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Moderated Poster 42

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1:00 PM-3:00 PM

MP42-01

CLINICAL FACTORS ASSOCIATED WITH 90-DAY MORBIDITY FOLLOWING SURGICAL MANAGEMENT OF UROSYMPHYSEAL FISTULA

Elizabeth Bearrick*, Jayson Kemble, Samuel Broida, Matthew Houdek, Boyd Viers, Rochester, MN

INTRODUCTION AND OBJECTIVE: Urosymphyseal fistula (USF) is a devastating complication associated with prostate cancer therapy treatment. Definitive surgical management including fistula decompression, removal of devitalized bone, and tissue interposition remain the gold standard. Early postoperative outcomes remain underreported. The aim of this study was to characterize 90-day morbidity and clinical characteristics associated with adverse outcomes.

METHODS: A retrospective chart review of a single institutional database identified 54 patients who underwent operative treatment for USF. Clinical characteristics and 90-day morbidity were assessed.

RESULTS: In total, 46/54 (85%) patients had a history of prior pelvic radiation. Cystectomy with urinary conduit was common (N=39, 72%) and 7 (13%) underwent a robotic approach. Discordance between intra and preoperative cultures was present in 34 (67%) including 10/21 (48%) with fungal growth. Median length of stay was 9 days (IQR 7-15), 90-day Clavien-Dindo grade ≥ 3 complications occurred in 19 (35%), including reoperation in 7 (13%) and rehospitalization in 11 (20%). Discharge to a skilled care facility was required in 5 (9%). At least one preoperative inflammatory marker (WBC, ESR, and CRP) was available in 52 (96%) patients, and pre-op albumin was available in 38 (70%). Patients with a WBC $>9.6 \times 10^9/L$ while on pre-op antibiotic therapy were more likely (RR 1.60) to have culture discordance (93% vs 54%; $p=0.019$). Patients with pre-op ESR >28.0 mm/h (N=38) while on antibiotic therapy were more likely to have a longer hospital stay (10 days vs 6 days; $p=0.007$). Patients with a pre-op albumin <3.5 g/dl (N=9) were more likely to have a prolonged hospital stay (13 days vs 8 days; $p=0.03$) or require discharged to skilled care (75% vs 18%, $p=0.35$). Those with CRP greater than 100.0mg/L had higher rates Clavien grade ≥ 3 complications (41% vs 11%, $p=0.25$). ESR >65 mm/h was associated with reintervention for osteomyelitis (83% vs 35%, $p=0.36$).

CONCLUSIONS: Preoperative clinical features including ESR, CRP, WBC, and albumin are associated with an increased risk of morbidity following treatment of USF. Earlier identification of these patients may be useful to ascertain patients who could benefit from further preoperative optimization.

Source of Funding: None

P42-02

PROPOSAL AND VALIDATION OF A URETERAL STRICTURE CLASSIFICATION SYSTEM

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INTRODUCTION AND OBJECTIVE: The surgical management of ureteral stricture disease is contingent upon multiple factors such as stricture length, location, and etiology. Ureteral strictures are conventionally characterized descriptively. Unlike urethral stricture disease, there is currently no widely adopted classification system. Herein, we aim to propose a ureteral stricture classification system for the purpose of creating a standard nomenclature with the goal of validating classification with reconstructive surgical techniques.

METHODS: Consensus was obtained from 14 reconstructive urologists. All reviewers had completed a Society of Genitourinary Reconstructive Surgeons (GURS) fellowship and were in clinical practice. Consensus was formulated regarding three primary elements: length of ureteral stricture (L); stricture segment (S); and modifiers (M). These constituted the cLSM classification system (Table 1). Each reviewer was presented with an image(s) of fluoroscopic studies for 24 various ureteral strictures with no additional clinical history and were tasked with assigning a cLSM grade for each individual clinical vignette. These results were tabulated and interrater reliability was determined by a Fleiss Kappa analysis. Etiology of stricture was included in the final version of the cLSM classification system but was not designed to be included in this analysis (Table 1).

RESULTS: Of the 24 ureteral strictures, 11 (45.8%) were proximal, 10 (41.7%) were distal, 2 (8.3%) were mid-ureter and 1 (4.2%) was of overlapping sites. Distal ureteral injuries were assessed with only an antegrade pyelogram hindering a precise length measurement. There was substantial agreement across experts demonstrated by an overall Fleiss Kappa score of 0.677 (0.667 – 0.686) for the 24 clinical vignettes for ureteral length, segment and modifiers.

CONCLUSIONS: The cLSM ureteral classification system shows a strong interrater reliability by experienced reconstructive urologists. Consistent nomenclature and application of the classification system will standardize discussion of types of ureteral injuries as well as allow for assessment of outcomes. The final ureteral classification system will include etiology (cLSE) to further characterize ureteral injuries and compare reconstructive operative techniques.

Table 1. Ureteral Stricture Clinical Classification System (cLSM)

L - Length	
1	< 2 cm
2	≥ 2 cm and < 7 cm
3	≥ 7 cm
S - Segment	
1	Proximal (renal pelvis to the start of the sacroiliac joint (L2-L3/L4))
2	Middle (across the SI joint) (L4-S1)
3	Distal (below the SI joint within the pelvis) (Below S1)
4	Proximal + Mid
5	Mid + Distal
6	Pan-Ureteral
M - Modifiers	
O	Obliterative
C	Cancer
M	Multiple
E - Etiology *not included in analysis	
1	Idiopathic/Unknown etiology
2	Internal trauma Endoscopic procedure (ureteroscopy/lithotripsy/PCNL)
3	External Trauma
3a	Surgical (ligation or transection, including thermal injury)
3b	Urologic Trauma
3b1	Blunt
3b2	Penetrating
4	Recurrent ureteral stricture s/p repair
4a	Prior pyeloplasty
4b	Prior ureteral reconstruction
5	Radiation induced ureteral stricture
6	Infectious (Tuberculosis, Recurrent UTI)
7	Retroperitoneal Fibrosis
7a	Prior urinary leak/abscess
7b	Prior chemotherapy
7c	Idiopathic
8	Congenital
9	Uretero-enteric

Source of Funding: None

MP42-03
ASSESSMENT OF PATIENT-REPORTED OUTCOMES OF URETERAL STRICTURE DISEASE AND ROBOTIC URETERAL RECONSTRUCTION

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INTRODUCTION AND OBJECTIVE: Patient perspectives regarding clinical conditions and the influence of treatments are essential to patient-centered care. We aimed to evaluate patient-reported outcomes regarding experiences, symptoms, and impacts of ureteral stricture disease (USD) and robotic ureteral reconstruction (RUR).

METHODS: Patients undergoing RUR for USD between 9/2021 and 9/2022 were eligible for enrollment. Semi-structured concept elicitation interviews were conducted to evaluate the physical, mental, and social effects of USD at three stages: 1. Preoperative, 2. Postoperative recovery (with ureteral stent), 3. Postoperative recovery (after stent removal). Concerning symptoms related to USD, patients rated symptom bother from 0 (none) to 10 (extreme). We conducted interviews until concept saturation was achieved and no new information was gained. Interviews were transcribed, coded, and qualitatively analyzed.

RESULTS: Concept saturation was reached after 14 interviews. In the preoperative phase, flank pain (10/14 [71%]) and urinary urgency (6/14 [42%]) were the most common symptoms. All patients with urinary urgency had a ureteral stent during the preoperative phase. The median (IQR) preoperative bother scores of flank pain and urinary urgency were 8.5 (6.6-10) and 9.0 (5.8-10), respectively. The most common themes were emotional distress to symptoms (10/14 [71%]) and social/

occupational impairment (9/14 [64%]). The most common factors that influenced a patient's decision to undergo RUR were renal function preservation (8/14 [57%]), and the desire to remove hardware (i.e., nephrostomy tubes and ureteral stents) (8/8 [100%] who had presurgical hardware). During postoperative recovery, urinary urgency (8/14 [57%]) and flank pain (5/14 [35%]) were the most common symptoms. The median (IQR) postoperative recovery phase bother scores of flank pain and urinary urgency were 8.0 (4.0-8.0) and 6.0 (5.8-9.0), respectively. In the postoperative recovery phase, 1/14 (7%) reported intermittent flank pain (bother=4). All patients reported a "successful surgery." Patients most commonly described surgical success as complete symptom relief (8/14 [57%]).

CONCLUSIONS: Flank pain and urinary urgency (related to ureteral stent) were the most bothersome symptoms in the preoperative phase. Renal function preservation and the desire to remove hardware were the most common factors that influenced patients to undergo RUR. Symptom relief was the most commonly described determinant of patient-perceived surgical success.

Source of Funding: None

MP42-04
A NOMOGRAM TO PREDICT RECURRENT STRICTURE IN PATIENTS AFTER UPPER URINARY TRACT RECONSTRUCTION SURGERY

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INTRODUCTION AND OBJECTIVE: Recurrent ureteral stricture was relatively common in a small number of patients after upper urinary tract reconstruction. It has been reported that many factors may affect the success rates. However, none of them reached a consensus toward the prediction of ureteral stricture recurrence. The aim was to build a useful and practical nomogram for predicting the recurrence of stricture patients after upper urinary tract reconstitution surgeries.

METHODS: We studied a retrospective cohort of 237 patients diagnosed with hydronephrosis and received upper urinary tract reconstruction surgery from 2017 to 2021. We developed the nomogram from a derivation cohort including 134 patients from one center. The validation cohort involved 103 patients from other three centers.

RESULTS: In the multivariate analysis of the derivation cohort, three candidate predictors were entered into the final prognostic model: the ratio of postoperative urea nitrogen to preoperative urea nitrogen (p=0.026, HR=0.025), time of removing DJ tube after operation (p=0.049, HR=0.234), preoperative severe hydronephrosis (p<0.0001, HR=6.518), which was developed as a best-simplified nomogram for 1-year prognosis, named as HDU. The model had good predictive ability with a C-index of 0.811. The HDU model had an area under the curve of 0.886 in the internal derivation cohort and 0.718 in the external validation cohort. The calibration plots showed a good agreement between the predicted and observed outcomes in both derivation cohort and validation cohort.

CONCLUSIONS: The nomogram HDU showed good predictive ability through internal validation and external validation, as a methodological exploration on the path to accurate prediction for recurrent stricture after upper urinary tract reconstruction surgery.

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