Reconstruction Lower Tract (I)

**Video 1**

Friday, May 12, 2017  7:00 AM-9:00 AM

### V1-01

**RADIAL FOREARM FREE FLAP SUBSTITUTION URETHROPLASTY FOR THE TREATMENT OF A LONG URETHRAL DEFECT**

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INTRODUCTION AND OBJECTIVES: We describe the surgical steps for performing a radial forearm free flap (RFFF) substitution urethroplasty in a patient with an obliterated urethral defect after failing an excision and primary anastomotic (EPA) urethroplasty for a pelvic fracture urethral injury (PFUI).

METHODS: A 9-year old male involved in an all-terrain vehicle accident was initially treated at an outside hospital for non-operative pelvic fractures and a urethral disruption. He was managed with a suprapubic catheter. The patient was referred 5 months after the injury with a 3 cm obliterated bulbular urethral defect. We performed a posterior EPA urethroplasty with corporal splitting and partial inferior pubectomy. One month after surgery, an anastomotic leak was identified on retrograde urethrogram (RUG) imaging. The urethral catheter was removed and the patient was managed with a SPT. Two months after surgery, repeat imaging was performed and an obliterated urethral defect was identified. Due to the early failure of the repair, suggesting vascular compromise and/or technical failure, we proceeded with RFFF substitution urethroplasty.

RESULTS: The patient underwent RFFF urethroplasty under the coordinated care of the urology and microvascular plastic surgery team. Major steps included the following: 1) dissecting the urethra and measuring the length of the urethral defect, 2) harvesting the radial forearm free flap, 3) tubularizing the flap over a catheter, 4) preparing the recipient femoral vessels in the inguinal region, 5) performing the urethral-flap anastomoses, and 6) performing the microvascular anastomoses. Following excision of scar, the urethral defect measured 10 cm. The flap was harvested from the left forearm which was closed primarily. The operation was 8:45 with 180 cc of blood loss. During the microvascular anastomoses, an acoustic microvascular coupler was placed to audibly monitor the vascular flow of the flap during the post-operative period. The patient was kept on bed rest for 48 hours, and the patient was discharged home on post-operative day 4. After 3 weeks, the urethral catheter was removed and the SPT was kept to drainage since a small leak was visualized at the proximal anastomosis on RUG imaging. The SPT was removed 3 weeks later following no visual evidence of leak on imaging. The patient continues to void without obstructive symptoms 3 months after surgery.

CONCLUSIONS: Radial forearm free flap urethroplasty is a treatment option for long, obliterated urethral defects and should be performed in a multidisciplinary manner with the assistance of a microvascular plastic surgeon.

Source of Funding: None

### V1-02

**ROBOT ASSISTED LAPAROSCOPIC PLACEMENT OF BLADDER NECK ARTIFICIAL URINARY SPHINCTER.**

John Schomburg*, Mya Levy, Sean Elliott, Minneapolis, MN

INTRODUCTION AND OBJECTIVES: We present our technique of robot assisted laparoscopic placement of bladder neck artificial urethral sphincter (Robot-AUS). Compared to the open approach, the robot assisted laparoscopic technique allows for excellent visualization of the posterior dissection.

METHODS: Our patient is a 49-year-old male with history of L1 spinal cord injury with stress urinary incontinence between intermittent catheterizations. Using the Da Vinci Xi surgical system, the bladder neck was circumferentially dissected. A 9cm AMS 800 AUS cuff was placed around the bladder neck after confirming appropriate sizing with simultaneous cystourethroscopy. The pressure-regulating balloon was placed in the recreated space of Retzius. Tubing connections were created extracorporeally at the right lower quadrant port site; the pump was passed subcutaneously from this port site to the right hemi-scrotum.

RESULTS: The patient was discharged home on post-operative day #1, performing intermittent catheterization through a deactivated cuff. His stress urinary incontinence persisted until his device was activated at post-op week 4. Six months post-operatively, he is dry without the use of pads and is able to easily pass his catheter after cycling the AUS.

CONCLUSIONS: Bladder neck artificial urinary sphincter is effectively placed in a minimally invasive fashion with a robot assisted laparoscopic approach; the approach provides excellent visualization of the posterior dissection.

Source of Funding: None

### V1-03

**MEMBRANOUS URETHROPLASTY USING DORSAL ONLAY BUCCAL MUCOSAL GRAFT FOR STRICTURES ASSOCIATED WITH TURP OR RADIATION THERAPY**

Stephen Blakely, Daniela Kaefer, Michael Daugherty, Dmitriy Nikolavsky*, Syracuse, NY

INTRODUCTION AND OBJECTIVES: To present the application of buccal mucosa graft dorsal onlay urethroplasty for membranous urethral stricture caused by TURP or radiation therapy.

METHODS: All patients were confirmed to have membranous involvement using radiographic and endoscopic evaluation. Dorsal onlay urethroplasty via a one-sided urethral dissection as described by Kulkarni and Barbagli was performed in all patients. This technique was modified by carrying dorsal urethrotomy proximally through the membranous urethra and sharply excising a wedge of intracutural tissue beyond stricture area to make adequate room for buccal mucosa grafting. All patients were followed at 4, 8, 12 months and then yearly for assessment of functional and patient-reported outcomes.

RESULTS: Fifteen consecutive men with a mean age 68 years (47-72) post membranous urethral stricture repair were included. Seven patients had prior TURP, 6 had prior radiation therapy with prostate in situ, and 2 patients had radical prostatectomy followed by adjuvant radiation therapy. At a mean of 17 months (4-37) follow up, one patient required an additional procedure for stricture recurrence. No patient developed de novo incontinence. Improvement was seen with respect to mean maximum flow rate (4 to 21 cc/sec), PVR (90 to 50 cc), and International Prostate Symptom Scores (23 to 9).

CONCLUSIONS: Membranous urethral strictures can be effectively treated using this buccal mucosa graft dorsal onlay technique which avoids extensive urethral mobilization, urethral transection, and perirectal dissection. The described technique did not compromise continence in this group of patients. Additionally, in this series dorsal buccal mucosal graft take is demonstrated in patients with prior history of radiation therapy.

Source of Funding: none

### V1-04

**RECONSTRUCTION OF BULBO-MEMBRANOUS URETHRAL STENOSIS AFTER SURGERY FOR BENIGN PROSTATIC HYPERPLASIA WITH PRESERVATION OF CONTINENCE**

Cristina Baaza, Reynaldo Gomez*, Rodrigo Campos, Laura Velarde, Santiago, Chile

INTRODUCTION AND OBJECTIVES: Bulbo-membranous urethral stenosis after surgery for benign prostate hyperplasia (BPH) are challenging because the internal sphincter has been removed and continence depends on the function of the external sphincter, which is