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Poster #26

Racial disparities in testicular salvage in pediatric testicular torsion

Alexandr Pinkhasov, Rachel Yakubov, Matthew Beamer, Anthony Tracey, Matthew Mason, Brian Chun, Ruben Pinkhasov, Jeffrey Villanueva
SUNY Upstate Medical University, Syracuse, NY

Introduction: Management of testicular torsion was included as a quality metric for hospital ranking by U.S. News & World Report (USNWR) in 2015. Recent literature has demonstrated significant improvement in testicular salvage rates following its implementation. The purpose of this study was to determine whether known disparities in healthcare translate to the pediatric population affected by testicular torsion.

Methods: The Pediatric Health Information System (PHIS) was queried to identify cases of testicular torsion based on ICD-9 and ICD-10 codes across 52 hospitals between January 2010 and December 2019. Hospitals that did not report pre- and post-metric outcomes were excluded. Patients >1 year and <18 years old were included in the analysis. Testicular salvage was defined as patients having undergone orchiopexy without concurrent orchiectomy. Insurance status, race, and median household income was compared using the Chi-squared test.

Results: A total of 824 cases of testicular torsion were captured by PHIS after excluding missing data. Overall, between 2010 and 2019, there was no significant difference in testicular salvage rates between black and white patients (59.8% and 65.6%, respectively, p=0.73). Implementation of the hospital quality metric in 2015 did have a significantly different impact on improving salvage rates between black (pre – 56.5% and post – 65.9%) and white (pre – 57.8% and post – 78.2%) patients (p<0.05). Insurance status and median household income did not impact salvage rates.

Conclusions: Since implementation of testicular salvage in cases of testicular torsion as a quality metric by USNWR "Best Children's Hospitals," there has been significant increase in testicular salvage. This improvement was more significant among white patients.

Poster #27

Association between testicular microlithiasis and tumors in pediatrics: Would practice changes affect outcomes? A 20-year, retrospective experience in a large tertiary care center

Elyse Potvin[1,2], Valérie Hogues[1,2], Diego Barrieras[1,2], Julie Franc-Guimond[1,2]
[1]Division of Pediatric Urology, Department of Surgery, Centre Hospitalier Universitaire Sainte-Justine, Montreal, QC; [2]Université de Montréal, Montreal, QC

Introduction: Use of high-resolution ultrasounds (US) to evaluate pediatric scrotal conditions has led to an increased detection of testicular microlithiasis (TM) but their significance remains ill-defined. Nonetheless, active screening has been advocated in many publications, mostly for fear of missing out. In our center, the management of TM over the last 2 decades has been a prudent one. Hence, we elected to review all patients diagnosed with a testicular pathology requiring orchiectomy to determine the prevalence of TM in that population and sought to identify whether a prior diagnosis of TM impacted the diagnosis/management of such cases.

Methods: The records of all patients who underwent radical orchiectomy between 2000 and 2021 at our pediatric tertiary care center were retrospectively reviewed. A descriptive analysis was obtained to determine age at diagnosis/surgery, presenting symptoms, US/histological findings, and long-term outcome. Summary statistics were calculated.

Results: Sixty-one orchiectomies were performed over the study period. The mean age (range) at presentation was 7.7 years (6 days to 17 years). Presenting symptoms were testicular mass (49), scrotal swelling (4), pain (3), or others (5). Malignant testicular tumors, paratesticular tumors, benign lesions, inflammatory processes, and streak gonads accounted for 18, 8, 26, 7, and 2 cases, respectively. For patients found to have malignant tumors, the age at presentation ranged between 2 weeks and 17 years and diagnosis were non-seminomatous germ cell tumor (NSGCT) (15), gonadoblastoma (1), leukemia (1), and secondary metastasis (1). Newly diagnosed TM were observed in 7/61(11.7%), with 4/7 observed unilaterally (ipsilateral in 2) and 6/7 had a malignant tumor (5 NSGCT, 1 gonadoblastoma). None of these patients had a risk factor for testicular cancer. Sixty percent of NSGCT (with or without TM) were stage 1 at diagnosis vs. 80% for the subgroup with TM. A greater proportion of patients with TM had an embryonal carcinoma component (4/5). Over time, two cancer-related deaths occurred, both of which had no TM. All patients with TM fared well.

Conclusions: Following incidentally found TM did not appear to benefit our pediatric population. In fact, looking back at the last two decades, none of the diagnosed testicular tumors cared for in our center were identified because of an active screening protocol. Hence, adopting a less prudent approach in the future would not translate into missing testicular tumors, as all cases came to our attention for reasons other than via a routine followup.

Poster #28

Comparing safety and efficacy of endoscopic treatment for urolithiasis in children under and above 3 years of age: A single-center experience

Elyse Potvin[1,2], Valérie Hogues[1,2], Julie Franc-Guimond[1,2], Diego Barrieras[1,2]
[1]Division of Pediatric Urology, Department of Surgery, Centre Hospitalier Universitaire Sainte-Justine, Montreal, QC; [2]Université de Montréal, Montreal, QC

Introduction: Technological evolution has allowed changes in endoscopic approaches. This is particularly true for the pediatric population. Nonetheless, the safety of endoscopic procedures in small children remains to be defined. The aim of this study was to report/compare the outcomes pertaining to the effectiveness and safety of endoscopic procedures performed in children who presented with urinary stones (before and after 3 years of age).

Methods: We conducted a retrospective review of a cohort of pediatric patients who underwent ureteroscopy (URS) and percutaneous nephrolithotomy (PCNL) in our large pediatric tertiary care center between January 2003 and September 2021. A detailed analysis of the medical records was completed to obtain demographic data, surgical outcomes, and complications. We looked at children younger/older than 3 years of age and compared the two groups. Our primary outcome was the complication rate but the stone-free rate (SFR), stone burden, and demographics were also recorded.

Results: A total of 201 surgeries were performed (26 in patients aged less than 3 years old [yo]) on 100 patients (14 patients aged less than 3 yo when first operated on vs. 86). Our overall SFR after a single surgery was 57% (46.7% SFR in ≤3 yo and 59.4% for >3 yo). For a newly identified stone event, it took an average of 1.66 surgeries to become stone-free (1.73 surgeries in the younger group vs. 1.65). Initial assessment of the stone burden observed revealed that 13% of ≤3 yo have stones ≥2 cm vs. 14% for >3 yo and 42.1% had a bilateral presentation at diagnosis vs. 12.4%, respectively. Forty-eight percent had a significant medical history explaining stone formation, but it was much higher in the younger group (63.4% vs. 44.8%). Five and 34 complications occurred in the younger/

older groups, respectively (complication rate of 19.2% and 19.4% per surgery). Complications included URS failures, urinary tract infections, stent intolerance, ureteral strictures, perforations, and hematuria.
Conclusions: When using similar surgical techniques, patients operated on before 3 yo appear to have the same complication rate and a similar SFR as those operated at a later age; however, we did need to perform more surgeries in youngsters to achieve comparable surgical success, explained in part by a more complex presentation in the former group in conjunction with an increased incidence of metabolic disease. Despite that, we can conclude that endoscopy performed in young children is, therefore, not only feasible but safe.

Poster #29

Ureteral reimplantation in adults: Is there an optimal surveillance strategy?

Leyla Akhverdiyeva[1], Yurong Mai[1], Jas Singh[2], Mehrad Adibi[2], John Papadopoulos[2], Neema Navai[2], Surena Matin[2], Louis Pisters[2], William Graber[2], Thomas Smith III[2], O. Lenaine Westney[2]
[1]Division of Urology, Department of Surgery, The University of Texas Health Science Center, Houston, TX; [2]Department of Urology, Division of Surgery, The University of Texas MD Anderson Cancer Center, Houston, TX
Introduction: Ureteral reimplantation is a common procedure in the management of surgical ureteral injury and obstruction. There is little consensus in the adult literature regarding the optimal postoperative followup strategy. The aim of this study was to examine longitudinal outcomes following ureteral reimplantation at time of surgery for malignancy to develop a surveillance strategy.
Methods: All cases of ureteral reimplantation performed at a tertiary cancer center between March 2016 and April 2021 were retrospectively reviewed. All cases of ureteroneocystostomy using open or robotic approach were included, as well as adjunct maneuvers such as psoas hitch, Boari flap, and transureteroureterostomy (TUU) if performed in conjunction with reimplantation. Revision of urinary diversion anastomoses and ileal interposition were excluded. Data analyzed include age, primary diagnosis, history of pelvic radiation, type of reimplantation, findings at cystography, pre- and postoperative renal function, early (<90 days) and late (>90 days) complications. Followup imaging was reviewed at 3 months, every 3 months, for 2 years.
Results: Eighty-three patients underwent reimplantation of 85 ureteral units. Mean age was 62 years and median followup was 7 months (range 0–54). The most common primary diagnoses were: colorectal cancer (35%), urothelial cancer (27%), sarcoma (10%), and ovarian cancer (7%). Forty-five percent of patients received preoperative pelvic radiation. Indications included malignant obstruction (64%), ureteral stricture/fistula (14.5%), ureteral injury (14.5%), and fibrosis (7%). Surgical technique was direct reimplantation in 26%, with psoas hitch in 53%, Boari flap in 20%, and TUU in 1%. Postoperative leak on cystography was seen in 7.7%. There was a statistically significant difference between the mean pre- and postoperative eGFR (72.6 vs. 66.6, $p<0.01$). At 1 year of followup, the rate of hydronephrosis was 9.6%, with 75% of cases exhibiting worsening in renal function. The rate of developing new hydronephrosis after 1 year was 4.8%. The most common cause of late occurrence of hydronephrosis was tumor recurrence from urothelial and colorectal cancers.
Conclusions: Clinically significant obstruction after reimplantation occurs in a minority of patients after 1 year. Surveillance every 3 months for up to 1 year with renal imaging (ultrasound or cross-sectional) and laboratory assessment of renal function is sufficient. While primary urothelial and colorectal cancers are prone to recurrence, separate imaging for ureteral obstruction is not necessary above routine oncology followup studies.

Poster #30

Ambulatory buccal mucosal graft urethroplasty in geriatric population: Comparative study

Waleed Shabana, Thomas Tablowski, Ahmed Zakaria, Ashraf Shaban, Abdulrahman Ahmad, Jill Skogberg, Michelle Cappello, Yasser Iabib, Hazem Elmansy, Ahmed Kotb, Walid Shahrour
Northern Ontario School of Medicine, Thunder Bay, ON
Introduction: Ambulatory buccal mucosal graft (BMG) urethroplasty has been gaining popularity over the last two decades. We aimed to assess the feasibility and safety of ambulatory BMG urethroplasty in the geriatric population compared to inpatient urethroplasty.
Methods: We conducted a retrospective chart review of patients who underwent BMG urethroplasty at the age of 65 or above in our institution between August 2019 and July 2021. Demographics, patient characteristics, postoperative course, and complications were recorded (Table 1).
Results: Over 2 years, a total of 73 BMG urethroplasties were performed by a single surgeon. Of these, 31 patients (42.4%) were found to be above the age of 65. Fifteen patients (48.3%) had undergone BMG urethroplasty as inpatients while 16 patients (51.6%) had undergone BMG urethroplasty as an ambulatory procedure. The median age was 69 (65–84) years in the outpatient group compared to 72 (65–78) years in the inpatient group. There were no significant differences in the comorbidities, ASA score, stricture length, operative time, urethroplasty type, or global response assessment between both groups. The length of stay was significantly shorter in the outpatient group, with a median of 4 hours compared to 24 hours for the inpatient group. One patient in each group had to be seen in the emergency room few days after discharge for suspicion of wound infection treated with oral antibiotics as outpatients.
Conclusions: Outpatient BMG urethroplasty in the elderly is feasible, with no added morbidity to the patients. Patient age, comorbidities, stricture length, stricture location, and operative type did not seem to play a factor requiring readmission. Larger studies are needed.

Poster #32

Parental distress surrounding their child's urological surgery: Does anxiety correlate with overutilization of healthcare resources?

Franny Kwak[1], Paul Feustel[1], Barry Kogan[2]
[1]Albany Medical College, Albany, NY; [2]Deptartment of Urology, Albany Medical College, Albany, NY
Introduction: Parental anxiety surrounding a child's surgical procedure is expected and may be worse when procedures involve the genitalia. We aimed to determine the degree of increased anxiety around a child's surgery and whether heightened anxiety is associated with over-utilization of healthcare resources.
Methods: Sixty-two pediatric patients undergoing anesthesia for pediatric urologic surgery filled out a State-Trait Anxiety Inventory (STAI Y-6) form before surgery, on the day of surgery, and at the postoperative visit. Records were reviewed to determine the frequency of postoperative contacts — defined as the number of emergency department (ED) visits and phone calls — and the contact was defined as "significant" when there was a suggestion of potential infection or an issue requiring immediate attention to prevent irreparable harm or death. "Non-significant" issues included topics such as surgical planning, laboratory results, medication refills, and other non-urgent general medical questions. "Non-significant contact" was considered overutilization of resources.
Results: There were 81 contacts total, 32 thought to be "significant" and 49 "non-significant." Anxiety increased significantly from preoperatively to the day of surgery ($p=0.03$). It decreased significantly at the time of the postoperative visit ($p<0.001$). There were no differences in anxiety between the group with no "non-significant" contacts before the operation and the group with at least one "non-significant" contact. Those that had a "significant" contact were found to have less decline in anxiety at the postoperative visit ($p=0.04$). There were no other significant correlations.
Conclusion: Parental anxiety was moderate at the preoperative visit, increased at the time of surgery, and fell to a lower level at the postoperative visit. There was no correlation between anxiety and overuse of healthcare resources.

Poster #30. Table 1. Clinical demographic and operative data of geriatric urethroplasty patients

	Outpatient (n=16)	Inpatient (n=15)	p
Age years, median (range)	69 (65–84)	72 (65–78)	0.67
Comorbidities, n (%)			
Coronary artery disease	6 (37.5)	7 (46.6)	0.61
Diabetes	6 (37.5)	4 (26.6)	0.51
Peripheral vascular disease	4 (25)	0 (0)	
Obstructive sleep apnea	4 (25)	3 (20)	0.74
Hypertension	4 (25)	5 (33.3)	0.61
Stricture length, cm median (range)	3 (1-4.5)	4(2-14)	0.1
Number of previous endoscopic procedure median (range)	2.5 (1–5)	3 (1–5)	0.38
ASA, median (range)	3 (1–3)	3 (2–3)	0.51
Operative time min, median (range)	150 (100-210)	180 (120-280)	0.45
Length of hospital stay, h median (range)	4 (2–5.25)	24 (24–72)	**<0.00001***
Stricture site, n (%)			
Vesico-urethral anastomotic stenosis	1(6.25)	1 (6.6)	0.96
Membranous	2 (12.5)	1 (6.6)	0.58
Bulbar	10 (62.5)	9 (60)	0.88
Penile	3 (18.7)	2 (13.3)	0.68
Pan-urethral		2 (13.3)	
Urethroplasty type, n (%)			
Dorsal onlay	8	12	0.08
Ventral onlay	8	3	
Global response assessment median(range)	5 (3–5)	4 (3–5)	0.07
Complications			
Wound infection, n (%)	1 (6.25)	1 (6.6)	0.96

*Statistically significant at p≤0.05.

Poster #33

Characterization of pediatric genital injuries due to consumer products from 2011–2020

Meher Pandher[1], Amy Song[1], Jasmine Mahajan[1], Arnold Oparanozie[1], Nivetha Srinivasan[1], Courtney Berg[1], Gabriel Fernandez[1], Chrystal Chang[1], Carlos Medina[1,2], Amjad Alwaal[1], Robert Weiss[1]

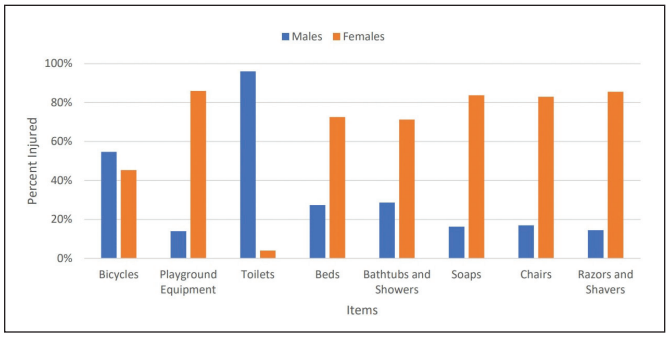
[1]New Jersey Medical School, Newark, NJ; [2]Robert Wood Johnson, New Brunswick, NJ

Introduction: Studies of the epidemiology of genital injuries in the pediatric population over the last decade are limited. This study aimed to describe demographics, trends, and qualities of consumer product-related injuries in the pediatric cohort from 2011–2020.

Methods: The National Electronic Injury Surveillance System (NEISS) database was retrospectively searched for all pediatric genital injuries between 2011 and 2020. Data on demographics, diagnosis, products, and disposition were collected on patients between the ages of 0–18 years, with further breakdown into age groups of 0–4, 5–9, 10–14, and 15–18. Statistical analysis was performed using linear regression.

Results: There were 12 953 total reported pediatric cases involving injuries of the genital region from 2011–2020, with a national estimate of 324 636 (95 CI 241 527–407 746) genital region pediatric injuries. These injuries comprised an estimated 0.76% of total pediatric injuries in the past decade. When classified by sex, female (54.2%) patients sustained more injuries relative to males. By race, most reported injuries were sustained by white (39.7%) patients. Most cases presenting to the ED were treated and released (91.4%). The individual items most commonly responsible for pediatric genital injuries include bicycles (9.4%), playground equipment (6.9%), toilets (4.6%), beds (4.5%), bathtubs and showers (4.4%), soaps (4.4%), chairs (4.1%), and razors and shavers (2.3%). Most urethral injuries were due to chemical injuries from soaps (22%), furniture (17%), playground injuries (17%), insertion of foreign bodies into the urethra (13%), bicycles (10%), and swimming-related injuries (4%). Genital injuries in the 0–4 age group were primarily caused by home furnishings, while injuries in the 5–9, 10–14, and 15–18 age groups were caused by sports and recreation equipment. There was no significant change in the annual number of pediatric genital injuries from 2011–2020 (R^2=0.38, p=0.057).

Conclusions: Pediatric genital trauma is uncommon among cases presenting to the ED, and few studies examine the mechanism of product-related genital injuries. Household appliances or furniture, such as bathtubs, showers, toilets, and sofas, were most implicated in such injuries, particularly in children aged 0–4 years. Identifying factors involved in pediatric genital trauma can allow for increased legislation, surveillance, and ultimately prevention of such injuries in targeted age groups.



Poster #33. Figure 1. Most common items indicated in genital injuries in pediatric patients.

Poster #34

Outcomes of dorsal onlay buccal mucosal graft urethroplasty in patients with post-prostatectomy, post-radiation anastomotic contracture

Joshua Sterling[1], Alex Wang[1], Hiren Patel[2], Javier Angulo[3], Wagner Franca[4], Brian Flynn[5], Margaret Higgins[5], Francisco Martins[6], Erick Ramirez[7], Paul Rusilko[8], Jay Simhan[9], Daniel Swerdloff[9], Dmitriy Nikolavsky[1]
[1]SUNY Upstate Medical University, Syracuse, NY; [2]Rutgers Robert Wood Johnson Medical School, New Brunswick, NJ; [3]Universidad Europea de Madrid, Villaviciosa de Odón, Spain; [4]Universidade Federal de Sao Paulo, Sao Paulo, Brazil; [5]University of Colorado School of Medicine, Aurora, CO; [6]University of Lisbon, Lisbon, Portugal; [7]Hospital Angeles Mocel, Mexico City, Mexico; [8]University of Pittsburgh, Pittsburgh, PA; [9]Einstein Medical Center/Fox Chase Cancer Center, Philadelphia, PA

Introduction: Treatment of patients with vesicourethral anastomotic contracture (VUAS)/membranous stenosis (Sp) following a combination of prostatectomy and radiation treatment for prostate cancer (PCa) is understudied. These patients are often given the option of chronic suprapubic tube or urinary diversion. We evaluated feasibility of dorsal onlay buccal mucosal graft urethroplasty (DBMGU) and evaluated patency and continence outcomes in this patient population.

Methods: A retrospective, multi-institutional review of patients with VUAS/Sp following prostatectomy and radiotherapy treatments for PCa from 8 institutions from 2013–2021 was performed. Patients with minimum 12-month followup and patients with recurrence before 12 months were included. Patient demographics, stenosis characteristics, perioperative outcomes, and postoperative clinical and patient-reported outcomes were analyzed. The primary outcomes were stenosis recurrence and development of de novo stress urinary incontinence (SUI). Secondary outcomes were surgical complications, changes in voiding and patient-reported satisfaction using a Global Response Assessment (GRA).

Results: Of 45 patients treated with DBMGU for stenosis following prostatectomy and radiation, 38 met the inclusion criteria. Median age and stenosis length were 68.5 years (IQR 63–72) and 2.5 cm (IQR 2–4 cm), respectively. Prior PCa treatment modalities included primary robotic prostatectomy and subsequent salvage or adjuvant radiation therapy in 89% (34/38) and primary radiation therapy and salvage prostatectomy in 11% (4/38). The mean length of stay after DBMGU was 1.5 days (IQR 1–2). At a median followup of 22.5 months (IQR 12–29), 8 patients (18%) had stenosis recurrence. All 10 preoperatively continent patients (26%) remained dry postoperatively. Of 23 patients with preoperative SUI (60%), all but one remained incontinent postoperatively. Continence was unknown for 13% (5/38), 3 had postoperative incontinence. Sixty-four percent (16/25) of SUI patients subsequently received an artificial urinary sphincter. Following reconstruction, patients experienced significant improvement in PVR (158 to 47 cc, $p<0.001$) and uroflow (6 to 15 cc/s, $p<0.001$), and also reported high overall satisfaction, with 80% reporting a GRA of +2 or better.

Conclusions: DBMGU is safe and feasible in patients with stenosis following prostatectomy and radiation treatments. Our findings suggest rates of de novo SUI after DBMGU may be lower compared to conventional urethral transection, but head-to-head comparisons are needed.

Poster #35

Tobacco's effect on buccal mucosa graft histology and surgical complications

Connor Policastro, Joshua Sterling, Baylee Porter, Daniel Zaccarini, Guanqun Li, Gennady Bratslavsky, Dmitriy Nikolavsky
SUNY Upstate Medical University, Syracuse, NY

Introduction: Tobacco use in patients undergoing surgical procedures is known to have negative systemic effects. Tobacco use remains a common patient factor encountered by urologists evaluating patients for urethral stenosis management and many providers require smoking cessation prior to buccal mucosa graft (BMG) use. We hypothesized that tobacco use would lead to histological changes in BMG and increased rates of complications.

Methods: Retrospective histological evaluation of BMG from patients undergoing BMG urethroplasty (BMGU) from 2018–2020 was performed. Complications attributable to smoking (pulmonary, oral, thrombotic, wound infection/dehiscence, contrast extravasation on postop urethrography, fistulization, or any postop urinary tract infections) were assessed. A pathologist blinded to smoking status evaluated BMG for histological changes (vascularity, acute and chronic inflammation, epithelial layer thicknesses, collagen organization). Current tobacco users, former users, and control patients were compared using one-way ANOVA.

Results: Demographics did not differ across groups. Two (3.1%) patients were female, 6 (9.4%) patients were transgender males. Sixteen current users, 16 former users, and 32 controls were available for histological analysis. Histological analysis between all groups found no significant differences. Of 59 patients with ≥3 months followup (median 20.4 months, IQR [13.8–26.3]), one patient from each group had recurrence of their stenosis. Due to the heterogenous mix of stricture etiologies and lengths, time to recurrence was not compared; however, each patient underwent successful repeat intervention. There was no significant difference in rates of all complications across groups on analysis. The distribution of complications by group can be seen in Table 1. No patients suffered pulmonary complications. Three patients had contrast extravasation on postoperative urethrography. One of these patients developed a fistula and the others resolved with an extended period of indwelling catheterization. Oral graft site complications consisted of minor complaints of tightness after healing. Of note, one control patient did suffer a fatal embolism in the immediate postop period but was excluded from the analysis due to inadequate followup. The included control patient had a lower extremity deep venous thrombosis, which resolved with anticoagulation.

Conclusions: We did not find any significant differences in histology, outcomes, or complication rates that would cause concern regarding BMG use in patients with a history of tobacco use.

Poster #35. Table 1. Complication rates and ANOVA analysis

	Current	Former	Control	
Number (%)	(n=14)	(n=16)	(n=29)	p
Emergency room (<90 days)	2 (14.3)	3 (18.8)	4 (13.8)	0.91
Readmission (<90 days)	0 (0)	1 (6.3)	1 (3.4)	0.65
Pulmonary complications	0 (0)	0 (0)	0 (0)	N/A
Thrombotic complications	0 (0)	0 (0)	1 (3.4)	0.60
Oral graft site complications	2 (14.3)	0 (0)	3 (10.3)	0.34
Extravasation on Urethrography	1 (7.1)	0 (0)	2 (6.9)	0.57
Wound dehiscence	1 (7.1)	0 (0)	0 (0)	0.20
Urethrocutaneous fistula	1 (7.1)	1 (6.3)	1 (3.4)	0.86
Wound infection	1 (7.1)	0 (0)	1 (3.4)	0.57
Urinary tract infection	2 (14.3)	2 (12.5)	6 (20.7)	0.49

Poster #36

Robotic ileal ureter with bladder augmentation in a modified Studer fashion for a long ureteral stricture and small bladder

Lin Wang, Ahmed Hussein, Khurshid Guru, Qiang Li
Roswell Park Cancer Center, Buffalo, NY

Introduction: The surgical management of radiation-induced distal ureteral stricture and contracted bladder is challenging. The purpose of this case is to show the feasibility, safety, and functional outcomes of an intracorporeal robot-assisted ileal ureter and bladder augmentation in a modified Studer fashion for a long right ureteral stricture and a small bladder.

Methods: A 34-year-old African woman had a history of cervical cancer that was treated with radical surgery and whole pelvis radiation in 2015. She was free of cancer recurrence 6 years after radiotherapy. She developed a long ureteral stricture and a small bladder (188 cc). She was managed with a chronic ureteral stent and complained of urinary frequency, urgency, and nocturia. A transperitoneal robotic approach was used with the Da Vinci Xi™ platform similar to radical cystectomy. The right ureter stricture above the level of the iliac vessels was identified and transected. A 17 cm gap was measured between the proximal ureter and the bladder dome. A segment of 30 cm of terminal ileum was isolated (20 cm for the cystoplasty, 10 cm for the chimney). Intestinal continuity was restored with a side-to-side anastomosis. The inferior 20 cm segment was detubularized and folded into a "U" shape in a modified Studer fashion, leaving 10 cm of superior ileum for creating the afferent chimney. The bladder dome was incised transversely. The posterior cystoplasty was performed by suturing the inferior "U" shape of the ileum patch to the posterior edge of the bladder. A tension-free uretero-ileal anastomosis was performed in an interrupted fashion using 4-0 PDS sutures. A double-J ureteral stent was placed. The anterior closure of the cystoplasty was completed using running 3-0 V-Loc sutures.

Results: The patient was discharged on postoperative day 5. The Foley catheter was removed after 21 days and the ureteral stent was removed 3 months later. A CT urogram at 6 months showed no hydronephrosis. The patient reported improved urinary symptoms of frequency, urgency and nocturia.

Conclusions: Robotic ileal ureter with bladder augmentation in a modified Studer fashion is feasible and safe. It offers an excellent functional outcome for patients with a long ureteral stricture and a contracted bladder. This reconstructive approach can be individualized by adjusting the length and chimney and size of bladder augmentation.

Poster #37

Colpectomy reduces the incidence of fistula formation in female-to-male gender-affirming surgeries: A meta-analysis

Finn Hennig[1], Ellen Lutnick[1], Guillaume Farah[1,2], Kyle Waisanen[1,2], Mark S. Burke[3]
[1]Jacobs School of Medicine and Biomedical Sciences, Buffalo, NY; [2]Department of Urology, NY; [3]Erie County Medical Center, Department of Plastic and Reconstructive Surgery, Buffalo, NY

Introduction: The reported rate of urethral fistulas after female-to-male gender-affirming surgeries (GAS) ranges from 10–68%. There remains a paucity of evidence addressing the widely accepted hypothesis that colpectomy reduces the risk of fistula formation. We aimed to use a meta-analysis to describe the correlation between colpectomy and the rate of urethral complications, including fistula and stricture after GAS in transgender men.

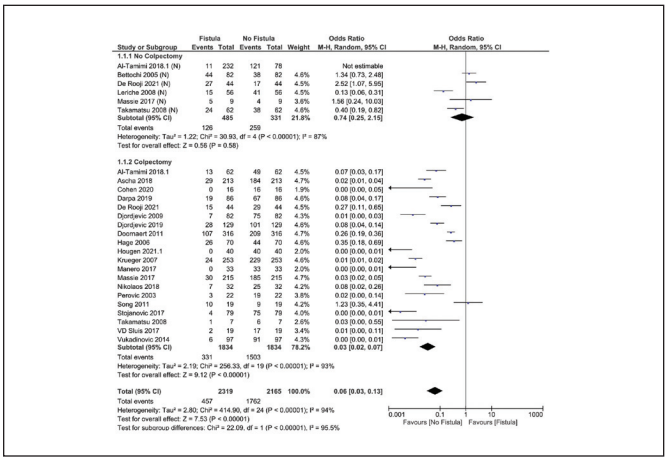
Methods: A literature search of PubMed, Embase, Web of Science, and MEDLINE databases was conducted for studies reporting urethral complications of GAS. Inclusion criteria was specific for studies reporting postoperative incidence of urethral fistula and urethral stenosis or stricture. For those that met criteria, surgical technique, urethral complications, and outcomes were collected and analyzed using the random-effects model due to the heterogeneity of included study populations. Review Manager (Version 5.4.1) was used to perform subgroup meta-analysis between those GAS with prior or concurrent colpectomy/vaginectomy and those without. A p-value of <0.05 was considered statistically significant.

Results: Twenty-three full-text articles meet inclusion criteria, with a total of 2322 patients (Table 1); 686 (30%) underwent metoidioplasty and 1550 (67%) underwent phalloplasty; the rest were unable to be grouped. The pooled odds ratio (OR) for urethral fistula was 0.06 (95% CI 0.03–0.13, I^2=94%, $p<0.00001$) and 0.06 for urethral stenosis (95% CI 0.03–0.14, I^2=95%, $p<0.00001$). Fistula event rate of 22% (518/2322) was larger than the urethral stenosis event rate at 19.7% (365/1851). The OR of urethral fistula was 0.03 for GAS associated with colpectomy, compared to 0.38 with no associated colpectomy ($p<0.00001$, I^2=95.5%). The fistula event rate with colpectomy was 18% (331/1834) compared to 39.3% (187/488) without colpectomy (Figure 1). Further subgroup analysis by procedure, i.e., phalloplasty and metoidioplasty showed similar findings with decreased OR of fistula formation in GAS with associated colpectomy ($p=0.03$, $p<0.00001$, respectively). There was no significance in the OR of urethral stricture after GAS with or without colpectomy ($p=0.50$).

Conclusions: GAS in transgender men, including phalloplasty and metoidioplasty, with prior or concurrent colpectomy were associated with lesser odds of developing urethral fistula compared to GAS without colpectomy. There was no significant difference between the odds of urethral stricture formation in GAS with or without colpectomy.

First Author	Year	Region	Total Patients	GAS Technique	Colpectomy/ vaginectomy	Urethral Fistulas (n)	Urethral Stricture/Stenosis (n)
Al-Tamimi et al.	2018	Netherlands	78	Phalloplasty	-	46	--
Al-Tamimi et al.	2018	Netherlands	154	Metoidoplasty	-	65	--
Al-Tamimi et al.	2018	Netherlands	50	Phalloplasty	+	12	--
Al-Tamimi et al.	2018	Netherlands	12	Metoidoplasty	+	1	--
Ascha et al.	2018	USA	213	Phalloplasty	+	29	52
Bettochi	2005	UK, Italy	85	Phalloplasty	-	5	49
Cohen et al.	2020	USA	16	Phalloplasty	+	0	--
Darpa et al	2019	Belgium	86	Both	+	19	14
De Rooji	2021	Netherlands	44	Metoidoplasty	-	27	--
De Rooji	2021	Netherlands	44	Metoidoplasty	+	15	--
Djordjevic	2009	Serbia	82	Metoidoplasty	+	7	2
Djordjevic	2019	Serbia	129	Phalloplasty	+	28	33
Doornaert	2011	Belgium	316	Phalloplasty	+	107	47
Hage et al.	2006	Netherlands	70	Metoidoplasty	+	26	25
Hougen et al.	2021	USA	27	Phalloplasty	+	0	--
Hougen et al.	2021	USA	13	Metoidoplasty	+	0	--
Krueger et al.	2007	Germany	253	Phalloplasty	+	24	32
Leriche	2008	France	56	Phalloplasty	-	15	4
Manero et al	2017	Spain	33	Phalloplasty	+	0	--
Massie et al.	2017	USA	9	Phalloplasty	-	5	6
Massie et al.	2017	USA	215	Phalloplasty	+	30	53
Nikolaos	2018	Germany	32	Phalloplasty	+	7	10
Perovic	2003	Yugoslavia	22	Metoidoplasty	+	3	2
Song	2011	Singapore	19	Phalloplasty	+	10	14
Stojanovic	2017	Serbia	79	Metoidoplasty	+	4	3
Takamatsu	2008	Japan	62	Metoidoplasty	-	24	7
Takamatsu	2008	Japan	7	Metoidoplasty	+	1	1
VD Sluis	2017	Netherlands	19	Phalloplasty	+	2	9
Vukadinovic	2014	Serbia	97	Metoidoplasty	+	6	2

Poster #37. Table 1. Included study populations and associated complication rates.



Poster #37. Figure 1. Incidence of urethral fistula in gender-affirming surgery with and without colpectomy.

Poster #39

Robotic-assisted laparoscopic pyeloplasty for UPJ obstruction: A retrospective review of a high-volume Canadian center

Aren Mnatzakanian[1], Melody Djuimo[2], R. John Honey[2], Jason Lee[2], Michael Ordon[2]
[1]University College Dublin School of Medicine, Dublin, Ireland; [2]University of Toronto, Toronto, ON

Introduction: Robotic-assisted laparoscopic pyeloplasty (RAP) has been demonstrated to have a 90–95% success rate in treating ureteropelvic junction obstruction (UPJO). At present, there is no literature on the outcomes of RAP in a Canadian context. Our objective was to perform a retrospective review of RAP cases at a high-volume Canadian center.

Methods: We performed a retrospective chart review of patients that underwent RAP at St. Michael's Hospital between January 2012 and May 2019. Demographics, intraoperative details, and pre- and postoperative imaging results (ultrasounds, CT scans, and renal Lasix scan [RLS]) were recorded. Patients were excluded if at least 1-year followup data was unavailable. Our primary outcome was clinical and radiological improvement defined as 1) symptom improvement; 2) stable/improved split renal function on RLS; and 3) either improvement in the degree of hydronephrosis on ultrasound or CT, or improved drainage time on RLS. Secondary outcomes included postoperative complications, need for diagnostic intervention (retrograde pyelogram or diagnostic ureteroscopy), and reintervention for recurrent UPJO.

Results: A total of 156 patients underwent RAP over the study time frame after exclusions. The median age was 42 and 66% were female (Table 1). Mean followup was 2.5 years. In terms of our primary outcome, 87% had clinical and radiological improvement. Diagnostic investigation for possible recurrent/persistent obstruction, based on symptoms and/or imaging results, was required in 17% of cases, but only 3% required reintervention for recurrent UPJO. Accordingly, the overall treatment success was 97%. The most common postoperative complication was UTI (18%), and urine leak was seen in only 2% of patients.

Conclusions: The results of our retrospective review compare favorably with currently reported outcomes in the literature and demonstrate the safety and high level of success of RAP at a high-volume Canadian center.

Poster #39. Table 1. Patient demographics and operative details

Study sample (n)	156
Median age at OR (IQR)	42 (28–58)
Gender (%)	
M	53 (34)
F	103 (66)
Mean BMI (SD)	25 (6)
ASA status (%)	
I	27 (17)
II	84 (54)
III	40 (27)
IV	3 (2)
Hypertension (%)	25 (16)
Type 2 diabetes (%)	8 (5)
Prior history of nephrolithiasis (%)	14 (9)
Prior endoscopic surgery (%)	19 (12)
Prior endopyelotomy (%)	9 (6)
Side of surgery (%)	
L	71 (46)
R	85 (54)
Mean OR duration, min (SD)	178 (47)
Concurrent stone removal (%)	14 (9)
Crossing vessel (%)	46 (30)
Mean stent duration, days (SD)	35 (7)
Mean LOS, nights (SD)	2 (1)

Poster #40

The origin and evolution of the ileal ureter

Mark Ninomiya[1], Linda Hasman[2], Ronald Rabinowitz[3], Divya Ajay[3]
[1]University of Rochester School of Medicine and Dentistry, Rochester, NY; [2]Miner Library Services, University of Rochester, Rochester, NY; [3]Department of Urology, University of Rochester Medical Center, Rochester, NY

Introduction: Early descriptions of the ileal ureter date back to the late 19th century. While this was an innovative technique to address ureteral strictures, multiple complications have been described and novel methods to address them continue to be studied today. This article reviews the history of the ileal ureter and subsequent surgical advancements.

Methods: A comprehensive literature review was performed in conjunction with Linda Hasman, our University's librarian, to elucidate relevant historical and clinical information. We used PubMed to identify contemporary medical literature (Pubmed.ncbi.nlm.gov), ILLiad to access archived texts (illiad.lib.rochester.edu), and old surgical and urological textbooks in personal libraries to obtain additional historical references.

Results: The first use of ileum to replace ureter was described in 1888 by Tizzoni and Foggi in a canine model. Fenger, in 1893, proposed the concept in humans. The first successful human case was reported by Shoemaker in 1909 in a two-stage model, which involved a young female with tuberculosis who had lost one kidney. Her remaining strictured ureter was replaced with ileum, which was brought to the skin initially and subsequently attached to the bladder. This was the basis for modern ileal ureters, but it was not until 1940 that Nissen reported a similar case. In 1950, Muller attached the ureters to a loop of ileum that was anastomosed to the bladder in a woman with uterine malignancy. In a case of bilateral stenosis, Foret and Heugshem replaced both ureters with a single segment of ileum in 1953. As experience with ileal ureters increased through the 1960s and 1970s, complications became more apparent and resulted in refinements: 1) Metabolic derangements: Koch in 1985 described ammonia absorption within the ileal segment led to metabolic acidosis. This established that a baseline renal creatinine >2 mg/dL, bladder outlet obstructions, and IBD are contraindicated for this surgery. 2) Ileo-ureter reflux: While some studies postulated that reflux is present in a significant portion of their patients, various anti-reflux methods, including the ileal-psoas tunnel, Yang-Monti, and distal nipple, techniques have reduced any potential reflux complications. 3) Minimally invasive techniques: In 2000, the first laparoscopic methods allowed for smaller incisions and quicker recovery times. Then, the first robotic-assisted surgery in 2008 allowed for improved visualization and hemostasis.

Conclusions: Though the complications associated with this procedure have led to novel surgical advances, the modern ileal ureter uses the same method as first described more than a century ago.

Poster #41

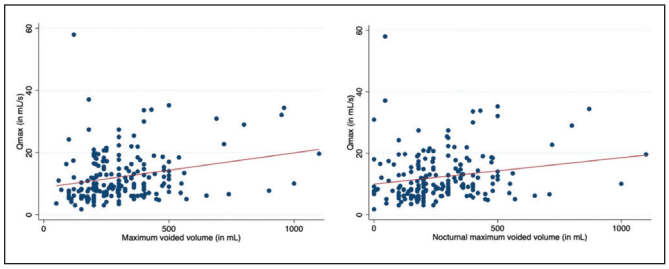
Low urodynamics maximum flow rate predicts small functional bladder capacity

Connelly Miller, Claire Choi, Alexander Fang, Lakshay Khosla, Thomas Monaghan, Jude Appiah, Lauren Fink, MD, Jeffrey Weiss
SUNY Downstate, Department of Urology, Brooklyn, NY

Introduction: The pathogenesis of nocturia relates to the imbalance of nocturnal urine volume production and functional bladder capacity storage. Urodynamic studies are used in the clinical setting to assess bladder storage and emptying function, and Siroky nomograms are used to correlate voided volume and maximum flow rate (Qmax) in result interpretation. Moreover, diminished functional bladder capacity may also be assessed by maximum voided volume (MVV) calculated by 24-hour or nocturnal voiding diary. Despite both data sources serving as markers of functional bladder capacity, the relationship between voiding diary and urodynamic data parameters has been inadequately studied. The degree of correlation between independently assessed metrics has clinical implications for the usefulness of both interventions.

Methods: We analyzed uroflowmetry data from 195 patients of an outpatient Veterans Affairs urology clinic who each also provided a 24-hour voiding diary. Qmax was compared to 24-hour and nocturnal MVV

recorded on voiding diary. Logistic regression with adjustment for age and race was performed.
Results: There was a positive linear correlation between Qmax and both MVV (correlation coefficient [r]=0.2477, p<0.001) and nocturnal MVV (r=0.1923, p=0.007) (Figure 1). Qmax ≤10 independently predicted both MVV ≤200 (p=0.003) and nocturnal MVV ≤200 (p=0.003). This correlation persisted after adjustment for age and race for both MVV (OR 2.49, p=0.009) and nocturnal MVV (OR 2.53, p=0.002).
Conclusions: This study implies that diminished functional bladder capacity may be reliably predicted by either MVV from voiding diary or Qmax from urodynamic data, independent of voiding volumes recorded on uroflowmetry, which were not recorded in our database. In addition, nocturnal MVV may be as relatively predictive of diminished flow on urodynamics as MVV collected from a 24-hour voiding diary. These results demonstrate that nocturnal diaries may provide a noninvasive alternative for diagnostic evaluation of patients with nocturia.



Poster #41. Figure 1.

Poster #42

Catheter-free day-of-surgery discharge following artificial urinary sphincter placement

John Myrga[1], Robin Vasan[1], David Miller[1], Christopher Staniorski[1], Cory Taylor[1], Christian Morrill[2], Raeesa Islam[2], Paul Rusilko[1]
[1]Department of Urology, University of Pittsburgh Medical Center, Pittsburgh, PA; [2]School of Medicine, University of Pittsburgh, Pittsburgh, PA
Introduction: Standard of care for artificial urinary sphincter (AUS) implantation typically requires overnight admission with intravenous antibiotics and subsequent catheter removal. Recent studies have suggested that day-of surgery discharge with a catheter in place is likely a safe management strategy; however, no studies have examined removing the catheter same day prior to discharge. We aim to show that catheter-free discharge on day of AUS placement is a safe management strategy.
Methods: With institutional approval, all AUS placements from a single surgeon at our institution since 2015 were identified by chart review. In 2020, we transitioned to a discharge strategy where a catheter was placed intraoperatively and removed in the post-anesthesia care unit. Data regarding patient demographics, emergency department (ED) visits, postoperative urinary retention, and office interactions were abstracted from the medical record.
Results: A total of 101 patients were identified, 25 of whom were discharged on the day of surgery. There were no significant differences between the groups based on any demographic characteristics. There were also no differences in the proportion of patients who underwent prior radiation or prior implant surgery. There was no significant difference in the number of patients who had ED visits, urinary retention, office calls, office visits, or unplanned visits within 30 days of discharge (Table 1).
Conclusions: Catheter-free day-of discharge surgery did not have a significantly greater risk of urinary retention, office calls, ED visits, or office visits compared to our standard discharge population. For appropriate patients, same-day catheter-free discharge is a safe management strategy

Poster #42. Table 1. 30-day outcomes of same-day vs. standard discharge groups

	Day of surgery discharge (n=25)	Standard discharge (n=76)	Sig.
ED visits	2 (8%)	9 (12%)	0.73
Office visits	8 (32%)	34 (45%)	0.35
Unplanned off. visits	7 (28%)	26 (34%)	0.78
Office calls	11 (44%)	32 (42%)	1.00
Urinary retention	3 (12%)	5 (7%)	0.41
Device infection	0 (0%)	1 (1%)	1.00

Poster #43

Artificial urinary sphincter outcomes and durability — equivalent surgical success among diverse patient characteristics

Robin Vasan[1], John Myrga[1], Brian Chun[1], David Miller[1], Cory Taylor[1], Christian Morrill[2], Emily Hacker[2], Paul Rusilko[1]
[1]UPMC, Pittsburgh, PA; [2]University of Pittsburgh, Pittsburgh, PA
Introduction: A history of androgen deprivation therapy or pelvic radiation has been shown to have negligible effects on artificial urinary sphincter (AUS) success rates; however, limited data exist with respect to the impact of other patient characteristics. The aim of this study was to identify potential additional factors associated with surgical outcomes.
Methods: A single-center, retrospective review was performed of 98 AUS placements performed between 2016 and 2021. Outcomes included 3-, 30-, and 90-day patient phone calls, emergency department visits, unplanned clinic visits and readmissions, in addition to long-term complication rates. Multivariate analysis was performed to evaluate associations between patient demographics, case characteristics, and surgical outcomes.
Results: Median age at time of AUS placement was 69 years, median duration of followup was 26 months and median OR time 101.5 minutes. Median BMI was 28.2 and prevalence of diabetes, coronary artery disease, smoking, and anticoagulation use among patients was 26.5%, 30.6%, 21.4%, and 42.9%, respectively. A total of 87.8% of cases were performed following prostatectomy, 53.1% of patients had undergone some form of prior urethral surgery, 42.9% of cuff placements were transcorporal, and 26.5% of cases were revisions. The proportion of patients with satisfactory postoperative social continence defined as needing to use <1 pad per day at most recent followup was 82%. Rates of AUS infection, revision, and explant were 4.1%, 5.1%, and 3.1%, respectively. Half (50%) of patients had a history of pelvic radiation and 20.4% had undergone >6 months of androgen deprivation therapy, neither of which was found to be associated with postoperative phone calls, ED visits, unexpected clinic visits, readmissions, complications or continence rates, nor did any association exist between outcomes and OR time, cuff location or size, ethnicity, BMI, diabetes, cardiovascular disease, smoking, anticoagulation use, or socioeconomic status (Tables 1, 2).
Conclusions: The absence of significant associations between diverse demographics or case characteristics and surgical outcomes supports the continued safe and successful practice of AUS placement in the management of male stress urinary incontinence for a wide range of patients.

Poster #43. Table 2. Case characteristics and outcomes	
Median OR time (minutes)	101.5
Transcorporal cuff placement	42.9%
Proportion of cases that were revisions	26.5%
At time of most recent followup:	
Satisfactory postoperative continence (<1 pad use per day)	82%
Local infection	4.1%
Revision	5.1%
Explant	3.1%

Poster #43. Table 1. Patient demographics	
Median age at time of surgery (years)	69
Median BMI	28.2
Prevalence of diabetes mellitus	26.5%
Prevalence of coronary artery disease	30.6%
Smoking prevalence	21.4%
Anticoagulation use	42.9%
History of prior urethral surgery	53.1%
History of prostatectomy	87.8%
History of pelvic radiation	50%
History of >6 months androgen deprivation therapy	20.4%

Poster #45

The gullwing technique: A novel method of transcorporal artificial urinary sphincter placement for the fragile urethra

Robin Vasan[1], Shyam Patnaik[1], John Myrga[1], Christian Morrill[2], Paul Rusilko[1]

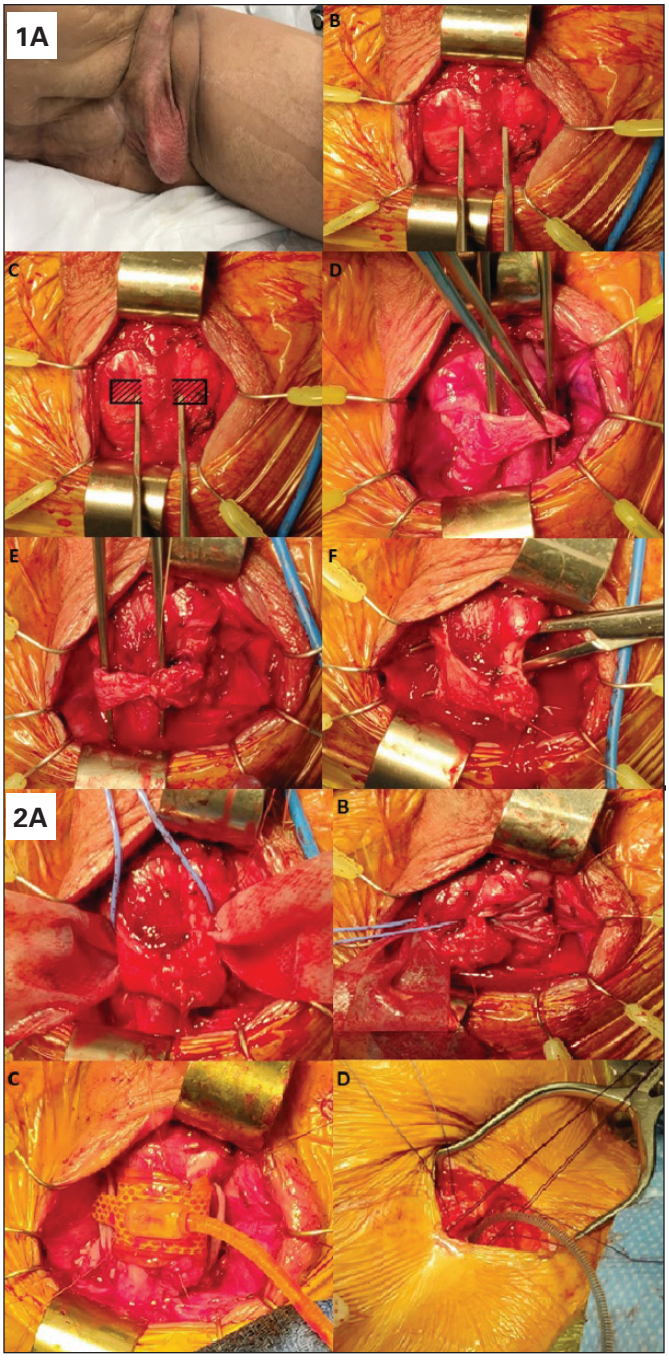
[1]UPMC, Pittsburgh, PA; [2]University of Pittsburgh, Pittsburgh, PA

Introduction: The transcorporal technique for artificial urinary sphincter (AUS) placement is beneficial in patients with 'fragile urethras' (previous failed AUS, urethroplasty, or history of radiation); however, limitations include cinching during corporotomy closure, insufficient lateral and ventral urethral support, and limited options for future preservation of erectile function. The novel gullwing procedure offers the potential to circumvent these disadvantages. A step-by-step description is presented of the gullwing variation of transcorporal AUS placement in a complex patient with a history of abdominopelvic trauma and prior failed AUS placements secondary to urethral erosion (Figure 1A).

Methods: Cystoscopy was performed revealing no irregularities in the area of previous urethroplasty. The bladder was drained and a horizontal penoscrotal incision was performed with dissection down to the bulbar urethra and corporal bodies (Figure 1B). Square-shaped flaps (2x2 cm) were outlined on each ventral corpus cavernosum lateral to the urethra and incised sharply (Figures1C, 1D), followed by dissection through the corporal bodies and midline septum posterior to the urethra for complete 'gullwing' mobilization (Figure 1F). 'Gullwings' were wrapped circumferentially around the ventral urethra in the absence of tension to create an 8 cm^2 local corporal flap and approximated using 4-0 chromic suture (Figure 1E). Corporal grafting was performed using Acell biosynthetic skin substitute to reconstruct the tunical defect in a watertight fashion with 4-0 vicryl suture (Figures 2A, 2B). The reinforced urethra was measured at 5.0 cm and a 5.5 cm cuff was placed to decrease the risk of urinary retention (Figure 2C). The pressure-regulating balloon was placed with a lower pressure of 51–60 mmHg due to the history of urethral erosion using a left lower quadrant counter-incision (Figure 2D) and a scrotal pump was placed in the standard sub-dartos position. Tubing was connected in the usual fashion and the device was confirmed to cycle in a satisfactory manner and was locked in the open position. Absorbable sutures were used for multiple layer skin closure.

Results: The device was activated during the 6-week postoperative visit and functioned well on 2-year followup, with an IPSS score of 5 and no complications.

Conclusions: The gullwing technique of AUS placement improves circumferential urethral protection and preserves the three-dimensional corporal anatomy necessary for future restoration of erectile function via penile prosthesis implantation. Studies assessing long-term outcomes and durability are needed.



Poster #45. Figure 1, Figure 2.

Poster #46

Sacral neuromodulation outcomes in male patients with pelvic pain and fecal incontinence

Emad Alwashmi, Samuel Otis-Chapados, Dean Elterman
University Health Network, Toronto, ON

Introduction: Sacral neuromodulation (SNM) is an effective third-line treatment; however, there is limited data involving male patients with OAB or non-bladder conditions (chronic pelvic pain and fecal incontinence [FI]). In this retrospective study, we followed 17 male patients with non-bladder conditions to assess efficacy, personal satisfaction, need for other treatments, and complications.

Methods: Between 2014 and 2021, 17 patients (with a successful percutaneous nerve evaluation or first-stage trial prior) underwent SNM for pelvic pain and FI. All patients were followed for 1–7 years after SNM insertion.

Results: A total of 71% of the pelvic pain subgroup (n=7) had medication or pelvic physiotherapy treatment before SNM. After surgery, 2 patients had insufficient pain control (29%). SNM was largely well-tolerated, with a 71% satisfaction rate. Unfortunately, after 1 year of treatment, only 29% of the patients were satisfied and felt the improvement was significant. The need for other intervention was 71% and most of them were pelvic pain medication or BPH surgery. Complication rates were low (29%), including 2 patients with battery and lead pain (15%) and poor efficacy (14%). In the FI subgroup (n=10), 4 patients (40%) had previous surgeries (low anterior resection) and 6 had idiopathic FI. Following SNM implantation, only 2 patients had failure (20%). SNM resulted in high satisfaction within a year (90%) and beyond a year (80%). Complication rates were low (20%), including battery site pain (10%) and poor efficacy (10%). No FI patients required further treatments.

Conclusions: SNM in men with pelvic pain and FI is a useful and safe procedure. Most FI subgroup male patients were satisfied, and improvement continue for years. The pelvic pain subgroup was mostly satisfied and improved within the first year, but this improvement diminished beyond a year and most required adjunct treatment. Finally, the success rate for FI in male patients is high, but mixed for pelvic pain male patients; however, SNM may be useful in a multimodal treatment strategy.

Poster #47

Sacral neuromodulation outcomes in male patients with overactive bladder (neurogenic and non-neurogenic)

Samuel Otis-Chapados, Emad Alwashmi, Dean Elterman
University Health Network, Toronto, ON

Introduction: Sacral neuromodulation (SNM) is an effective, guidelines-supported, third-line treatment for overactive bladder (OAB). While the prevalence of OAB is similar between males and females, no studies assess the outcomes of SNM in male patients alone. In this retrospective study, we followed 53 male patients with neurogenic and idiopathic OAB to assess efficacy, personal satisfaction, complications, and need for other treatments.

Methods: Between 2014 and 2021, 53 male patients underwent SNM for neurogenic (n=7) and idiopathic (n=46) OAB. All patients were followed for 1–7 years after the SNM. Thorough chart review assessed patient satisfaction, symptom improvement, complications, and the need for other treatments.

Results: Most patients had medical therapy (79%) and/or intravesical Botox injection (28%) prior. After SNM, only 5 patients (9%) had insufficient symptom relief (<50% symptom improvement). Male patients reported high satisfaction within a year (91%), more than a year (81%), and significant improvement overall (94%). Most patients did not have any complications after surgery (77%) except for device pain (12%), insufficient efficacy (6%), and infection (5%). Most patients did not need other treatment after SNM (60%) and those with adjunct treatment included OAB oral medication (32%) and Botox (9%). Our analysis of the wet OAB subgroup (n=20) indicated the same early and long-term satisfaction (85%, 80%, respectively), overall improvement (90%), complication rate (<25%), and adjunct treatment percentage (35%) as compared to the entire OAB cohort. The neurogenic bladder subgroup (n=7) also experienced high satisfaction both less and beyond 12 months (100%, 86%, respectively), improvement in symptoms (100%), no complications, and 29% use of adjunct treatments.

Conclusions: SNM in men with neurogenic and idiopathic OAB is a useful and safe procedure. Most patients experience long-term satisfaction, and improvements continue for years after the surgery. Finally, the complication rate in this study is less than the average found in the literature.

Poster #49

Percutaneous external urethral sphincter stimulation: Swine model for feasibility of use in intrinsic sphincter deficiency stress urinary incontinence

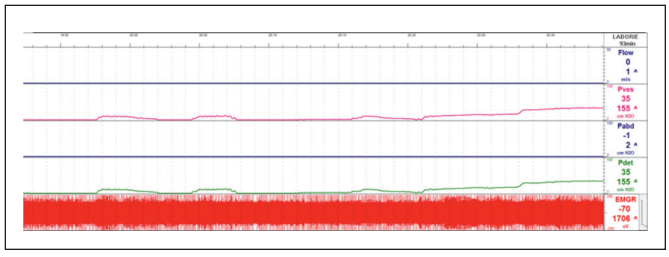
Kyle Waisanen[1], Tyler Maiers[2], Peter Natalzia[3], Teresa Danforth[1]
[1]State University of New York at Buffalo, Department of Urology, Getzville, NY; [2]Lee Physician Group, Department of Urology, Fort Myers, FL; [3]State University of New York at Buffalo, Jacobs School of Medicine and Biomedical Sciences, Buffalo, NY

Introduction: Current treatment modalities for stress urinary incontinence (SUI) are targeted toward urethral hypermobility or intrinsic sphincter deficiency. Options available include pelvic floor physical therapy, urethral bulking agents, and urethral sling support. We aim to assess direct electrical external urethral sphincter stimulation as a means for treating SUI patients with intrinsic sphincter deficiency. The objective of this study was to assess the feasibility of percutaneous external urethral sphincter access and urethral pressure profiles associated with direct electric sphincteric stimulation.

Methods: An IACUC-approved swine model study was performed under general anesthesia. The urinary bladder was accessed by open cystotomy for placement of antegrade 7F urethral pressure catheter. Stimulation leads were deployed into the external urethral sphincter under transvaginal ultrasound guidance and antegrade urethroscopy was performed to confirm urethral integrity. Leads were then stimulated with serial increases in amplitude from an external pulse generator from 0.1 mA to 3.6 mA with pressure monitoring of the external urethral sphincter.

Results: Three swine subjects were used in the study. All subjects underwent successful percutaneous insertion of stimulation leads into the EUS without urethral violation. External urethral sphincter pressures recorded with electric stimulation amplitudes of 0 mA, 1.8 mA, and 3.6 mA were found to exhibit urethral pressure of 6–10 mmHg, 16–20 mmHg, and 31–36 mmHg, respectfully. EMG capture was achieved in each subject, with a corresponding increase in EMG activity with pulse generator amplitude increase represented in the urodynamic strip from subject #2 (Figure 1).

Conclusions: Direct external urethral sphincteric stimulation with increased urethral closure pressures is achievable by an ultrasound-guided percutaneous approach. Further studies are required to assess long-term effects and success of the stimulation in SUI modeled subjects with promising results seen in this preliminary proof-of-concept study.



Poster #49. Figure 1. Urethral pressure profile for direct external urethral sphincter stimulation; 1.0 mA, 1.8 mA, 3.6 mA.

Poster #50

The carbon footprint of travel to Canadian urological association conferences

Nicolas Vanin Moreno, Naji Touma
Department of Urology, Queen's University, Kingston, ON

Introduction: Global warming has emerged as one of the greatest threats to habitats and human health in the coming years. Exacerbations of urological conditions, such as urolithiasis and infertility, have been linked to this manmade problem. The significance of the challenge is forcing governments/organizations and individuals to re-examine policies and habits that address this issue. Pre-pandemic, Canadian Urological Association (CUA) conferences were held annually, alternating between an eastern, central, or western location across Canada. The goal of this study was to examine the carbon footprint of travel to the CUA conference, and whether this is impacted by location.

Methods: Anonymized registrant information was obtained for attendees of the 2016 (Vancouver), 2018 (Halifax), and 2019 (Quebec City) CUA conferences. Registrant institution was used to estimate distance travelled by attendees. Industry attendees and registrants without institutional city of origin information were excluded from the analysis. It was assumed that attendees from institutions <3 hours from the conference travelled by car (midrange vehicle, fuel efficiency: 8.42 L/100km). All other registrants were assumed to have flown (round-trip, economy, no layovers). Carbon footprint was calculated using an online calculator in tons of CO_2 (tCO_2). Total attendees, number of attendees driving, number of attendees flying, mean distance travelled per attendee (km, round-trip), total carbon footprint, and average carbon footprint were calculated for each conference. Mean carbon footprint, and mean distance travelled were compared using one-way ANOVA, with a Tukey's multiple comparisons test (α=0.05).

Results: Vancouver had the largest number of attendees (n=473; 407 flying, 66 driving), followed by Halifax (n=382; 331 flying, 51 driving), and Quebec City (n=362; 265 flying, 97 driving). The mean distance travelled by attendees was greatest for the Vancouver CUA (6041 km/roundtrip) compared to Quebec City (3096 km/roundtrip, $p<0.0001$) and Halifax (2985 km/roundtrip, $p<0.0001$), with no difference between Halifax and Quebec City ($p=0.95$). The highest total carbon footprint was seen in Vancouver (tCO_2=447.76), followed by Quebec City (tCO_2=217.04) and Halifax (tCO_2=182.22). The average footprint per attendee was significantly higher in Vancouver (mean tCO_2=1.08) compared to both Quebec City (mean tCO_2=0.62, $p<0.0001$) and Halifax (mean tCO_2=0.52, $p<0.0001$), with no difference seen between Halifax and Quebec City ($p=0.63$).

Conclusions: The location of a CUA conference has a significant impact on its carbon footprint. While engagement of the entire membership in a large country is a worthy goal when considering the site of CUA conferences, we submit that the environmental impact of such meetings should also be a consideration.

Poster #51

Office-based ureteral stent insertion without fluoroscopy under minimal sedation is safe and effective

Nitin Sharma, Scott Quarrier, Rajat Jain
University of Rochester Medical Center, Rochester, NY

Introduction: Acute renal colic due to obstructing stones has been a challenge for urologists to manage during the COVID-19 pandemic. Due to overwhelmed hospital resources, operating room (OR) time and staff became scarce, resulting in prolonged pain and suffering for patients. Early during the pandemic, we instituted an office-based ureteral stent placement protocol to relieve immediate discomfort. Later, with less constrained OR availability, we extended this protocol to patients undergoing chronic stent changes.

Methods: Patients who presented with severe renal colic due to obstructing stones were offered immediate office-based ureteral stent placement under minimal sedation. Patients filled a prescription of diazepam 10 mg and were brought to the procedure suite 2 hours later. Intramuscular ketorolac 15 mg was given, and 2% lidocaine lubricant jelly was inserted per urethra. Flexible cystoscopy was performed with a standard 16 Fr scope, and the stent was placed through the cystoscope. For the first two cases, a 0.038″ hybrid wire and 4.8 Fr stent were used while subsequently, a 0.035″ stiff hydrophilic nitinol wire and 4.5 Fr stent were used. No intraoperative fluoroscopy was used. After stent placement, KUB X-ray was done to confirm stent placement.

Results: Seven patients (4 females, 3 males) with a mean age of 62.5 years and a mean BMI of 31.3 underwent an office-based procedure. Five stent insertions were done for obstructing ureteral stone (unilateral=4, bilateral=1) and 2 stent changes for ureteral stricture and ureteral obstruction due to fibroids. In most cases, it was clear when the wire had gone past the stone, as there was immediate efflux of urine into the bladder. The efficiency of the procedure was greatly increased by changing the wire and stent size. Stent placement failed in one case due to overfilling of the bladder causing acute angulation of the ureteral orifice. The stent was later inserted under general anesthesia.

Conclusions: Office-based ureteral stent insertion and exchange are safe and effective even in the absence of fluoroscopy. Further studies are needed to investigate predictors of success of office-based stent insertion, along with cost analysis to expand its use routinely.