Title

4 CHANGES IN UROFLOWMETRY MAXIMUM FLOW RATES AFTER URETHRAL RECONSTRUCTIVE SURGERY AS A MEANS TO PREDICT FOR STRICTURE RECURRENCE

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mailing. Participants were surveyed regarding nomenclature used to define strictures, urethroplasty practice patterns, follow-up practice patterns, and methods used to screen for stricture recurrence.

RESULTS: The response rate was 48.9% (n = 90). 71% of responders were from the USA, 16% from Europe and 4% from South America. Urethroplasty failure was defined as the need for a secondary urethral procedure (60.0%), significant narrowing on imaging studies (14.4%), urethral narrowing that precludes passage of 16F cystoscope (12.2%), poor uroflow or American Urologic Association symptom score (AUASS) (7.8%), or subjective voiding complaints (2.2%). 10% did not obtain routine imaging studies at the time of catheter removal to rule out an anastomotic leak. Only a third of responders followed their patients for longer than 3 years after surgery. To screen for stricture recurrence, 85% used uroflowmetry, 56% used post-void residual, 19% used flexible cystoscopy and 17% used retrograde urethrography. Almost half (48%) of the surgeons did not use any validated instruments to evaluate quality of life after urethroplasty. For those who used validated questionnaires, the ones most often used were the AUASS (41%) and Sexual Health Inventory for Men (19%).

CONCLUSIONS: Even amongst experts, there is no consensus or standard evaluation regarding follow up practices after urethroplasty. Surprisingly, most "experts" only use "need for a secondary procedure" as the definition of urethroplasty failure, do not follow patients long-term (despite many reports of recurrences at > 5 years), and do not use validated questionnaires. We appeal to the Urologic community to raise the quality of science when it comes to evaluating the post urethral reconstruction patient, including quality of life. A standardized definition of what constitutes a stricture recurrence, as well as a standardized follow-up protocol are desperately needed, which will allow for effective comparison of results between studies.

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CHANGES IN UROFLOWMETRY MAXIMUM FLOW RATES AFTER URETHRAL RECONSTRUCTIVE SURGERY AS A MEANS TO PREDICT FOR STRICTURE RECURRENCE

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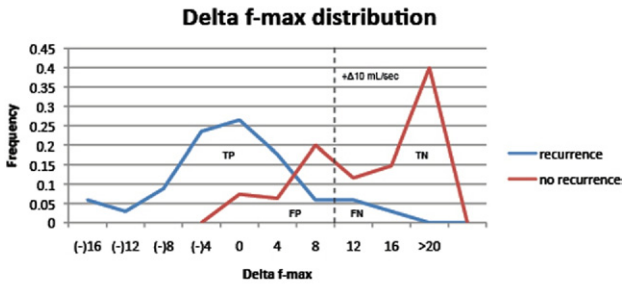
INTRODUCTION AND OBJECTIVES: The ideal way to monitor patients for recurrence of urethral stricture disease after urethroplasty has not been established. A reliable, non-invasive way to screen for recurrence that can minimize costs and complications is needed. We hypothesized that changes in flow rates on uroflowmetry (UF) relative to pre-operative values might help predict stricture recurrence.

METHODS: All men who underwent urethral reconstructive surgery from 2000–2009 with adequate pre- and post-operative UF studies (voided volume > 150cc) were included in the study. Pre- and post-operative maximum flow rates (fmax) were compared. Absolute change in fmax (Δfmax) was then compared between patients with and without recurrence as determined by retrograde urethrogram (RUG). In patients with multiple post-operative UF studies, we used a non-parametric correlation coefficient to help determine the reproducibility of repeated fmax measures.

RESULTS: There were 125 urethroplasty patients included in the study. Mean pre-operative fmax ±SD was 11.8 ± 9.1, which did not vary by stricture length (p = 0.11), age of patient (p = 0.46) or by location of stricture (p = 0.58). A total of 33 men (26.4%) were noted to have stricture recurrence by RUG. The Δfmax ±SD in men without recurrence was 19.2 ± 11.7 mL/sec in men without recurrence versus 0.2 ± 6.4 mL/sec (p < 0.001) in failed repairs. Setting a Δfmax of <10mL/sec as a screen for stricture recurrence would have resulted in a test sensitivity and specificity of 92% and 78% respectively (Figure). A total of 85 men without stricture recurrence had >1 post-operative UF study. Repeated fmax values achieved reasonable test reproducibility (R = 0.52) further supporting the use of UF.

CONCLUSIONS: Change in flow rates after urethral reconstruction represents a promising metric to screen for stricture recurrence that is non-invasive with high sensitivity. However, UF has inherent limitations including the difficulty of performing the test accurately in the clinic setting and the fact that many pre-operative stricture patients are unable to void.

Figure: Distribution of Δ*f*max (pre- vs. post-operative *f*max) in patients with and without stricture recurrence



True Positives (TP), True Negatives (TN), False Positives (FP), False Negatives (FN)

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OUTCOME OF DORSAL BUCCAL GRAFT AUGMENTED ANASTOMOSIS FOR URETHRAL STRICTURES AFTER A FAILED RECONSTRUCTION

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INTRODUCTION AND OBJECTIVES: Buccal graft augmented anastomosis (BGAA) can be an excellent option for bulbar urethral strictures that are not amenable to primary anastomotic techniques. This can be even more challenging when dealing with a previously reconstructed urethra. We performed this study to examine the outcomes and complications of BGAA for recurrent urethral strictures after a failed reconstruction.

METHODS: 76 patients underwent BGAA between 2000–2009. Of these, 28 (37%) had prior open urethral reconstruction. Their charts were retrospectively reviewed, and the patients were contacted by phone and asked about ongoing symptoms. Failure was defined as recurrent stricture requiring intervention. Patients underwent voiding urethrography at 3 weeks post-surgery, and cystourethroscopy at 6 months post-surgery. Patients were followed annually thereafter with subsequent endoscopic/radiographic studies performed in symptomatic patients.

RESULTS: Mean age was 46 years. Follow-up averaged 862 days (25 to 3424). Stricture etiology was idiopathic in 13 (46%), instrumentation in 5 (18%), perineal trauma in 4 (14%), post-hypospadias repair in 4 (14%), and post-infectious in 2 (7%). Mean stricture length was 6.4 cm (2 to 15). One graft was used in 16 patients (57%), and two were used in 12 (43%). All patients had at least one prior open reconstruction. 20 patients were available by phone, 4 had moved and/or changed their numbers, 3 did not return the call, and 1 patient was deceased. Of those contacted, 15 report no significant problems, 1 has improved force of stream on tamsulosin, 1 reports occasional post-void dribbling, 1 requires clean intermittent catheterization for neurogenic bladder secondary to multiple sclerosis, and 2 patients (10%) recurred. Both patients who recurred reported symptomatic improvement after subsequent urethrotomies. Post-operative complications include a pulmonary embolus in a patient found to have a coagulopathy. Occasional UTI was found in 7 patients (25%). New onset erectile dysfunction or subjective worsening of existing erectile dysfunction was reported in 4 patients (14%). 2 patients had post-operative scrotal paresthesias. 1 patient developed a viral gastroenteritis in the immediate post-operative period.

CONCLUSIONS: BGAA for recurrent urethral stricture disease after a failed reconstruction can be safe and effective with a success rate of 90%. Continued surveillance of these patients with longer follow-up is required to confirm these findings.

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