Title

MP60-11   QUALITATIVE ANALYSIS OF SUBJECTIVE IMPACT OF MALE URETHRAL STRICTURE PRE/POST URETHROPLASTY

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Figure 2. Change in USSIM sexual scale from pre- (solid) to post-surgery (dashed).
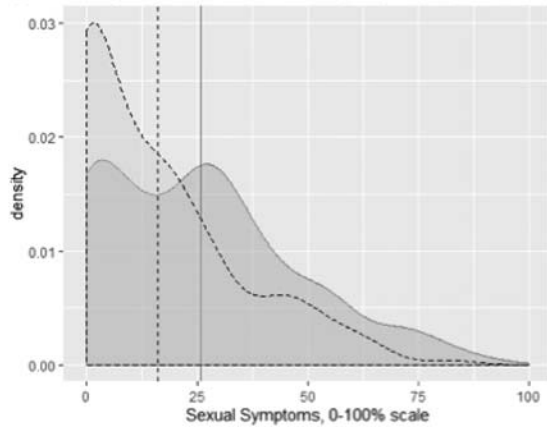
MP60-10

INTENSITY OF PREOPERATIVE TESTING FOR URETHROPLASTY AND ITS ASSOCIATION WITH OUTCOMES: A PROPENSITY SCORE MATCHED ANALYSIS

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INTRODUCTION AND OBJECTIVE: With increased emphasis on healthcare spending and value-based care, it is important that physicians are judicious when pursuing preoperative testing in patients undergoing low-risk surgical procedures. Our goal was to investigate the current practice of routine preoperative testing before urethroplasty and to determine if the results are clinically significant.

METHODS: Data was obtained from the National Surgical Quality Improvement Program (NSQIP) database. We identified 1,527 patients who underwent urethroplasty from 2010 to 2017. Chi square and one-way ANOVA tests were used to compare categorical and continuous variables, respectively, in the propensity matched cohorts. Multivariable logistic regression analyses were utilized to assess the rate of complications between testing groups.

RESULTS: A total of 8,455 individual laboratory tests were performed on 1,156 patients (average of 7 tests per patient), with only 959 labs (11.3%) showing abnormal results. Of the 1,156 patients, 629 (54.4%) patients had at least one abnormal lab. Patients who had at least one abnormal preoperative lab were found to be significantly older (51.49 ± 16.57 years vs. 48.14 ± 16.32 years; $p<0.001$), and to be smokers (112 (17.8%) vs. 63 (12%); $p=0.005$). Additionally, they were more likely to have diabetes mellitus (112 (17.8%) vs. 63 (12%); $p<0.001$), dyspnea (18(2.9%) vs. 16(3.0%); $p=0.029$), and ASA class ≥3 when compared to the group with normal preoperative labs. On a multivariable logistic regression, abnormal preoperative tests were not predictive of intra- or postoperative complications in patients with ASA ≤ 2 (n=1112) when adjusted for age and race. In patients with ASA class ≥ 3, the only lab predictive of postoperative complications was an abnormal coagulation profile. Not performing labs routinely on ASA ≤ 2 saved $523.298 in our cohort.

CONCLUSIONS: Obtaining routine preoperative labs, especially in patients with ASA ≤ 2, does not affect postoperative outcomes in patients undergoing urethroplasty. Judicious use of preoperative testing may significantly curtail extraneous utilization of health care resources.

Table 1: Univariable and multivariable logistic regression analysis for any complication: Sub-cohort with ASA ≤ 2(N= 1,156)

	Univariable Regression			Multivariable Regression		
	OR	95% CI	p	OR	95% CI	p
Chemistry						
Normal*	-	-	-	-	-	-
Abnormal	0.962	0.469-1.972	0.915	0.97	0.465-2.022	0.935
Not-performed	1.113	0.683-1.812	0.667	0.85	0.382-1.893	0.691
Hematology						
Normal*	-	-	-	-	-	-
Abnormal	1.533	0.867-2.712	0.142	1.584	0.893-2.811	0.116
Not-performed	1.404	0.815-2.419	0.222	1.447	0.632-3.312	0.382
Liver Function Tests						
Normal*	-	-	-	-	-	-
Abnormal	0.989	0.211-4.635	0.989	0.928	0.197-4.376	0.925
Not-performed	1.259	0.667-2.375	0.477	1.167	0.579-2.348	0.666
Coagulation Profile						
Normal*	-	-	-	-	-	-
Abnormal **	0	0-Inf	0.98	0	0-Inf	0.98
Not-performed	1.191	0.712-1.993	0.505	1.154	0.637-2.092	0.637
Age (Years)	0.993	0.979-1.008	0.361	0.995	0.980-1.010	0.507
Race						
White*	-	-	-	-	-	-
Black	1.436	0.732-2.817	0.293	1.5	0.758-2.969	0.244
Other/Unknown	1.268	0.772-2.084	0.348	1.306	0.776-2.198	0.314

MP60-11

QUALITATIVE ANALYSIS OF SUBJECTIVE IMPACT OF MALE URETHRAL STRICTURE PRE/POST URETHROPLASTY

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INTRODUCTION AND OBJECTIVE: Measurement of objective measures following urethroplasty (e.g., urethral patency, uroflowmetry) is vital, but patient-reported input via condition-specific outcome measures is equally vital to capture outcomes in the patient's voice. The Urethral Stricture Symptom and Impact Measure (USSIM) is a urethral stricture outcome measure newly created for clinical use. Urinary and sexual items related to impact, symptom, and function were included. We sought to assess *impact* items (Table 1) in the pre- and post-urethroplasty setting.

METHODS: 238 men with urethral stricture were assessed across nine centers from TURNS between 2016-2018. The USSIM was provided before and 3-9 months after urethroplasty. The original pre-surgery USSIM prior to item reduction included 31 items (24 urinary/6 sexual/1 QOL item). Exploratory factor analysis revealed that most items were indicative of symptoms and functional impact related to the concept of a urethral stricture. Given their conceptual homogeneity and novelty in the field, we focused analyses on *impact* items: 1 QOL urinary impact, 14 urinary impact, and 2 sexual impact items.

RESULTS: All of the impact items loaded onto a single factor (factor loadings ranged from .34-.84). Empirical reliability of an impact index was .92. The mean level of impact on a 0-100% metric was 41.6% (SD = 19.7). After surgery, impact was reduced, on average, by 25.5 points (0-100% scale; Figure 1). These results suggest that the impact index is highly sensitive to known effective treatment, t(227) = 19.5, two-tailed $p < .0001$, Cohen's d = 1.5 (large).

CONCLUSIONS: Urethral stricture in men can have an adverse impact (see gray distribution, Figure 1) but can be alleviated with reconstructive intervention. The 17 items of the USSIM formed a reliable scale that changed markedly following urethroplasty. Future research will examine scales of the USSIM as endpoints in clinical trials.

Figure 1. USSIM Impact before (solid gray) and after surgery (dashed black).
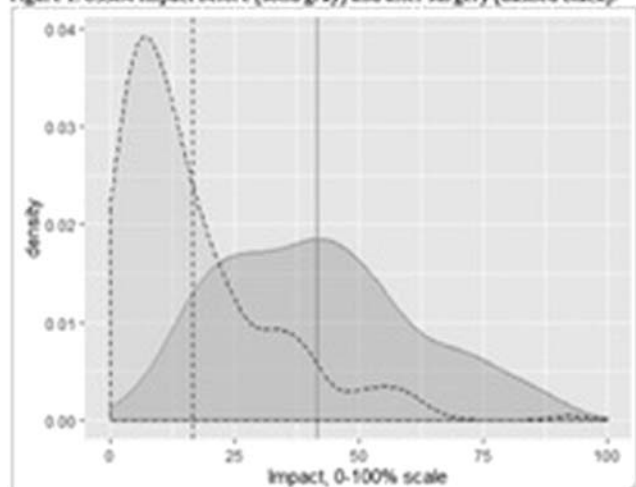
Table 1. Impact items in the USSIM.

| If you were to spend the rest of your life urinating the way it is now, how would you feel about that? |
| I worried about being unable to pee |
| I dribbled in my underwear after peeing |
| I had to sit down to pee |
| I had to plan my day ahead of time |
| I was worried about getting urinary tract infections |
| I was frustrated because my activities were reduced |
| I worried about my bladder health |
| I peed the bed |
| I did not get enough sleep/rest |
| I used special positions to help me pee |
| I worried about peeing in my pants (having an accident) |
| I had to watch what or how much I drank |
| I felt anxious because of my lack of control over urination |
| I felt embarrassed because it took me so long to pee in public |
| My ejaculation or orgasm was not satisfying |
| I worried that if I ejaculated I would get completely plugged up |

MP60-12

MID-TERM RESULTS OF ANTERIOR URETHROPLASTY WITH TISSUE-ENGINEERED ORAL MUCOSA GRAFT MUKOCELL®

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INTRODUCTION AND OBJECTIVE: Anterior urethroplasty with buccal mucosa grafting is the standard procedure for recurrent urethral strictures of $\geq$2 cm length. Trying to avoid oral complications through harvesting buccal mucosa, a tissue-engineered oral mucosa graft (MukoCell®) was manufactured. Current multicenter retrospective studies report success rates of 67-84%. The objective of our institutional retrospective analysis is the assessment of the mid-term efficacy and complications of this method.

METHODS: Between 05/2016 and 06/2019 a total of 77 patients with anterior urethral strictures underwent a urethroplasty with MukoCell®. Our cohort consisted of 45 patients with bulbar strictures (78,9%), 15 with penobulbar (19,5%), 11 with penile (14,3%), 4 with membranous (5,2%) and 2 with simultaneous bulbar and penile strictures (2,6%) respectively. Mean patient age was 59 years (range 16 to 87) with mean 2,5 previous endoscopic or anastomotic procedures (range 0 to 8). 4 different surgeons performed in 61 cases ventral/dorsal onlay techniques (79,2%), in 5 cases inlay-ASOPA technique (6,5%) and in 11 cases combined (Palminteri et al.) technique (14,3%). Mean stricture length was 5,3 cm (range 2 to 16). 8 (10,4%) strictures were traumatic, 39 (50,6%) iatrogenic, 21 (27,3%) idiopathic, 1 (1,3%) radiogenic, 1 (1,3%) associated with Lichen sclerosus, 2 (2,6%) former hypospadias and 2 (2,6%) had other causes. IPSS-Score, Uroflowmetry and post void residual measurement were recorded pre- and postoperatively twice a year. Retrograde urethrography was performed pre- and 3 weeks postoperatively and repeated by suspicion of recurrence.

RESULTS: Mean follow up was 24 months (range 8 to 43). 24 patients (31,2%) developed a recurrence of the stricture (14 with bulbar, 4 penobulbar, 3 penile, 2 membranous and 1 simultaneous bulbar and penile localization and mean 2,3 previous endoscopic operations (range 1-6) after mean 6,5 months (range 1,5 to 17). None perioperative hemorrhage occurred in all patients. We reported 5 cases of perineal wound dehiscence, 5 UTIs, 7 contrast leaks in the postoperative urethrography and 1 urethrocutaneous fistula requiring surgical intervention (Clavien-dindo 3b). No local (oral-urethral) or general adverse events related to the use of MukoCell® were observed.

CONCLUSIONS: The recurrence-free rate of anterior urethroplasty using MukoCell® in our hands was 68,8% after a two-year follow-up. A prospective multicenter study comparing „head-to-head" the efficiency of this graft with the native oral mucosa will be initiated in Germany in 2020.

MP60-13

DEVELOPMENT AND VALIDATION OF A URETHRAL STRICTURE CLASSIFICATION SYSTEM

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INTRODUCTION AND OBJECTIVE: The purpose of the study was to develop and then validate a retrograde urethrogram (RUG), patient history, and physical exam-based classification system for urethral stricture disease (USD).

METHODS: A classification system was created based on three readily available clinical parameters that have been previously shown to influence treatment choice and surgical outcomes: stricture (L) length, (S) segment (i.e. location), and (E) etiology. The final LSE system is depicted in Figure 1 and described in Figure 2, which was the product of three separate validation steps, each involving reviewers classifying clinical vignettes that included the RUG and accompanying stricture history and pertinent physical exam. The classification provided by each of the 20 reviewers was then compared to the "correct" classification and inter-rater reliability was assessed using Light's Kappa statistical analysis. An a priori kappa value (0.7) was determined as the threshold the system needed to reach to ensure sufficient agreement. When this kappa was not reached, the system was modified accordingly based on reviewer feedback and analysis of individual vignettes with poor agreement so to improve clarity.

RESULTS: The overall kappa statistic for the final LSE staging system was 0.79, indicating substantial agreement amongst reviewers. Individual component kappa values increased significantly with each validation step (L; 0.71 to 0.72 to 0.76; p = 0.01), (S; 0.50 to 0.56 to 0.70; p < 0.001), (E; 0.85 to 0.93 to 0.98; p = 0.04).

CONCLUSIONS: The inter-rater reliability of the LSE classification system was sufficiently high to be used clinically. This system has also now been validated in complementary studies for its ability to predict urethroplasty type and surgical outcomes. Widespread use of a classification system in clinical and research endeavors will improve communication with other clinicians, with prospective patients, and will facilitate multi-institutional outcomes studies and meta-analyses.