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### Title

PD30-03 CLINICAL SIGNIFICANCE OF CYSTOSCOPIC RECURRENCE AFTER ANTERIOR URETHROPLASTY. A MULTI-INSTITUTION ANALYSIS FROM TRAUMA AND UROLOGIC RECONSTRUCTIVE NETWORK OF SURGEONS (TURNS)

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PR group was 3.3 times that in the SPT group (30 months vs. 9 months,  $p = 0.04$ ). The fraction of patients with increased stricture complexity was significantly higher in the PR group (50%, 10 of 20, vs. 13.4%, 9 of 87, in the SPT group,  $p = 0.0005$ ). There was no significant difference in mean stricture length (11.4 mm in SPT group, 10.3 mm in PR group,  $p = 0.47$ ), mean operative time (169 minutes in SPT group, 166 minutes in PR group,  $p = 0.75$ ), mean blood loss (101.3 ml in SPT group, 59.0 ml in PR group,  $p = 0.06$ ), or fraction requiring substitution urethroplasty (5.9%, 4 of 67, in SPT group; 5.0%, 1 of 20, in PR group,  $p = 0.87$ ). The success rate was slightly higher in the SPT group (92%, 45 of 49, in the mean follow-up of 29 months, vs. 85.7%, 12 of 14, in the mean follow-up of 26 months, in the PR group) but the difference was not statistically significant ( $p = 0.49$ ).

**CONCLUSIONS:** PR does not facilitate delayed urethroplasty, and patients who undergo PR risk having a more complicated stricture and longer time to urethroplasty.

**Source of Funding:** none

**PD30-02**

**LONG TERM OUTCOMES OF RE DO URETHROPLASTY: OUTCOME EVALUATION THROUGH FLEXIBLE CYSTOSCOPY**

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**INTRODUCTION AND OBJECTIVES:** Re-do urethroplasty (RU) is widely considered to represent a greater surgical challenge than primary surgery. In the few contemporary studies that have addressed the outcome of RU, success rates vary widely (35% to 84%). The aim of this study was to evaluate the success rate of RU over 10 years in a high volume centre and identify any factors associated with treatment failure.

**METHODS:** A retrospective evaluation of prospectively collected data of all RU performed between 2007 to 2017 by 2 high volume urethral surgeons was undertaken. Pts demographics, source of referral, stricture, aetiology, stricture length, previous interventions, length of stay and outcome were analyzed. Pts who underwent hypospadias repairs were excluded as hypospadias represents a different aetiology to urethral stricture disease. Follow up (FU) was conducted by flexible urethroscopy at 3, 6 and 12 month post operation (op) and then annually to 5 years. Success was defined as no requirement for further instrumentation or surgery. Statistical analysis was performed using SPSS 23.

**RESULTS:** A total of 35 pts underwent a RU over a 10 year period. Most pts had undergone primary urethroplasty at other centres (63%). No clavian grade III-V complications occurred. The mean post op FU was 30 months (range: 6–99 m). No further intervention was required for 25 pts (71.4%); 10 (28.6%) developed recurrences that required further treatment. Recurrences included diaphragms (17.2%) or significant restenosis (11.4%). All diaphragms were successfully treated by endoscopic incision (at median time of 4.5 m post RU) with no further need for dilatation. All pts with significant restenosis underwent further urethroplasty (at a median time of 80.5 months post 1st RU). The characteristics of subjects considered as treatment outcome were compared (Table 1). Treatment failure was significantly associated with an original traumatic stricture aetiology and greater length of post op stay after RU.

**CONCLUSIONS:** RU is a successful salvage option in pts who develop recurrent stricture after primary urethroplasty, with no requirement for further intervention in 71.4%. A single endoscopic incision is required for diaphragmatic recurrences in 17.2%. RU should offered to pts with stricture recurrence and onward referral to a high volume urethral surgery centre is recommended.

Table 1. Population characteristic according to urethroplasty outcome

	Success	Failure	p
Age (Median; IQR)	56 (48-58)	51 (46-53)	0.097*
Length of stay (LOS) (Median; IQR)	4.5 (4-11)	16.5 (5.5-22)	0.017*
Stricture Length (Median; IQR)	4 (3.25-5)	2.5 (2-4.5)	0.07*
Follow up (months) (Median; IQR)	15 (8-35)	75 (45.3-96.8)	0.001*
Pts with more than one stricture (%)	20	10	0.478**
Pts with more than 1 previous endoscopic urethrotomies (%)	28	10	0.252**
Pts with more than 1 previous urethroplasties (%)	20	10	0.478**
No Stricture location (%)			
Bulbar	8 (32)	5 (50)	0.217***
Penile	14 (56)	5 (50)	
Penile/bulbar	3 (12)	0 (0)	
Referral (%)			
Internal	10 (76.9)	3 (23.1)	0.580**
External	15 (68.2)	7 (31.8)	
No Previous urethroplasties technique (%)			
Penile flap	6 (24)	1 (10)	0.257**
Scrotal flap	1 (4)	0 (0)	
Buccal mucosa flap	8 (32)	1 (10)	
Anastomotic	4 (16)	2 (20)	
Perineal urethrostomy	0 (0)	1 (10)	
Unknown	6 (24)	5 (50)	
No Re-do technique %			
Penile flap	0 (0)	1 (100)	0.105**
Buccal mucosa flap	20 (85)	5 (15)	
Anastomotic	5 (55.6)	4 (44.4)	
Stricture aetiology %			
Lichen sclerosus	4 (66.7)	2 (33.3)	0.019**
Trauma	4 (40)	6 (60)	
Idiopathic	17 (89.5)	2 (10.5)	

\* Independent samples Mann-Whitney U Test  
 \*\* Pearson Chi-square Test  
 \*\*\* Independent samples Kruskal-Wallis Test

**Source of Funding:** none

**PD30-03**

**CLINICAL SIGNIFICANCE OF CYSTOSCOPIC RECURRENCE AFTER ANTERIOR URETHROPLASTY. A MULTI-INSTITUTION ANALYSIS FROM TRAUMA AND UROLOGIC RECONSTRUCTIVE NETWORK OF SURGEONS (TURNS)**

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**INTRODUCTION AND OBJECTIVES:** Definition of "success" is debated in the anterior urethroplasty (AU) literature. Cystoscopic recurrence of stricture does not always correlate with patients' symptoms or the need for an intervention. This study aims to assess the functional outcome of patients with a cystoscopic recurrence of stricture after AU.

**METHODS:** All cases with available cystoscopy data after AU in TURNS database were retrospectively studied. We assessed the cumulative probability of intervention (primary outcome) and the quality of life scores (secondary outcome) in association with cystoscopic recurrence. Patients with history of hypospadias, perineal urethrostomy, urethral fistula and meatal pathology were excluded. Kaplan-Meier failure estimate and log-rank test of equality were used to assess primary outcome; Kruskal Wallis test was used for secondary outcome.

**RESULTS:** From a total of 2309 AUs, 1054 patients met the inclusion criteria and were categorized as normal (n=740), recurrence >17 (n=178), and recurrence <17 (n=136) based on the first cystoscopic evaluation postoperatively. Patients with recurrence had longer preoperative stricture length and higher rate of lichen sclerosus diagnosis, radiation history, and use of graft. Cystoscopic recurrence was significantly associated with higher rate of secondary interventions (2.7%, 6.2%, 33% in normal, >17, and <17 groups respectively, figure 1). In the intervention-free subset, IPSS, SHIM, MSHQ and CLSS were not statistically significantly different among the three study groups (figure 2).

**CONCLUSIONS:** Many patients with cystoscopic recurrence are satisfied with their symptoms with no need for intervention. Cystoscopy may be a poor initial screening test for urethral stricture recurrence defined by patient symptoms and need for secondary interventions.

Figure 1 – Frequency of long-term success and failure according to first cystoscopy after anterior urethroplasty (left). Cumulative probability of secondary intervention after anterior urethroplasty (right)

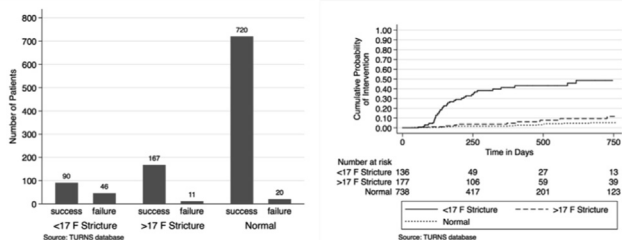


Table 1 - Most recent quality of life score for each category of cystoscopy in intervention-free group (IPSS, SHIM, MSHQ, CLSS)

QOL median (IQR)	IPSS n=130	SHIM n=322	MSHQ n=327	CLSS n=93
<17f	3.5 (2 – 15)	23 (18 – 24)	16 (15 – 18)	4 (0 – 6)
>17f	5 (1 – 12)	24 (19 – 25)	16 (11 – 19)	4 (0 -10)
Normal	3 (1 – 6)	23 (17 – 25)	16 (12 – 20)	4 (1 – 7)

Abbreviation: CLSS: core lower urinary tract symptom score, QOL: quality of life, IPSS: international prostate symptom score, MSHQ: male sexual health questionnaire

**Source of Funding:** none

**PD30-04 URETHROPLASTY IN PATIENTS WITH FAILED URETHRAL STENT: AN INTERNATIONAL EXPERIENCE**

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**INTRODUCTION AND OBJECTIVES:** Treatment of urethral stricture using the Urolume urethral stent (American Medical Systems, Minnesota) was approved by the Food and Drug Administration in 1988 and distributed in many countries until 2011. Reconstructive urologists occasionally still need to treat the patients who experience stricture recurrence. Memokath (Pnn Medical, Denmark) is a thermo-expandable biocompatible endoprosthesis made of nitinol that is currently used for recurrent bulbar urethral stricture. This study evaluates the role and success rate of urethral reconstruction in patients with urethral stent and recurrent stricture.

**METHODS:** A retrospective multicenter study was conducted among different institutions with high-volume urethral reconstruction using a board-approved database. Factors analyzed included: stricture and stent length, time between stent and urethroplasty, age, mode of stent retrieval, type of urethroplasty, complications and baseline and post-

urethroplasty voiding parameters. Successful outcome was defined as standard voiding, without need of any postoperative procedure.

**RESULTS:** Fifty-six patients were included. Stent was removed at the time of urethroplasty in 54 patients (4 endoscopically, 28 full-segment excision and 22 longitudinal section and explant of individual strands). Technique elected was: excision and primary anastomosis 13 (23.2%), dorsal onlay buccal mucosa graft (BMG) 8 (14.3%), ventral onlay BMG 6 (10.7%), Kulkarni dorso-lateral onlay BMG 8 (14.3%), ventral onlay plus dorsal inlay BMG 2 (3.6%), augmented anastomosis 5 (8.9%), pedicled flap urethroplasty 5 (8.9%), 2-stage procedure 4 (7.1%) and perineal urethrostomy 5 (8.9%). Success rate was 80.4%. Dilatation and/or internal urethrotomy was performed in 10 (17.9%) and redo-urethroplasty in 5 (8.9%). Total IPSS, QoL, Qmax and PVR significantly improved (p<.0001). Complications occurred in 7 (12.5%), all Clavien-Dindo ≤2. Disease-free survival rate was 93.3, 88.6 and 86.7% at 1, 3 and 5-years respectively. No difference in recurrence free interval was observed regarding the type of stent (log-rank, p=.24). Similarly, length of stent (p=.11), patient age at the time of urethroplasty (p=.24), length of stricture (p=.19) and mode of stent retrieval (p=.11) did not affect the success of urethroplasty. However, stratification according to surgical techniques confirmed differences of statistical significance (p=.005) in favor of BMG onlay, EPA, augmented anastomosis and 2-stage repair with respect to perineal urethrostomy and pedicled flap urethroplasty. Our study is limited by its retrospective nature, and long time-span with a large number of surgeons.

**CONCLUSIONS:** Urethroplasty after re-stricture in patients with urethral stents is a viable option of reconstruction with a high success rate and few complications. Different techniques appear acceptable and decision mainly depends on the characteristics of the individual patient. This is the longest series reported of definitive urethral reconstruction after urethral stent explant, a disease that is fortunately disappearing.

**Source of Funding:** None

**PD30-05 COMPARATIVE EFFECTIVENESS OF INITIAL, REPEAT, AND SECONDARY ANTERIOR ONE-STAGE BUCCAL MUCOSAL GRAFT URETHROPLASTY**

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**INTRODUCTION AND OBJECTIVES:** To compare outcomes of initial anterior one-stage buccal mucosal graft urethroplasty (BMGU) to repeat cases (prior one-stage BMGU) and secondary cases (prior urethroplasty of different technique).

**METHODS:** We performed a retrospective chart review and identified 1,039 patients undergoing one-stage BMGU between 2009-2016. Exclusion criteria were hypospadias, lichen sclerosus, radiotherapy, gender reassignment surgery, and posterior or meatal strictures. Patients were stratified by initial, repeat, and secondary cases and clinical and surgical characteristics were compared across the groups. We plotted univariable Kaplan-Meier curves to compare stricture recurrence-free survival between the groups. Bootstrap-corrected Cox models were created to evaluate risk factors of stricture recurrence and to delineate the impact of the urethroplasty sequence on our endpoint.

**RESULTS:** Of 534 men with a median follow-up of 33 mo (IQR: 17-52 mo), 436 (81.7%) and 98 (18.3%) underwent initial and re-operative BMGU, respectively. Of the latter group, 64 (65.3%) underwent repeat BMGU, whereas 34 (34.7%) underwent secondary BMGU (staged meshgraft, N=3; penile/preputial skin flap, N=8; meatoplasty, N=2; excision and primary anastomosis, N=7; or multiple/other techniques, N=14). Clinical characteristics, such as age, American Association of Anesthesiologists score, and comorbidities were comparable between the groups (all P≥0.2). Men with re-operative (repeat or secondary) BMGU had more previous endoscopic interventions and were more often operated by high-volume surgeons (≥100 urethroplasties over the study period; both P≤0.021). Operative time, graft length, stricture location (bulbar vs. penobulbar/penile), and surgical