the rate of Grade 3 or greater Clavien complications (3% vs 9%, $p=0.16$). **Conclusions:** Both HoLEP and RSP are suitable surgeries for large gland BPH. HoLEP typically has a shorter operative time and shorter time with a catheter post-operatively.

Funding: N/A

Preservation of Sexual Function 5-years after Water Vapor Thermal Therapy for Benign Prostatic Hyperplasia

Kevin McVary, MD¹, Ahmad El-Arabi, MD¹, Claus Roehrborn, MD²

¹Loyola University Medical Center, ²University of Texas Southwestern

Introduction

ED and ejaculatory dysfunction (EjD) are outcomes of TURP and pharmacotherapy for BPH. This analysis evaluated 5-year change in ED/EjD after therapy in the Rezum II pivotal study.

Methods

197 subjects, mean age 63 years (±7.0), IPSS≥13, Qmax≤15 mL/s, prostate volume 30-80cc were randomized (2:1) to therapy or sham procedure (control) and followed for 5 years. After 3 months, 53 controls crossed-over to therapy and were followed for 5 years. The IIEF-EF and MSHQ assessed ED and EjD, respectively. Sexually active subjects with baseline ED/EjD or normal function, and with no medical therapy for BPH during the 5-year study period, were analyzed.

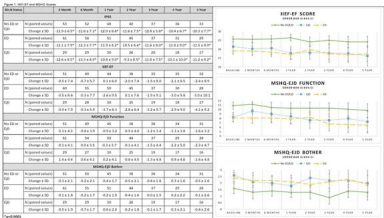
Results

All subgroups experienced durable improvement in IPSS (p<0.0001). Patients without baseline ED/EjD had slightly lower absolute change in IIEF-EF (-2.4±8.9) over 5 years compared to patients with baseline ED (-3.0±10.1) or EjD (-4.1±9.2). MSHQ-EjD function was similar and Bother scores showed little change over 5-years in all subgroups. (Fig. 1)

Conclusions

Water vapor thermal therapy improved IPSS without clinically significant impact on ED/EjD. Results suggest normal pretreatment sexual function scores may align with preservation of erectile/ejaculatory function after treatment. Patients with baseline ED/EjD can expect continued, age-related decline unimpacted by the therapy.

Funding: Boston Scientific



OUTCOMES OF PROSTATIC URETHRAL LIFT IN IRRITATIVE VOIDERS

Lauren Folgosa Cooley, MD PhD¹, Meera Ganesh, BS¹, Matthias Hofer, MD PhD²

¹Northwestern University, ²Urology San Antonio

Introduction: Prostatic urethral lift (PUL) has been increasingly utilized for benign prostatic hyperplasia (BPH). However, outcomes of PUL in men with predominant irritative voiding symptoms are not well established.

Methods: We performed a single-center, retrospective review of 113 men who underwent PUL from 2017-2020 of which 85 (75.2%) had complete American Urological Association Symptom Score (AUASS) records. The cohort was divided by median pre-operative, irritative voiding score (sum of AUASS for frequency, urgency, and nocturia) into high-irritative and low-irritative and outcomes assessed.

Results: The median pre-operative, irritative voiding score was 9, dividing our cohort into high-irritative (n=42) and low-irritative (n=43). Both had similar prostate size, number of implants placed, and pre-operative assessment for a median lobe. High-irritative voiders had a significantly higher pre-operative AUASS (21.4 ± 5.5 vs. 15.9 ± 5.7 , $p < 0.0001$), obstructive voiding score (12.2 ± 4.9 vs. 9.2 ± 4.5 , $p = 0.0043$), and worse QOL (4.9 ± 1.1 vs. 4.1 ± 1.1 , $p = 0.0007$). Following PUL, both groups had similar improvement in AUASS (-32.8% vs. -28.8% , $p = 0.45$), QOL (-37.0% vs. -41.7% , $p = 0.56$), irritative voiding score (-22.9% vs. -17.8% , $p = 0.46$), rates of stopping alpha-blockers (19/36 vs 21/35, $p = 0.54$), and re-operation rates (2/42 vs. 5/43, $p = 0.26$) during follow-up (mean of 8.6 vs 9.6 months). Despite a higher likelihood of post-operative pelvic pain (16.7% vs. 2.3%, $p = 0.02$) and dysuria (23.8% vs. 7.0%, $p = 0.03$) in high-irritative voiders within 2 weeks, there were no difference in long-term complications.

Conclusion: Understanding clinical outcomes of PUL in men with predominant irritative voiding symptoms is important for patient counseling and selection. We demonstrate that PUL is comparably effective in high-irritative voiders.

Funding: None

ASSESSMENT OF PREOPERATIVE FACTORS AFFECTING ENUCLEATION EFFICIENCY DURING HOLMIUM LASER ENUCLEATION OF THE PROSTATE (HoLEP)

Deepak Agarwal, Marcelino Rivera, Matt Lee, Erica Damler, Tim Large
Department of Urology, Indiana University School of Medicine

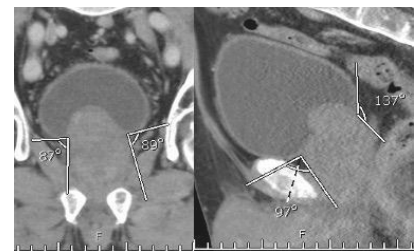
Introduction: Enucleation efficiency (EE), defined as enucleated tissue weight divided by enucleation time, is a metric to measure ease and speed of enucleation. The assessment of preoperative factors affecting enucleation efficiency (EE), including prostate anatomy, is limited.

Methods: We performed a retrospective review of two surgeons' HoLEP experience in 2020. Only patients with preoperative CT imaging were included. Preoperative patient factors and anatomic factors seen on CT (median lobe and bladder neck angles) were assessed and analyzed.

Results: 36 patients were included in our analysis. The mean prostate volume in this cohort was 138 ± 81 ml and enucleation efficiency was 1.4 ± 0.8 g/min. On univariate analysis, presence of a median lobe was associated with higher enucleation efficiency (1.6 ± 0.67 vs 0.86 ± 0.82 g/min, $p=0.0114$) compared to no median lobe. Univariate linear regression demonstrated an increase EE with higher prostate volume ($p<0.0001$), lower prostate width to height ratio ($p=0.0029$), lower prostate width to length ratio ($p=0.0004$), and more obtuse right/left bladder neck angles ($p=0.004$ and 0.0204 , respectively). On multivariate analysis, only prostate volume and presence of a median lobe remained significant ($p<0.0001$ and $p=0.0359$, respectively) with an $R^2=0.683$.

Conclusion: Increasing preoperative prostate volume and presence of a median lobe increase enucleation efficiency during HoLEP.

Funding: N/A



SAME-DAY CATHETER REMOVAL AFTER HOLEP: WHAT PREDICTS FAILURE?

Deepak Agarwal, Tim Large, Matthew Lee, Erica Damler, Mark Assmus,
Marcelino Rivera

Department of Urology, Indiana University School of Medicine

Introduction: Since the introduction of same-day catheter removal, there is limited data on factors associated with success or failure of this approach.

Methods: We performed a retrospective review of two surgeon's experiences with same-day catheter removal after HoLEP at our institution. Preoperative, intraoperative and postoperative data were analyzed.

Results: A total of 85 patients underwent HoLEP with same-day catheter removal from January 2020-February 2021. Mean age was 69 ± 8.8 years, preoperative catheter-dependent urinary retention rate was 38% and prostate volume was 107.2 ± 51.6 ml. Antiplatelet/anticoagulant medications were used in 7%, and 11% had underwent a prior non-medical BPH therapy.

Operatively, ASA score was ≥ 3 in 40% of patients and 75% of cases utilized laryngeal mask airway. Bladder stones were present in 7%. Pulse modulated laser was used in 92% of cases. Mean enucleation time was 50.5 ± 21 min, morcellation time was 7 ± 6.2 min, energy usage was 132 ± 58.8 kJ, and tissue weight was 62.1 ± 45.8 g.

The rate of successful same-day catheter removal was 88% (75/85). Of the 10 patients who failed same-day catheter removal, 80% successfully passed on postoperative day 1. There were 5 complications postoperatively, and only one was Clavien 3 or higher (bedside cystoscopic catheter placement).

On a univariate statistical analysis, increasing age (OR 0.908 [0.840-0.982]) and ASA score (OR 0.205 [0.0536-0.785]) were associated with failure of same-day catheter removal.

Conclusion: Same-day catheter removal is a highly successful approach to HoLEP. Increasing age and were risk factors for failure.

Funding: N/A

FEASIBILITY OF OUTPATIENT AQUABLATION THERAPY FOR BENIGN PROSTATIC HYPERPLASIA

Clark Judge¹, Tanya Kristof¹, Richard Fantus², Brian Helfand², Alexander Glaser²

¹University of Chicago, Urology. Chicago, IL, ²Northshore University HealthSystem, Urology. Evanston, IL

Introduction: Aquablation is a minimally invasive surgical treatment for benign prostatic hyperplasia (BPH) that has shown significant promise. Initial studies raised concerns over significant bleeding requiring transfusion. However, real world application has demonstrated a significantly lower bleeding rate. It is unknown whether it is feasible to perform this procedure on an outpatient basis.

Methods: Fifteen consecutive patients were offered Aquablation on an outpatient basis. To minimize bleeding, focal cauterization was used at the bladder neck as needed at the end of the procedure. Patients were then monitored in recovery for up to 4 hours on continuous bladder irrigation. If criteria were met, patients were discharged home with a catheter to be removed the following day. Patient characteristics and details of surgery were recorded and compared.

Results: Characteristics of the 12 out of 15 men (80%) who successfully underwent outpatient Aquablation therapy are shown (Table). No patient required readmission or transfusion. Catheters were removed after 20.2h and 16.7h for those who were discharged home and observed in the hospital, respectively.

Conclusions: While there is a trend for 23-hour observation for men with very large prostates, Aquablation is feasible for most as an outpatient procedure. Confirmation in a larger population with further analysis of characteristics associated with successful outpatient surgery is warranted.

Funding: N/A

	Outpatient (n=12)	23-hr observation (n=3)
Av. Age (SD)	64.8 (4.9)	65.3 (6.65)
Av. TRUS Volume (SD)	99.87 (50.69)	180.67 (158.35)
Av. Intraprostatic Protrusion length-mm (SD)	5.07 (9.40)	8.41 (11.17)
Av. ALUA-SI Score (SD)	18.5 (9.3)	17.8 (6.4)
Av. QoL Score (SD)	3.7 (0.9)	3.0 (1.7)
Av. PSA ng/ml (SD)	5.22 (6.51)	8.85 (3.78)

Comparison of Nitrous Oxide Sedation versus Oral Sedation in Patients Undergoing Rezūm Prostate Ablation in Clinic

Ajay Gopalakrishna, MD, Erin Pagel, Jennifer Book, Chintan Mehta, Manaf Alom, Tobias Kohler
Mayo Clinic, Rochester, MN

Introduction

Little has been published on the pain or discomfort associated with Rezūm prostate ablation for benign prostatic hyperplasia (BPH). Oral sedatives and opioids are associated with adverse side effects. The objective of this study is to present our initial experience in regard to clinical efficacy and safety using inhaled nitrous oxide (N₂O) in patients undergoing Rezūm.

Methods

A retrospective chart review of patients undergoing Rezūm in the ambulatory setting at our institution was performed. Demographics, preprocedural details, treatment characteristics, pain scores, and complications were recorded. Patients received either oral sedation in the form of oral diazepam and acetaminophen/hydrocodone or N₂O sedation. All patients underwent local prostate block with 1% lidocaine. Pain scores and complications were compared.

Results

Of 117 patients who underwent Rezūm in the clinic, 52 received oral sedation while 65 received N₂O sedation. Pain score in the N₂O group was lower with median (interquartile range) at 4.0 (3.0-6.0), versus 5.0 (4.0-6.0) in the oral sedative group, though this did not reach statistical significance ($p = 0.22$). No patients in either group reported nausea, vomiting, diaphoresis, sensory changes, or cardiopulmonary complications in the postprocedural period.

Conclusions

In our experience, the use of N₂O resulted in similar office pain scores in patients undergoing Rezūm in the ambulatory setting, in comparison to patients receiving oral sedation. N₂O was well-tolerated without major adverse events and allows for the sparing of oral sedatives and opioids and their adverse side effect profiles.

Funding: n/a

4:20 PM-5:20 PM

Trauma and Reconstruction Podium Session

Location: Gold

Moderators:

Edward Cherullo

Bradley Erickson

Defining Success After Anterior Urethroplasty: An Argument for a Universal Definition and Surveillance Protocol

Katherine Theisen, MD¹, Alex Vanni, MD, FACS², Bradley Erickson, MD, MS, FACS³, Jeremy Myers, MD, FACS⁴, Bryan Voelzke, MD, MS⁵, Benjamin Breyer, MD, MAS, FACS⁶, Joshua Broghammer, MD, FACS⁷, Jill Buckley, MD, FACS⁸, Lee Zhao, MD, MS⁹, Thomas Smith III, MD, FACS¹⁰, Nejd Alsikafi, MD, FACS¹¹, Keith Rourke, MD, FRCSC¹², Sean Elliott, MD, MS¹³

¹Mayo Clinic Rochester, ²Lahey Hospital and Medical Center, ³University of Iowa, ⁴University of Utah, ⁵Spokane Urology, ⁶University of California San Francisco, ⁷University of Kansas Medical Center, ⁸University of California San Diego, ⁹NYU Langone Health, ¹⁰MD Anderson Cancer Center, ¹¹UroPartners of Chicago, ¹²University of Alberta, ¹³University of Minnesota

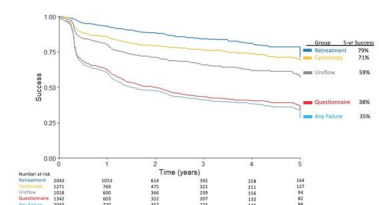
Introduction: Successful urethroplasty has been defined in many ways. This variability poses a challenge for comparing success rates across studies. We aim to evaluate the success of anterior urethroplasty using different definitions of success.

Methods: Utilized a multi-institutional, prospectively-maintained database. Inclusion criteria: first-time, single-stage, anterior urethroplasty for urethral stricture disease. Exclusion criteria: no follow-up data, history of hypospadias, and receiving perineal urethrostomy. Four definitions of “failed” urethroplasty were compared: 1) stricture retreatment, 2) anatomic recurrence on cystoscopy, 3) flow rate < 15ml/second, and 4) symptomatic failure on questionnaires. To be included in a cohort, patient must have completed the specific follow-up measure. Thus, each patient could be in multiple cohorts. Kaplan-Meier curves were generated.

Results: A total of 2,043 men met inclusion criteria and comprised the failure by “retreatment” cohort. There were 1,271 men in the “cystoscopy” cohort, 1,342 in the “questionnaire” cohort, and 1,018 in the “uroflow” cohort. The 1- and 5-year success rates, from highest to lowest, were: “retreatment”, 93% and 79%; “cystoscopy”, 86% and 71%; “uroflow”, 80% and 59%; and “questionnaire”, 62% and 38% (Figure 1).

Conclusions: Success rates after urethroplasty are highly dependent on the definition of “success”. Variability in definitions used in the literature has limited the ability to compare outcomes across studies.

Funding: NA



A COMPARATIVE ANALYSIS OF PELVIC FRACTURE URETHRAL INJURY REPAIRS IN U.S. AND THIRD WORLD COUNTRY PATIENTS

Jacob Stephens, MD¹, Daniel Rosenstein, MD², Frank Burks, MD¹

¹*Department of Urology, William Beaumont Hospital, Royal Oak, MI,* ²

Department of Urology, San Francisco Medical Center, San Francisco, CA

Introduction: Pelvic fracture urethral injury (PFUI) often results from significant, high-energy trauma such as motor vehicle accidents or crush injuries. PFUI doesn't spare those in third-world countries who may not have access to reliable healthcare. We aim to compare outcomes of PFUI repair in the US and third-world countries.

Methods: A retrospective chart review and comparative analysis were performed on patients who had a PFUI repair during international trips to Haiti and Rwanda and a cohort of US patients from 2014-2020. FNB performed all US repairs while FB and DR collaborated internationally with local urologists.

Results: A total of 43 patients met inclusion criteria and were included in the analysis: 29 international patients and 14 US patients. Mean age of the US cohort was 38.8 years (range 22-62) versus 35.9 years (range 17-65) in the international cohort ($p=0.43$). Mean urethral distraction length was similar between the two groups (US=2.2 cm, international=3.2 cm, $p=0.12$). There was a trend toward significance in mean operative time with longer times in the US group (207.5 min vs 179.7 min, $p=0.06$), although this difference no longer existed when controlling for two US patients who had their repair as part of a joint procedure with orthopedic surgery ($p=0.35$). Estimated blood loss was similar between the US and international cohorts (228.6 mL vs. 203.6 mL, $p=0.43$).

Conclusion: Our study demonstrates that PFUI repair, even when performed in third-world countries like Haiti and Rwanda, can be performed with similar results compared to operating in the US.

Funding: N/A

IS SOCIOECONOMIC STATUS ASSOCIATED WITH CESSATION OF ONABOTULINUM TOXIN FOR URGENCY/URGENCY INCONTINENCE AFTER FIRST TREATMENT?

Emma Bethel, BA¹, Zhina Sadeghi, MD², Stephani Daignault-Newton, MS², Paholo Barboglio Romo, MD², Anne Pelletier Cameron, MD², James Quentin Clemens, MD², Priyanka Gupta, MD², Yooni Yi, MD², John Stoffel, MD²

¹University of Michigan Medical School, Ann Arbor, MI, ²Division of Neurourology and Pelvic Reconstructive Surgery, Department of Urology, University of Michigan Medical School, Ann Arbor, MI

Introduction: Little is known about how demographic variables, particularly socioeconomic, contribute to onabotulinum (BTX-A) treatment cessation. We investigated this question by comparing demographics between people receiving a single injection and those receiving multiple.

Methods: BTX-A treatments for neurogenic and non-neurogenic urgency/urgency incontinence at a tertiary referral center between January 2015 and January 2018 were identified using CPT codes. Patients who initiated therapy prior to 2015 were excluded; those remaining were divided into Groups A (no injections within two years after first treatment) and B (at least one injection within two years after first). Demographic variables were extracted from clinical chart review and administrative data. Socioeconomic differences were estimated using ZIP codes and U.S. census tract indicators to calculate disadvantage (DI) and affluence (AI) indexes between 0.0 (least disadvantaged, least affluent) and 1.0. Univariate analysis was performed.

Results: During the study timeframe, 723 (202 men, 503 women) initiated therapy. The mean age was 57 and BMI was 30.3kg/m². The average DI was 0.098 and AI was 0.397. There were 305 (42.2%) who received only one treatment (Group A); 418 (57.8%) received more than one (Group B). Group B was less disadvantaged (0.094 vs 0.103, $p = 0.021$) and more affluent (0.409 vs 0.381, $p=0.025$) compared to A. No differences in age, gender, race, BMI, insurance type, or Charlson Comorbidity Index existed between groups.

Conclusions: Over 40% of patients who initiated BTX-A did not continue treatments. These patients were more disadvantaged and less affluent than those receiving multiple treatments.

Funding: N/A

MULTI-INSTITUTIONAL OUTCOMES OF A ONE-SIDED DORSAL ONLY BUCCAL MUCOSAL URETHROPLASTY FOR PENILE URETHRAL STRICTURES ACCESSED VIA A PENOSCROTAL INCISION

David Abramowitz, MD¹, Felicia Balzano, MD¹, Jay Simhan, MD², Frank Burks, MD³, Dmitriy Nikolavsky, MD⁴, Stephen Blakely, MD⁴, Joseph Pariser, MD⁵, Craig Hunter, DO⁶, Erick Ramirez, MD⁷, Jonathan Warner, MD¹

¹City of Hope, ²Einstein Medical Center, ³William Beaumont Hospital, ⁴SUNY Upstate Medical University, ⁵University of Minnesota, ⁶University of Nevada, Reno, ⁷Centro de Uretra Mexico, Hospital Angeles MOCEL

Introduction

Optimal surgical management of penile urethral strictures remains unclear. Herein, we report our multi-institutional series of patients undergoing a one-sided dorsal onlay buccal mucosal urethroplasty for penile urethral strictures accessed via a penoscrotal invagination technique.

Methods

We retrospectively reviewed consecutively treated penile urethral stricture patients who underwent a one-sided dorsal onlay buccal mucosal urethroplasty accessed via a penoscrotal incision and penile invagination across 7 institutions. This technique is a modification of the Kulkarni invagination technique to include penoscrotal rather than perineal incision for penile strictures. Thus, allowing for supine positioning, and less dissection to reach the stricture location. Minimum 4 months follow up was required for inclusion. Primary outcomes were stricture recurrence and complications.

Results

We identified 23 patients. Median age was 60 (20-74). Stricture etiology included trauma (1), lichen sclerosis (2), instrumentation (14), and 6 were idiopathic. Median stricture length was 5cm (1.5-10cm). Only 30% (7/23) patients had not previously received stricture treatment. Using the LSE nomogram, 15 were classified as 2b strictures and 9 as 2c. Post-operative complications occurred in 5 patients and included leaks (2), cellulitis (1), penile edema (1), and sepsis (1). With median follow-up of 7 months, long-term (>30 day) complications included 1 fistula, 1 Peyronie's, and 3 (13%) stricture recurrences.

Conclusion

This modified Kulkarni technique for management of penile strictures is safe, feasible, and reproducible across multiple different institutions. This

confers decreased incision-related morbidity with stricture outcomes comparable to more traditional techniques.

Funding: n/a

Urethroplasty outcomes in obese patients: A multi-institutional retrospective series

Taylor Goodstein, MD¹, Mathew Murtha, MS¹, Tasha Posid, PhD¹, Niels Johnsen, MD², E Charles Osterberg, MD³, Andrew Cohen, MD⁴, Arthur Burnett, MD⁴, Greg Murphy, MD⁵, Nima Baradaran, MD¹

¹*Department of Urology, Ohio State University Medical Center, Columbus, OH,* ²*Department of Urology, Vanderbilt University Medical Center, Nashville, TN,* ³*Department of Urology, Dell Seton Medical Center, University of Texas, Austin, TX,* ⁴*The Brady Urological Institute, Johns Hopkins Medicine, Baltimore, MD,* ⁵*Department of Urology, Washington University in St Louis, MO*

Objective

To evaluate the clinical outcomes and postoperative complications of urethroplasty in a cohort of obese patients.

Methods

Data from 4 institutions was retrospectively reviewed. Overweight and obese patients who underwent urethroplasty between January 2016 and December 2020 were included. According to conventional BMI cutoffs, obese (BMI 30–39.9, n=45) and morbidly obese (BMI > 40, n=39) were included.

Results

Total of 84 patients (mean BMI 40.8, range 30.1-65.2) with mean age at the time of urethroplasty of 51.1 years (SD=14.7, Range=22-81) were analyzed. Obese vs. morbidly obese patients were comparable across demographic characteristics or comorbidities (ps>0.06). Stricture type, etiology, location, characteristics, failure rate, and complications appear in Table 1. Overall complication rate was 22.6%, 18.6% of patients had extravasation at first catheter removal, 16.7% reported stricture recurrence, and 14.3% required an additional intervention. Morbidly obese patients had greater estimated blood loss (p=0.011) and longer length of hospital stay (p=0.005) post-procedure.

Conclusions

Characteristics of urethral stricture in obese patients is similar to non-obese and urethroplasty is not associated with increased risk of complication or overall failure. Morbidly obese patients have higher intraoperative blood loss and tend stay in the hospital longer. Outcomes and complications do not appear to be significantly worse than the non-obese population as reported in the literature.

Funding: N/A

Table 1. N(%)	All (N=84)	Obese (n=45)	Modestly Obese (n=39)	p-value
Stricture Type				
Anterior	80 (95.2%)	43 (95.6%)	37 (94.9%)	0.506
Posterior	3 (3.6%)	1 (1.4%)	1 (2.6%)	
Other	1 (1.2%)	0	1 (2.6%)	
Stricture Etiology				
Trauma	8 (9.5%)	4 (8.9%)	4 (10.3%)	0.568
Iatrogenic	16 (19.0%)	11 (24.4%)	5 (12.8%)	
Idiopathic	31 (36.9%)	15 (33.3%)	16 (41.0%)	
Hydronephrosis	3 (3.6%)	2 (4.4%)	1 (2.6%)	
Radiation	1 (1.2%)	1 (2.2%)	0	
Infection	14 (16.7%)	5 (11.1%)	9 (23.1%)	
Inflammation	1 (1.2%)	1 (2.2%)	0	
Combination	10 (11.9%)	6 (13.3%)	4 (10.3%)	
Stricture Location				
Bulbar	55 (65.5%)	28 (62.2%)	24 (61.5%)	0.494
Penile	19 (22.6%)	9 (20.0%)	10 (25.6%)	
Proximal	3 (3.6%)	3 (6.7%)	0	
Meatus	4 (4.8%)	2 (4.4%)	2 (5.1%)	
Bulbourethral	3 (3.6%)	2 (4.4%)	1 (2.6%)	
Membranous	2 (2.4%)	2 (4.4%)	0	
Penoscrotal	3 (3.6%)	1 (2.2%)	2 (5.1%)	
Stricture Length	M=3.86 (SD=3.0)	M=3.74 (SD=3.1)	M=4.04 (SD=2.9)	0.709
Stricture Number	M=1.24 (SD=0.47)	M=1.20 (SD=0.41)	M=1.31 (SD=0.50)	0.363
Surgery Duration	M=193.8 (SD=84.5)	M=189.8 (SD=85.5)	M=198.4 (SD=83.1)	0.645
Surgery EBL	M=141.6 (SD=136.3)	M=106.7 (SD=105.6)	M=181.9 (SD=168.3)	0.011
LOS	M=1.01 (SD=1.18)	M=0.71 (SD=0.59)	M=1.36 (SD=1.37)	0.005
Leak at catheter removal	11 (13.1%)	8 (17.8%)	3 (7.7%)	0.446
Complications				
Clavien 0	66 (78.6%)	36 (80.0%)	30 (76.9%)	0.264
Clavien I	9 (10.7%)	2 (4.4%)	7 (17.7%)	
Clavien II	8 (9.5%)	6 (13.3%)	2 (5.1%)	
Clavien III	3 (3.6%)	0	3 (7.7%)	
Clavien IV	0	0	0	
Clavien V	2 (2.4%)	1 (2.2%)	1 (2.6%)	
Stricture Recurrence	14 (16.7%)	10 (22.2%)	4 (10.3%)	0.142
Need Other Intervention	12 (14.3%)	7 (15.6%)	5 (12.8%)	0.391

OPIOID ALTERNATIVE OUTPATIENT MALE ANTERIOR URETHROPLASTY PAIN PATHWAY: EVIDENCE FOR CHANGE

Bridget Findlay, Elizabeth Bearrick, Kevin Hebert, Matthew Ziegelmann, Boyd Viers

Department of Urology, Mayo Clinic, Rochester, MN

Introduction: Surgeons play a central role in the opioid epidemic. We aim to evaluate efficacy of standardized perioperative pain management pathway and postoperative opioid requirements in men undergoing outpatient anterior urethroplasty at our institution.

Methods: Patients undergoing outpatient anterior urethroplasty by a single surgeon from August 2017 – January 2021 were prospectively followed. Standardized nonopioid pathways were implemented based on location (penile vs. bulbar) and need for buccal mucosa graft (BMG). A practice change in October 2018 transitioned to tramadol, an opioid alternative, from oxycodone postoperatively and liposomal bupivacaine from 0.25% bupivacaine intraoperatively. Postoperative non-validated questionnaires included 72-hour pain level (Likert 0-10), pain management satisfaction (Likert 1-6), and opioid/opioid alternative consumption.

Results: A total of 116 men underwent outpatient anterior urethroplasty during the study period. Patient characteristics are described in Table 1. One third of patients did not use opioid/opioid alternatives postoperatively and nearly 78% of patients used ≤ 5 tabs. The only predictor for use > 5 tabs was preoperative opioid use (75% vs. 25%, $p=0.0002$). Overall, there was no difference in pain satisfaction, pain score, or amount opioid consumed between opioid and local anesthetic types.

Conclusions: An opioid alternative regimen is as efficacious as an opioid regimen in male anterior urethral surgery.

Funding: N/A

Age at surgery, years	Median (IQR)	55.9 (34.5-64.2)
Days between surgery and survey	Median (IQR)	21.5 (14.0-25.0)
Average postoperative pain score	Median (IQR)	3 (2-5)
Pain satisfaction score, no. (%)		
1-2 dissatisfied		1 (0.8%)
3-4 neutral		10 (8.6%)
5-6 satisfied		104 (89.7%)
Urethroplasty location, no. (%)		
Penile		22 (19%)
Bulbar		90 (77.6%)
Pagurethral		4 (3.4%)
BMG	No. (%)	25 (21.5%)
Opioid use within 7 days pre-op	No. (%)	7 (6%)
Narcotic prescription, no. (%)		
Oxycodone 5mg		77 (66.3%)
Tramadol 50mg		39 (33.7%)
Opioid used, median (IQR)	Total	2 (0-6.5)
	Tramadol	2 (0-7.5)
	Oxycodone	2 (0-25), $p = 0.1849$
Opioid prescribed, median (IQR)	Total	10 (10-10)
	Tramadol	10 (10-10)
	Oxycodone	14.5 (10-15), $p=0.669$
Opioid overprescribed, median (IQR)	Total	8 (5-10)
	Tramadol	8 (5-10)
	Oxycodone	10 (5-14), $p=0.4322$
Local injection used, no. (%)		
0.25% Bupivacaine		68 (58.6%)
Liposomal Bupivacaine + 0.25% Bupivacaine		48 (41.3%)

ROBOTIC URETHRAL RECONSTRUCTION IS AN EFFECTIVE TREATMENT SOLUTION IN NON-IRRADIATED MEN WITH POSTERIOR URETHRAL OBSTRUCTION

Elizabeth N. Bearrick, MD, Kevin J. Hebert, MD, Laura A. Maciejko, Bridget L. Findlay, MD, Katherine M. Theisen, MD, Boyd R. Viers, MD
Department of Urology, Mayo Clinic

Introduction:

Endoscopic treatment of posterior urethral obstruction (PUO) secondary to benign and malignant prostate conditions is associated with a high incidence of treatment failure. Herein, we evaluate surgical outcomes stratified by PUO etiology in men undergoing definitive robotic posterior urethral reconstruction.

Methods:

A retrospective, single surgeon, review of 21 men undergoing robotic posterior urethral reconstruction between 2018 and 2020 was performed. Differences in complications, reconstructive success (no further intervention), and urinary continence by PUO etiology were assessed.

Results:

Robotic posterior urethral reconstruction was performed in 21 men with a median follow up of 5 months (IQR 4–18.4). PUO etiology included BPH treatment in 5 (24%), prostatectomy in 10 (48%), radiation in 5 (24%), and trauma in 1 (5%). Median number of prior endoscopic treatments was 3 (BPH), 3 (prostatectomy), and 2 (radiation) with an average time between obstruction and reconstruction of 9, 12, and 15 months ($p=0.52$). Median length of stay after reconstruction was 2, 1, and 2 days ($p=0.45$). 30-day complications occurred in 0%, 20%, 40% ($p=0.19$). PUO re-intervention was necessary in 0%, 10%, 20% ($p=0.63$). Median postoperative pad/day usage was 0, 0, 10.5 ($p<0.001$), and ultimately 0%, 30%, 80% ($p=0.013$) underwent artificial urinary sphincter placement.

Conclusion:

Robotic posterior urethral reconstruction is a safe and highly effective surgical solution for men with PUO in the absence of pelvic radiation. Men with pelvic radiation appear to be at increased risk of complications, PUO recurrence, and clinically significant stress urinary incontinence.

Funding: N/A

Outcomes after dextranomer/hyaluronic acid bladder neck injection in patients with urethral incontinence following bladder neck repair

Kristin Ebert¹, Megan Stout², Seth Alpert¹, Christina Ching¹, Daniel Dajusta¹, Molly Fuchs¹, Daryl McLeod¹, Rama Jayanthi¹

¹Nationwide Children's Hospital, ²Ohio State University

INTRODUCTION: We report outcomes after dextranomer/hyaluronic acid (Dx/HA) bladder neck (BN) injection in patients with urethral incontinence following BN repair.

METHODS: We retrospectively reviewed our patients with history of BN repair who underwent endoscopic BN Dx/HA injection since 2013 and had follow-up postinjection. We described outcomes as “wet” (leakage similar to before injection), “improved” (wet but leakage improved), and “dry” (no leakage). Further BN surgery data was also collected.

RESULTS: Nineteen patients underwent Dx/HA injection; mean age was 10.3 years. Diagnoses included myelomeningocele (13), anorectal malformation (1), exstrophy/epispadias (3), perineal hypospadias (1), and urogenital sinus (1). BN repair techniques included BN reconstruction (BNR) + fascial sling (10), sling only (4), BNR only (4) and BN closure (BNC) (1). Mean volume of Dx/HA injected was 2.26mL (range 1-4mL). At first follow-up (mean 3.3 months post-op), 8/19 were wet, 7/19 were improved, and 4/19 were dry. At last follow-up (mean 34.4 months), only one patient who received single Dx/HA injection was dry, although 6 are improved. Overall, seven patients had another BN surgery after first injection. Five patients had second injection at a mean of 17 months after first procedure; three have follow-up data from this. Two remained wet and underwent BNC; one underwent a third injection and is dry. Two patients, both wet following initial injection, underwent BNC.

CONCLUSIONS: In patients with prior unsuccessful BN repair, complete dryness after single Dx/HA BN injection is unlikely, although a third have stable improvement in incontinence. A third of patients require further BN surgeries.

Funding: N/A

UROLOGIC FUNCTION IN CERVICAL MYELOPATHY PATIENTS IN THE PRE- AND POST- OPERATIVE PERIOD

Megan Stout, MD¹, Alicia Scimeca, BA¹, Tasha Posid, MA, PhD¹, Francis Farhadi, MD, PhD², Jan Schwab, MD, PhD³, Max Yudovich, BS⁴, Aaron Chum, BS⁴, Nima Baradaran, MD¹

¹The Ohio State University Wexner Medical Center Department of Urology,

²The Ohio State University Wexner Medical Center Department of

Neurosurgery, ³The Ohio State University Wexner Medical Center

Department of Neurology, ⁴The Ohio State University College of Medicine

Introduction

Urinary function is commonly impacted by various thoracolumbar spinal abnormalities but the impact of cervical spondylotic myelopathy (CM) is not well studied. Patients with symptomatic CM undergo surgical intervention such as laminoplasty or spinal decompression. Our objective was to describe the rate of lower urinary tract symptoms (LUTS) pre- and post-surgical intervention in this population.

Methods

A total of 109 patients with CM at a single institution who underwent surgical intervention were included. Baseline characteristics, relevant comorbidities, urinary complaints (patient reported), use of urologic medications, and urologic evaluations and interventions before and after surgery were retrospectively reviewed.

Results

Mean age of the patient population was 62 years. Nineteen percent had preexisting urologic conditions, while 12% had history of urologic procedures. Reported rate of frequency and urgency was 27% vs 15% before and after surgery respectively (NS). Fifteen percent of men and 2% of women had transient post-operative retention requiring catheterization while 3% required prolonged catheter utilization. Those with multi-level myelopathy had significantly higher rates of transient retention ($p < 0.05$). Eight percent of individuals had a urologic assessment prior to neurosurgical intervention for LUTS.

Conclusion

Almost half of patients with CM reported LUTS at baseline, with greater rates of urgency and frequency symptoms reported prior to surgery. The comprehensive effect of CM on voiding function remains unclear, suggesting further urologic evaluation prior to and following neurosurgical intervention should be considered.

Funding: N/A

HIGH-DOSE ONABOTULINUMTOXIN A FOR MULTIPLE INDICATIONS IN THE NEUROUROLOGY PATIENT

Robert Esterquest, BS¹, Jamaal Jackson, MD², Andrew Patton, DO³, Ravi Kasi, MD³, Sarah Adelstein, MD²

¹Rush University Medical College, Chicago, Illinois, ²Rush University Medical Center, Department of Urology, Chicago, Illinois, ³Rush University Medical Center, Department of Physical Medicine and Rehabilitation, Chicago, Illinois

Introduction

Patients with neurogenic bladder often require multidisciplinary teams for care and may have multiple indications for chemodenervation with botulinumtoxin beyond neurogenic bladder. The maximum FDA-approved dose of botulinumtoxin for multiple indications is 400 units in a 3-month period. We aim to assess incidence of adverse events after off-label botulinumtoxin administration to neurogenic bladder patients exceeding 400 units per 3 months.

Methods

The electronic medical record of one health system was queried retrospectively by ICD-10 codes for patients with Parkinsonism (PD), spinal cord injury (SCI), or multiple sclerosis (MS) undergoing cystoscopic botulinumtoxin for the past 3 years. Chart review was performed on those receiving botulinumtoxin for multiple indications including spasticity or rigidity by a physiatrist or neurologist to identify patients exceeding 400 units in a 3-month period. We collected demographic and clinical data, including any report of adverse events after injections, and performed descriptive statistics.

Results

A total of 52 patients with PD, SCI, or MS received intravesical botulinumtoxin during the study period. Five out of seven (71%) patients receiving botulinumtoxin for multiple indications exceeded 400 units (ranging from 500 units to 1200 units; median dose 575 units) in a 3-month period. There were no safety events, or recorded reports of weakness, dysphagia, or difficulty breathing within four weeks of administering these high dose treatments.

Conclusion

None of the patients in our series reported an adverse event from off-label high-dose botulinumtoxin for multiple indications. Further study into the safety and efficacy of high-dose botulinumtoxin is warranted in this complex population.

Funding: N/A

TRANSURETHRAL INCISION WITH TRANSVERSE MUCOSAL REAPPROXIMATION FOR THE MANAGEMENT OF POSTERIOR URETHRAL STRICTURES

Jonathan Warner, MD, Felicia Balzano, MD, David Abramowitz, MD
City of Hope

Introduction

To improve outcomes for patients with vesicourethral anastomotic stenosis (VUAS) and bladder neck contractures (BNC), a novel surgical technique is described.

Methods

We retrospectively reviewed prospectively collected data from July 2019 to November 2020. Patients with VUAS and BNC were treated with a transurethral incision with transverse mucosal reapproximation (TUI-TMR) using a 5mm laparoscopic suture device which secures absorbable suture with a titanium knot (RD 180, LSI solutions, Rochester NY). Clinical and operative details were reviewed. Cystoscopy assessed patency at 4 months. Failure was defined as inability to pass a 16 Fr scope.

Results

20 patients have undergone TUI-TMR. Mean age was 73 (55–87). Eleven patients had VUAS after prostatectomy, and 9 had BNC after TURP. Six patients had prior radiation. 75% had undergone prior incisions. Median follow up was 7.2 months (4–20). Four patients had retained clips at 4 months: 3 removed in-office, 1 in operating room. Initial success was 85% (17/20). Two of the 3 failures underwent a second operation with success at >6month follow-up. The other noted a weaker stream and cystoscopy showing a 14Fr recurrence not requiring intervention.

Conclusion

Early outcomes of TUI-TMR for posterior urethral stenosis and anterior urethral strictures seem promising, even in refractory and radiation cases. Further investigation is warranted.

Funding: n/a



IT IS POSSIBLE TO ACHIEVE STERILE URINE PERIOPERATIVELY IN URINARY TRACT RECONSTRUCTIONS USING LARGE BOWEL

Marissa Falkiewicz, MD, Gray Roberge, MD, Wade Bushman, MD/PhD
University of Wisconsin

Introduction: Post-operative bacterial colonization of urinary diversions is historically attributed to residual bowel flora or post-operative contamination with skin flora. **Objective:** This study addresses the question of whether sterile urine can be achieved perioperatively in continent reconstructions using colon as this poses the greatest bacterial challenge.

Methods: We retrospectively reviewed procedures utilizing large bowel for continent urinary reconstructions from September 2016 to July 2018 in which surveillance urine cultures were obtained 2-5 days post-operatively. Preoperative preparation included bowel preparation with either Go-lytely or magnesium citrate plus either erythromycin/neomycin or erythromycin/flagyl. Positive preoperative urine cultures were treated with oral antibiotics for 5 days before surgery. All patients received peri-operative IV antibiotics for 24 hours and the segment was copiously irrigated intraoperatively with antibiotic solution containing bacitracin and either gentamicin or tobramycin.

Results: Eight patients (ages 37 to 73 years) underwent continent urinary reconstructions utilizing large bowel [transverse colon conduit (3), ileocecectomy (3), Indiana pouch (2)]. Six patients received oral antibiotics prior to the procedure. Seven patients had negative post-operative surveillance urine cultures. One patient had a positive urine culture without symptoms and was treated with tobramycin.

Conclusion: Through a combination of pre-operative culture-directed treatment of urinary colonization, mechanical bowel preparation, standard perioperative antibiotic prophylaxis and use of an antibiotic solution for irrigation of the bowel segment, sterile urine in the perioperative period can be attained in most cases. We propose that routine use of this approach would decrease the incidence of symptomatic urinary tract infection and pelvic abscess complicating urinary reconstruction.

Funding: N/A

4:20 PM-4:30 PM	Less is More: A Data-Driven Call for Change in Pediatric Urologic Cancer Treatment to Minimize Morbidity <i>Speaker:</i> Candace Granberg
4:30 PM-4:40 PM	Use of PET/CT in the Staging of Bladder Cancer <i>Speaker:</i> Shawn Dason
4:40 PM-4:50 PM	Nutrition and Patient Optimization: Clinical Impact of CONUT Score in Cystectomy Patients <i>Speaker:</i> Adam Calaway
4:50 PM-5:00 PM	The Prevalence and Potential Prognostic Value of Myco/Microbiome in Bladder Cancer <i>Speaker:</i> Laura Bukavina
5:00 PM-5:10 PM	Peyronie's Disease – Optimizing Outcomes With Intralesional Collagenase <i>Speaker:</i> Matthew Ziegelmann
4:20 PM-5:20 PM	General Epidemiological and Socioeconomics II Poster Session Location: Ambassador

ONLINE VASECTOMY CONSULTS - IS A PHYSICAL EXAM REALLY NECESSARY? A CASE-CONTROL STUDY

Johnathan Doolittle, MD, Bradley Gill, MD, MS, Sarah Vij, MD
Cleveland Clinic

Introduction: With the pandemic-related shift to virtual care, this determined whether vasectomy necessitates in-person consultation prior to the procedure, as the 2015 American Urological Association guidelines suggest. It tested the hypothesis that aborted in-office vasectomy rates do not differ following virtual or in-person vasectomy consultations.

Methods: All cases of virtual vasectomy consults from April- December 2020 were reviewed with randomly selected controls being men who underwent in-office vasectomy consultation during the same period. Exclusion criteria included prior scrotal exam by a urologist or advanced practice provider prior to the virtual consult. The primary outcome was completion or abortion of in-office vasectomy. Baseline demographic characteristics were assessed with basic comparative statistics.

Results: Of 189 virtual consultations, 153 presented for in-office vasectomy and 153 of 568 in-office vasectomy consultations were randomly selected as controls. Virtual and in-office consult cohorts did not differ by age (36.6 vs 37.2 years), race, or BMI (27.2 vs 27.3). Most (149/153, 97.4%) virtual consults completed in-office vasectomy. One experienced a vasovagal episode after the first side was completed and 3 procedures were aborted due to difficulty palpating one or both vasa deferentia. Most (151/153, 98.7%) in-office consults completed vasectomy and no difference existed between completion rates ($p = 0.68$).

Conclusion: In-office vasectomy completion rates did not differ following virtual or in-office vasectomy consultations. Virtual platforms appear to be an ideal means for completing vasectomy consultation and may be a more desirable, as well as efficient approach to care for this often younger and busy patient population.

Funding: N/A

SINGLE-PORT VERSUS MULTI-PORT ROBOTIC-ASSISTED PROCEDURES: A MATCHED-PAIR COHORT STUDY

Matthew del Pino, Research Fellow, Luca Morgantini, Research Fellow, Ahmad Alzein, Research Fellow, Simone Francavilla, Research Fellow, Simone Crivellaro, Associate Professor
The University of Illinois Department of Urology

Introduction:

The da Vinci Single-Port (SP) differs from prior platforms, utilizing a single 2.5cm incision to accommodate all robotic arms. Potential advantages include shorter hospitalization, improved cosmesis, and reduced postoperative pain. This project investigates the impact of the novel SP-system on cosmetic and psychometric patient assessment.

Methods:

This study utilized a prospective, anonymous survey to compare patients who underwent either SP or Xi urologic procedure at a single center. By phone, patients completed the Patient Scar Assessment Questionnaire: a validated patient-reported outcomes measure for surgical scars. Four domains were assessed: Appearance, Consciousness, Satisfaction with appearance, Satisfaction with symptoms. Higher scores represent worse reported outcomes.

Results:

Compared to 54 Xi urologic procedure recipients (M=14.55, SD=2.94), 67 SP urologic procedure recipients (M=12.79, SD=3.57) reported significantly better cosmetic scar appearance $t(123)=-2.98$, $p=.002$. Similarly, the SP cohort (M=10.42, SD=3.75) compared to the Xi group (M=11.59, SD=3.48) demonstrated significantly higher satisfaction with the cosmetic appearance of their surgical scar, $t(123)=-1.79$, $p=.037$. No significant difference was found for "Consciousness", $t(123)=-0.52$, $p=.3$, despite the SP group (M=8.96, SD=3.85) attaining lower scores than the Xi group (M=9.29, SD=3.33), and for "Satisfaction with Symptoms", $t(123)=-0.48$, $p=.32$, despite the SP group (M=6.01, SD=2.01) attaining lower scores than the Xi group (M=6.19, SD=2.09).

Conclusions:

This study demonstrates patients' superiorly favorable reception of SP vs Xi surgery in terms of aesthetic outcomes. An ongoing study is investigating the relationship between cosmetic satisfaction and length of stay, postoperative pain, and narcotic use.

Funding: N/A

CYSTOSCOPIC INJECTION OF TRANEXAMIC ACID TO CONTROL REFRACTORY AND LIFE-THREATENING HEMATURIA

Brian Le, Katharine Tippins, Marissa Falkiewicz

University of Wisconsin-Madison, Department of Urology, Madison, WI

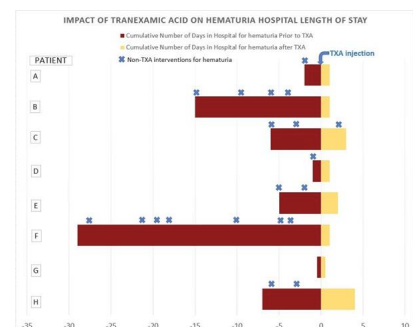
Introduction: Refractory hematuria causes considerable morbidity and leads to prolonged hospitalizations and readmissions. Tranexamic acid (TXA) is an anti-fibrinolytic used to prevent and manage bleeding, however, use for hematuria has not been widely studied. Here we describe a novel technique using tranexamic acid injection to control refractory hematuria.

Methods: A cohort of refractory hematuria patients, defined as having failed at least one prior intervention, were consented for off-label use of tranexamic injection to manage bleeding. A prospective cohort study design was used to standardize the technique of administration. The etiologies of hematuria were limited to the bladder and prostate. After cystoscopic clot evacuation and fulguration, 1gm of tranexamic acid dissolved in injectable saline was submucosally injected at sites of potential bleeding.

Results: Eight patients with severe refractory hematuria consented to receive TXA. Median preop Hgb was 7.8 and most required transfusion. Patients averaged a cumulative 8.2 days in hospital being managed with routine care prior to TXA. After TXA injection, patients were discharged an average of 1.7 additional hospital days (Fig 1). The resolution of hematuria was durable at follow-up (9.4 months). No adverse events were noted. Two patients maintained therapeutic anticoagulation throughout.

Conclusion: Tranexamic acid is a promising tool for local control of refractory hematuria.

Funding: N/A



ASSESSING THE IMPACT OF HOSPITAL DISMISSAL SUMMARY READABILITY ON PATIENT OUTCOMES FOLLOWING PROSTATECTOMY

Madeleine G. Manka, MD, Boyd R. Viers, MD, Raevti Bole, MD, Paige E. Nichols, MD, Stephen A. Boorjian, MD, Matthew K. Tollefson, MD, Brian J Linder, MD
Mayo Clinic

Introduction: To assess the impact of decreasing the reading level of hospital dismissal summary information on the number of unplanned patient contacts with care providers following robot-assisted radical prostatectomy.

Methods: A multidisciplinary team revised the hospital dismissal summary information given to patients following prostatectomy to decrease the reading level from 13th grade at baseline to a 7th grade level. We conducted a retrospective cohort study to compare 30-day outcome measures including: patient-initiated telephone calls and online messages, unplanned clinic visits, readmission rates, and emergency department visits pre- and post-intervention. All other perioperative practices remained unchanged between the cohorts.

Results: A total of 110 patients were included in the study (pre-intervention n=60, post-intervention n=50). Patient age ($p=0.72$), race ($p=0.59$), marital status ($p=0.39$), and education level ($p=1.0$) were similar between the groups. Pre-intervention, 11.7% of patients had a self-reported education level lower than the 13th grade level of the original instructions, compared to 2% of patients post-intervention with an education level at or below the 7th grade. Following revision of the dismissal information, the number of patient-initiated messages (per patient) significantly decreased (mean 2.3 vs 1.4; $p=0.02$). Patients who received the new dismissal information were significantly less likely to have an emergency department visit (20% vs 4%; $p=0.02$). There were no differences in 30-day unplanned office visits ($p=0.75$) or readmissions ($p=1.0$).

Conclusion: Reducing grade level readability of hospital dismissal information was associated with significantly lower rates of patient initiated messages and emergency department visits.

Funding: N/A

OPTIMIZING INFLATABLE PENILE PROSTHESIS POST-OPERATIVE FOLLOW UP

David Yang, MD, Alyssa Thoreson, RN, Engy Habashy, MD, Sevan Helo, MD, Matthew Ziegelmann, MD, Tobias Kohler, MD
Mayo Clinic, Department of Urology

Introduction

Following inflatable penile prosthesis (IPP) placement, device activation teaching is commonly performed 3-6 weeks after surgery based on surgeon preference. Activation visits can require 15-30 minutes of a Urologist, APP, or RN's time. Delayed activation visits can be necessary due to pain, swelling, or hematoma around the pump. These redundant encounters lead to increased patient travel, expenses, and provider burden. We sought to identify risk factors for need for delayed activation visits.

Methods

We retrospectively reviewed the last 50 patients to undergo primary IPP placement at our institution. Chart review was performed to determine if patients needed delayed activation visits. Risk factors for delayed activation were evaluated using chi squared analysis.

Results

Patients were routinely seen 3-4 weeks after surgery. The mean first activation visit occurred on POD 24 (SD 5). Eleven of 50 (22%) patients required repeat visit education visits. Mean second activation visits occurred on POD 40 (SD 10). Reservoir location was not a risk factor for delayed activation ($p > 0.05$). Patients who underwent complicated primary surgery (IPP + curve correction, mini-jupette, AUS, or scrotoplasty or on blood thinners, excluding baby aspirin) were at increased risk of requiring delayed activation (10/33 [30%] vs 1/17 [6%]; $p = 0.046$).

Conclusion

Patients undergoing complicated IPP surgery are at increased risk of delayed IPP activation. In efforts to streamline patient care, we recommend 3 and 6 week initial post-operative follow up for straightforward and complex IPP cases respectively.

Funding: N/A

The Impact of COVID-19 on Urological Consultations in a Inner City Hospital

william ducomb, DO¹, stallegro@gmail.com stallegro@gmail.com, DO¹,
Shaheen Alanee, MD², Daniel Sidhom, DO³, Regine Sanchez, DO¹, Seth
Polk, BS¹

¹Detroit Medical Center, ²Detroit medical Center, ³Detroit Medical Center

Purpose: The COVID-19 Pandemic has tested our capabilities and presented the necessity to adapt in order to provide urologic care to at-risk patients. We aim to better understand the early effects of the pandemic on urologic services.

Materials and Methods: Urologic consultations in a single inner-city hospital from March 1, 2020 to May 1, 2020 were compared to urologic consultations from March 1, 2019 to May 1, 2019. The two time periods were subdivided into 9 weeks, proportion of each consult calculated, and median value and interquartile range reported. Two-tailed T-test was also performed to investigate differences in consultations between the 2019 and 2020 time periods.

Results: 115 and 104 total urologic consultations were made in 2019 and 2020 respectively. Foley catheter and Suprapubic Tube placement consultations had a proportional increase from 9% (0.00-0.15) to 20% (0.11-0.29) with P=0.03. Bladder, Prostate, and Renal cancer consultations had a proportional reduction from 10% (0.09-0.11) to 0% (0.00-0.04) with P=0.02. Renal and ureteral stone consultations also had a proportional reduction from 15% (0.10-0.16) to 0% (0.00-0.05) with p < 0.01.

Conclusions: Urologic consultations for malignancies and stone disease decreased during the initial onset of the COVID-19 pandemic

Funding: NA

	Court I (2019)	Court II (2020)	Median Pain	IQR (2019)	Median Pain	IQR (2020)	P-Value of Test
Foley and SPT Placement	11	17	9%	0.00–0.15	20%	0.11–0.29	0.03
Unnecessary Injuries and PO Complications	5	13	5%	0.00–0.08	11%	0.00–0.21	0.15
Bleeding, Prostate and Renal Cancer	12	4	10%	0.09–0.11	0%	0.00–0.04	0.02
Renal and Urinary Disorders	16	5	15%	0.10–0.16	0%	0.00–0.05	<0.01
Hematuria	10	5	0%	0.08–0.22	4%	0.00–0.21	0.83
Urinary Retention, BPH, Urethral Stricture	24	18	20%	0.16–0.25	14%	0.13–0.25	0.01
Hydrophobia/Hesitancy	11	12	11%	0.00–0.15	5%	0.00–0.07	0.75
UTIs, Pyelonephritis, Hemorrhoids	9	10	9%	0.00–0.10	10%	0.00–0.24	0.91
Sore/Glans Erosion, Abscesses	6	4	5%	0.00–0.10	0%	0.00–0.07	0.86
Urological Incontinence	1	2	0%	0.00–0.00	0%	0.00–0.00	0.64
Total	113	104					
Demographics							
African American:	91% [199/219]		Caucasian:	4% [8/219]	Other:	3% [12/219]	
Male:	70% [154/219]		Female:	30% [65/219]			

FEASIBILITY OF A NON-OPIOID PATHWAY POST URETEROSCOPY: JOINT ANALYSIS FROM TWO ACADEMIC CENTERS

Mohannad Awad, MD¹, Mark Assmus, MD², Adrian Berg¹, Matthew Lee, MD², Luke Hallgarth¹, Amy Krambeck, MD³, Kevan Sternberg, MD⁴

¹University of Vermont Medical Center, Burlington, Vermont, ²Indiana University, Indianapolis, Indiana, ³Northwestern University, Chicago, Illinois, ⁴University of Vermont, Burlington, Vermont

Introduction:

To combat the alarming amount of postoperative opioid prescribing in the United States (U.S.), many surgical specialties are implementing pathways to limit postoperative opioids. We sought to examine the durability of established non-opioid post ureteroscopy (URS) pathways previously implemented at two academic urology centers in the U.S.

Methods:

We examined patients undergoing URS at two academic centers utilizing a non-opioid postoperative pathway between 11/2016 – 03/2020. Primary outcomes included adverse events (Emergency Department (ED) presentation, and Office phone calls for genitourinary symptoms) for patients discharged with and without opioids.

Results:

In total, 699 patients underwent URS with stent placement. Of these, 652 (89.4%) were discharged without opioids and 74 (10.6%) received opioids postoperatively. Of those without opioids, 484 (77.4%) received non-steroidal anti-inflammatories. The majority were prescribed adjunct medications (acetaminophen, phenazopyridine, and/or tamsulosin) upon discharge. Compared to patients discharged without opioids, patients prescribed opioids were more likely to present to the ED (67 (10.7%) vs 14 (19.9%), $p=0.037$) and call the clinic for genitourinary symptoms (102 (16.3%) vs 22 (29.7%), $p=0.004$). In a multivariate analysis, patients prescribed opioids post URS (OR 1.9, 95% CI 1.1 – 3.5, $p=0.024$) and patients with an opioid prescription preop (OR 2.2, 95% CI 1.1 – 4.5, $p=0.032$) were associated with higher odds of calling the clinic.

Conclusions:

This study highlights almost 90% of patients can be discharged safely without opioids following URS. Patients prescribed opioids experienced higher postoperative healthcare interactions (ED visits, office calls). We hope our results encourage other urologists to consider non-opioid pathways post URS.

Funding: N/A

SURGICAL PLANS ESTABLISHED DURING NEW PATIENT VIDEO VISITS ARE RARELY CHANGED BY PHYSICAL EXAM FINDINGS

Juan Andino, MD, MBA¹, Nick Eyrich, MS¹, Roberta Ukavwe, BS¹, Akshar Patel, MS², Daniel Triner, MD, PhD¹, Chad Ellimotttil, MD, MPH^{1,3}

¹Michigan Medicine Urology, ²Michigan Medicine Anesthesia, ³Institute for Healthcare Policy and Innovation, Ann Arbor, MI

INTRODUCTION

As policymakers and clinicians determine the role of video visits beyond COVID-19, there is a critical need to understand how new patient video visits can impact surgical planning for urologic conditions.

METHODS

We identified 350 consecutive urology patients who underwent new patient video visits from March through May 2020. Our primary outcome was procedural plan concordance, the proportion of video visit plans that remained the same after the patient was seen in-person, either in clinic or on day of surgery.

RESULTS

117 (33%) of the 350 patients who were evaluated by new patient video visits had a procedure or surgery scheduled. Of these patients, 108 (92%) had concordant (unchanged) plans after in-person evaluation. Seven patients (6%) had their surgical plans altered due to a change in their clinical course and two patients (1.7%) were counseled that operative approach would depend on genitourinary exam findings.

CONCLUSION

Our findings suggest that most surgical plans developed during new patient video visits are unchanged after in-person examination. However, certain urologic conditions (e.g., penile cancer) rely on the genitourinary exam to dictate the surgical approach. Continued research on the clinical appropriateness of video visits is necessary to optimize video visit delivery.

Table 1. Factors Contributing to Changes in New Patient Virtual Surgical Plans

Funding: Chad Ellimotttil receives grant support from the Agency for Healthcare Research and Quality: 1 K08 HS027632-01

Time of in-person evaluation	Primary diagnosis	Imaging available at video visit	Video visit plan	In-person plan	Factor Contributing to Plan Discordance
Day of surgery	Kidney stone	CT abdopelvis	MET; if stone does not pass, then left URS	Left URS w/ laser lithotripsy, stent placed	Clinical Course
Day of surgery	Kidney stone	CT abdopelvis, US Renal	Right shockwave lithotripsy	Right URS w/ laser lithotripsy	Clinical Course
Day of surgery	Kidney stone	CT abdopelvis	Left PCNL/antegrade URS	Bilateral PCNL/antegrade URS	Clinical Course
Day of surgery	Penile cancer	CT urogram	Laser ablation vs other indicated procedures	Penile biopsy with CO2 laser ablation	Physical Exam
Day of surgery	Mixed urinary incontinence	None	Cystoscopy, FUDS	Cystoscopy	Clinical Course
Clinic	Renal mass	MR Abdomen	Right Robotic Partial Nephrectomy	Canceled due to patient jaundice	Clinical Course
Day of surgery	Undervaginal fistula	CT pelvis	Cystoscopy, FUDS, possible nephrostomy tube	Right PCN tube placement by IR pending unilateral reconstruction	Clinical Course
Day of surgery	Penile cancer	None	Partial penectomy vs CO2 laser ablation	Partial penectomy	Physical Exam
Clinic	Stress urinary incontinence	None	Autologous rectus fascia pubovaginal sling	Synthetic midurethral sling	Clinical Course

FACTORS THAT INFLUENCE DECISION AID USE IN PROSTATE CANCER

Giulia I. Lane, Ajith Dupati, Ji Qi, Stephanie Ferrante, Roshan Paudel, Daniela Wittmann, Lauren Wallner, Chad Ellimoottil, James Montie, J. Quentin Clemens, Michigan Urological Surgery Improvement Collaborator
University of Michigan

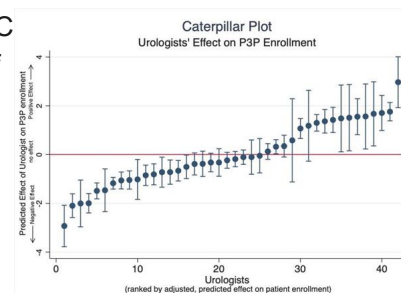
INTRODUCTION: Despite their many benefits, there is not widespread use of decision aids (DA) for newly diagnosed prostate cancer. This study investigates how much influence patient and clinician factors have on use of a DA for localized prostate cancer.

METHODS: We included patients with newly diagnosed, clinically localized prostate cancer, in the Michigan Urological Surgery Improvement Collaborative from 2018-20 at sites the Personal Patient Profile for Prostate (P3P) DA. Our primary outcome was patient enrollment in P3P. We fit a multilevel logistic regression model adjusting for patient level factors and clustering at the urologist level.

RESULTS: Out of 2099 patients, 988 (47%) patients enrolled into P3P. We found that 41% of the total variance of whether patients enrolled into P3P was attributed to the urologist's influence. We found significant variation in predicted patient enrollment across the 42 urologists (Figure). Only 2% of the variance enrollment was explained by patient factors: older patients (OR 0.98 [95% CI 0.97-0.99], $p=0.015$) and those with higher PSA (OR 0.96 [95% CI 0.92-0.99], $p=0.015$) had less odds of enrolling.

CONCLUSIONS: Our findings suggest that urologists' influence far outweighs patient factors in patients' decision to enroll in P3P. Future work should focus on interventions that will encourage providers to increase decision aid adoption in their practices.

Funding: NIDDK F32 DK126232; MUSIC is funded from Blue Cross Blue Shield of Michigan



APPROACH TO PDE5i MEDICATION COSTS AND THE UTILIZATION OF ONLINE COUPON PROGRAMS AMONG UROLOGISTS

Brian Paul, Amy Pearlman

Dept. of Urology, University of Iowa Carver College of Medicine, Iowa City, IA

Introduction: High cost of medications can negatively impact patients and alter prescription practices by healthcare providers. Online coupon services can reduce the cost of medications.

Methods: Urologists were invited to participate in an online survey posted to Twitter assessing prescribing habits, approach to medication affordability, and awareness of medication coupon programs.

Results: There were 63 respondents, 53 of whom were urologists, urology residents, or physician assistants who regularly prescribe PDE5is. Respondents were distributed across the United States. The primary insurance types among respondent practices were predominantly commercial (54%) or Medicare (38%). 77% of respondents indicated it was either “very important” or “an absolute necessity” that their patients were directed to pharmacies or savings programs that reduce costs of PDE5i medications. The most common strategies to reduce medication costs were prescribing generic medications (84%), instructing patients to use online coupon programs such as GoodRx (80%), and prescribing formulations used for pulmonary indication (i.e., Revatio® 20 mg) (46%). Despite indicating the importance of medication cost reduction, 23% of respondents reported they do not know how much PDE5i medications cost and 31% did not feel that they had adequate resources to refer patients to savings programs.

Conclusion: Urologists frequently prescribe PDE5is and their clinical decisions are influenced by medication cost. Greater awareness of and familiarity with medication assistance programs may improve medication affordability and, as a result, healthcare provider prescription practices to best suit patient needs.

Funding: N/A

	Response	Optimal face	Optimal low	OR	95% CI	P
Gender	Female	100 (50.0%)	100 (50.0%)	1.0		
	Male	100 (50.0%)	100 (50.0%)	1.0		
	Age	100 (50.0%)	100 (50.0%)	1.0		
	Age	100 (50.0%)	100 (50.0%)	1.0		
Age	100 (50.0%)	100 (50.0%)	100 (50.0%)	1.0		
	100 (50.0%)	100 (50.0%)	100 (50.0%)	1.0		
	100 (50.0%)	100 (50.0%)	100 (50.0%)	1.0		
	100 (50.0%)	100 (50.0%)	100 (50.0%)	1.0		
Surgical approach	Open	100 (50.0%)	100 (50.0%)	1.0		
	Open	100 (50.0%)	100 (50.0%)	1.0		
	Open	100 (50.0%)	100 (50.0%)	1.0		
	Open	100 (50.0%)	100 (50.0%)	1.0		
Spinal processing	Spinal processing	100 (50.0%)	100 (50.0%)	1.0		
	Spinal processing	100 (50.0%)	100 (50.0%)	1.0		
	Spinal processing	100 (50.0%)	100 (50.0%)	1.0		
	Spinal processing	100 (50.0%)	100 (50.0%)	1.0		
Surgical approach	Open	100 (50.0%)	100 (50.0%)	1.0		
	Open	100 (50.0%)	100 (50.0%)	1.0		
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	Spinal processing	100 (50.0%)	100 (50.0%)	1.0		
Surgical approach	Open	100 (50.0%)	100 (50.0%)	1.0		
	Open	100 (50.0%)	100 (50.0%)	1.0		
	Open	100 (50.0%)	100 (50.0%)	1.0		
	Open	100 (50.0%)	100 (50.0%)	1.0		
Spinal processing	Spinal processing	100 (50.0%)	100 (50.0%)	1.0		
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	Spinal processing	100 (50.0%)	100 (50.0%)	1.0		
Surgical approach	Open	100 (50.0%)	100 (50.0%)	1.0		
	Open	100 (50.0%)	100 (50.0%)	1.0		
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Spinal processing	Spinal processing	100 (50.0%)	100 (50.0%)	1.0		
	Spinal processing	100 (50.0%)	100 (50.0%)	1.0		
	Spinal processing	100 (50.0%)	100 (50.0%)	1.0		
	Spinal processing	100 (50.0%)	100 (50.0%)	1.0		
Surgical approach	Open	100 (50.0%)	100 (50.0%)	1.0		
	Open	100 (50.0%)	100 (50.0%)	1.0		
	Open	100 (50.0%)	100 (50.0%)	1.0		
	Open	100 (50.0%)	100 (50.0%)	1.0		
Spinal processing	Spinal processing	100 (50.0%)	100 (50.0%)	1.0		
	Spinal processing	100 (50.0%)	100 (50.0%)	1.0		
	Spinal processing	100 (50.0%)	100 (50.0%)	1.0		
	Spinal processing	100 (50.0%)	100 (50.0%)	1.0		
Surgical approach	Open	100 (50.0%)	100 (50.0%)	1.0		
	Open	100 (50.0%)	100 (50.0%)	1.0		
	Open	100 (50.0%)	100 (50.0%)	1.0		
	Open	100 (50.0%)	100 (50.0%)	1.0		
Spinal processing	Spinal processing	100 (50.0				

STATE POLICY IMPACT ON OPIOID PRESCRIPTIONS AFTER EPIDIDYMECTOMY

Juan Andino, M.D., Renee Hanna, B.S., Stephanie Daignault-Newton, MS, Mark-Anthony Lingaya, B.S., Susanne Quallich, PhD, Miriam Hadj-Moussa, M.D.

University of Michigan Department of Urology, Ann Arbor, MI, 48103

Introduction

Laws limiting narcotic prescriptions in the state of Michigan were passed in late 2017 to combat the opioid epidemic. We evaluated the impact of state policy on postoperative opioid prescriptions, pain outcomes, and refill requests after epididymectomy.

Methods

Ninety-three patients who underwent epididymectomy between 2012-2020 had prescription information available. The primary outcome measure was a comparison of postoperative morphine milligram equivalents (MME) prescription patterns before and after Michigan's legislative changes. Short and long-term pain outcomes were documented as cured/improved or no change/worsened and requests for refills based on MME prescribed were evaluated.

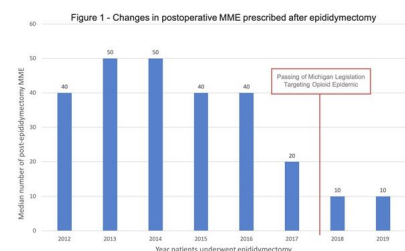
Results

The median MME prescribed for the entire cohort was 35. Prescriptions ranged from 40 (range 0-120) MME prior to 2018 compared to 10 MME (range 0-40) for 2018 onwards ($p < 0.001$; Figure 1). There was no difference in pain outcomes among patients that received more or less than 35 MME at their first ($p = 0.9$) or last postoperative visit ($p = 0.5$). A similar proportion of patients requested additional medications whether they receive greater than (21.3%) or less than 35 MME (21.7%, $p = 0.96$).

Conclusion

Changes in state policy resulted in decreased opioid prescriptions with no change in postoperative pain scores or narcotic refills. These findings may be applicable to similar minor scrotal procedures.

Funding: N/A



PALLIATIVE CARE IS UNDERUTILIZED IN MALIGNANT URETERAL OBSTRUCTION

Michael Felice¹, Elizabeth Koehne¹, Nicholas Elliott¹, Farah Rahman², Hiten Patel¹, Grace Delos Santos^{1,3}

¹Loyola University Medical Center, ²Loyola University Chicago Stritch School of Medicine, ³Hines VA Medical Center

Introduction

Malignant ureteral obstruction (MUO) is a poor prognostic sign. Many of these patients may benefit from palliative care (PC) consultation given the often-terminal nature of their diagnosis. We aimed to evaluate the use of PC in patients with MUO undergoing decompression.

Methods

Patients >18 years of age diagnosed with MUO undergoing either percutaneous nephrostomy tube (PCNT) or ureteral stent were included (2016-2019). Baseline characteristics were compared between the cohorts. PC and hospice referral at any time were reported.

Results

71 patients were included: 38 (53.5%) after PCNT and 33 (46.5%) after ureteral stent placement. There was no association of age, race, BMI, CCI, or malignancy type with PC referral. Following decompression, 17 patients (23.9%) were referred to PC at a median interval of 29 days (IQR 14-279) and 33 (46.5%) were referred to hospice at a median interval of 102.5 days (IQR 35.5-379.5). Median time from PC referral to death was 36 days (IQR 14-107). Median time from hospice to death was 7.5 days (IQR 2.25-15). 55 (77.4%) patients died with a median interval of time from decompression to death of 125 days (IQR 50-446).

Conclusion

Less than 1 in 4 patients with MUO was referred to PC, representing underutilization in this population.

Funding: N/A

Table 1. Patient Characteristics

Patient and treatment characteristics						
Characteristic	All (n=71)	PCNT (n=38)	Ureteral Stent (n=33)			
	n/median	n/median	n/median	n/median	n/median	p
Age (years)	65.6	62.1-75.8	69.9	65.7-76.2	65.9	63.0-73.6 0.58
Sex						0.865
Male	31	43.7%	17	44.7%	14	42.4%
Female	40	56.3%	21	55.3%	19	57.6%
Race/Ethnicity						0.577
White	57	80.30%	29	76.32%	28	84.85%
Latino or Hispanic	7	9.90%	4	10.53%	3	9.09%
Black	7	9.90%	5	13.16%	2	6.06%
Asian	0	0.00%	0	0.00%	0	0.00%
BMI	26.9	22.7-30.8	26.6	22.5-33.3	27.3	22.9-29.5 0.699
CCI						0.049
0	3	4.23%	3	7.89%	0	0.00%
1	5	7.04%	4	10.53%	1	1.41%
2	18	25.35%	6	15.79%	12	36.36%
3	17	23.94%	12	31.58%	5	15.15%
≥4	28	39.44%	13	34.21%	15	45.45%
Malignancy						0.055
Gynecologic	29	32.39%	12	31.58%	17	51.52%
GI	4	5.21%	1	2.63%	3	9.09%
Bladder	17	23.94%	14	36.84%	3	9.09%
Prostate	12	16.30%	4	10.53%	8	24.24%
Other	15	21.13%	7	18.42%	8	24.24%
Malignancy Status						0.142
Initial cancer diagnosis	28	39.44%	18	47.37%	10	30.30%
Recurrent/progression	43	60.56%	20	52.63%	23	69.70%
Metastatic Disease (regional or distant)	60	84.51%	31	81.58%	29	87.88%
Bilateral Obstruction	25	49.39%	20	52.63%	15	45.45%
Degree of Obstruction						0.369
Mild	12	16.30%	8	21.05%	4	12.12%
Moderate	26	36.48%	19	50.00%	7	21.21%
Severe	13	18.11%	5	13.16%	8	24.24%
Unknown	20	28.11%	6	15.79%	14	42.42%
AKI at Presentation	52	73.24%	33	86.84%	19	57.58%
Sepsis at Presentation	5	7.04%	2	5.26%	3	9.09%
Flank Pain at Presentation	13	18.31%	9	23.68%	4	12.12%
Palliative Care Referral	17	23.94%	11	28.95%	6	18.18%
Hospice	33	46.48%	19	50.00%	14	42.42%
Mortality Status						0.051
Alive	16	22.54%	7	18.42%	9	27.27%
Deceased or presumed deceased	55	77.46%	31	81.58%	24	72.73%

6:00 PM-7:30 PM

Closing Reception

Location: Rouge

SATURDAY, OCTOBER 9, 2021

6:00 AM-8:00 AM

Breakfast

Location: International Foyer (Level 2)/Imperial Ballroom (B2 Level)

7:00 AM-12:00 PM

Registration/Information Desk Hours

Location: International Foyer (Level 2)

7:00 AM-12:00 PM

Speaker Ready Room Hours

Location: Royal Room (B2 Level)

7:00 AM-8:00 AM

Industry Sponsored Breakfast Symposium

Location: State

7:30 AM-11:00 AM

Spouse/Guest Hospitality Suite Hours

Location: Embassy Room (Level 2)

8:00 AM-12:10 PM

General Session

Location: International Ballroom

8:00 AM-9:00 AM

Resident Bowl

Moderators:

Sapan Ambani

Bodo Knudsen

9:00 AM-9:30 AM

State of Urology

Moderator:

Sandra McCabe

Diversity in Urology: Where We Are Now and Where We Are Going

Speaker:

Hadley Wood

The Urology Workforce Shortage: Preparing for the Future

Speaker:

Kate Kraft

9:00 AM-9:15 AM

How an MBA Changed My Perspective (Early Career)

Speaker:

Charles Paul

9:15 AM-9:30 AM

First Year Dilemmas: What I Know Now

Speaker:

Matthew Ferroni

9:30 AM-9:55 AM

Navigating through Economic models of Practice

Speaker:

Peter Knapp

9:30 AM-10:00 AM

Listen to the MUSIC: Improving the Quality of Ureteroscopy

Speaker:

Khurshid Ghani

9:55 AM-10:15 AM

RVUs: What Are They and How Are They Figured Out

Speaker:

Thomas Gardner

10:15 AM-10:40 AM

Coding/Billing

Speaker:

James Ulchaker

10:00 AM-10:10 AM

Break

Location: International Foyer

10:10 AM-10:40 AM

Evolving Technical Aspects of Flexible Ureteroscopy

Guest Speaker:

J. Stuart Wolf

Academic Setting

Speaker:

Edward Cherullo

Private Setting

Speaker:

Craig Smith

10:40 AM-11:00 AM

Point Counterpoint: Dusting or Basket

Moderator:

Sara Best

Dusting

Speaker:

Carley Davis

Basket

Speaker:

Bodo Knudsen

10:50 AM-11:05 AM

Independent Private Practice

Speaker:

Olufenwa Milhouse

11:05 AM-11:20 AM	Top 10 Things I Wish I Knew about Academic Urology <i>Speaker:</i> Kate Kraft
11:20 AM-11:35 AM	Rural Practice <i>Speaker:</i> Nathan Grunewald
11:35 AM-11:50 AM	Employed Private Practice <i>Speaker:</i> Adam Kadlec
11:50 AM-12:00 PM	Q & A
11:00 AM-12:00 PM	Tips and Tricks PCN <i>Moderator:</i> Kevin Koo <i>Panelists:</i> Kristin Baldea Naveen Kachroo Ephrem Olweny Mark Wille
12:00 PM-12:10 PM	Incoming NCS President Remarks <i>President-Elect:</i> Bradley Schwartz
8:00 AM-12:45 PM	Breakout: Advanced Practice Providers Session Location: Rouge <i>Moderator:</i> C.R. Powell
8:00 AM-8:10 AM	Introduction and Overview, including results of NCS 2020 survey of section APPs and “What Can The NCS Do For me?” <i>Speaker:</i> C.R. Powell
8:10 AM-8:30 AM	AUA Course of Choice Lecture: Hematuria Guidelines: What's New? <i>Speaker:</i> Alana Murphy
8:30 AM-8:50 AM	AUA Course of Choice Lecture: Superficial Bladder Cancer* - Diagnosis and Management <i>Speaker:</i> Anne Lizardi-Calvaresi

8:50 AM-9:10 AM	Cystoscopy Scenarios You Should Recognize <i>Speaker:</i> Jason Gilleran
9:10 AM-9:30 AM	AUA Course of Choice Lecture: Active Surveillance in Prostate Cancer Management <i>Speaker:</i> Anne Lizardi-Calvaresi
9:30 AM-9:50 AM	The Role of the APP in Prostate Biopsy and Live TRUS Case Scenarios <i>Speaker:</i> Patrick Byrd
9:50 AM-10:00 AM	Break
10:00 AM-10:20 AM	Onboarding and Role Considerations for the Urology APP <i>Speaker:</i> Susanne Quallich
10:20 AM-10:50 AM	Panel Discussion: Role of the APP in Evaluating New Patients: How much Supervision and What Type? Are Different Standards Appropriate in Academic vs. Private Settings?
10:50 AM-11:10 AM	AUA Course of Choice Lecture: Treatment Options for Refractory OAB <i>Speaker:</i> Alana Murphy
11:10 AM-11:30 AM	Evaluating Patients with Recurrent UTIs <i>Speaker:</i> Sarah Adelstein
11:30 AM-11:35 AM	Conclusion and Invitation for Feedback / Preview of Future Topics for Next Year <i>Speaker:</i> C.R. Powell
11:35 AM	Adjourn
11:35 AM-12:45 PM	Networking Luncheon
9:00 AM-1:00 PM	Breakout: Resident Session Location: Gold <i>Moderator:</i> Kyle Richards
9:00 AM-9:55 AM	Session 1- Business in Medicine

9:55 AM-10:40 AM	Session 2- How Physician Work gets Translated to Dollars
10:40 AM-10:50 AM	Break
10:50 AM-12:05 PM	Session 3- Top 10 Things I Wish I Knew...
12:00 PM-1:00 PM	Networking Lunch

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