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MP46-07 MULTICENTER ANALYSIS OF ARTIFICIAL URINARY SPHINCTER OUTCOMES IN PATIENTS AFTER BOTH RADICAL PROSTATECTOMY AND ANASTOMOTIC URETHROPLASTY

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## MP46-06 COMPARISON OF ADJUVANT RADIATION THERAPY BEFORE OR AFTER ARTIFICIAL URINARY SPHINCTER PLACEMENT: A MULTI-INSTITUTIONAL ANALYSIS

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**INTRODUCTION AND OBJECTIVES:** Artificial Urinary Sphincter (AUS) remains the gold standard in the management of male stress urinary incontinence following radical prostatectomy. However, the impact of AUS placement before or after adjuvant radiation therapy has limited coverage in the literature. The objective of this study was to determine if the timing of radiation therapy has an impact on AUS outcomes, as well as identify predictors of AUS-related complications.

**METHODS:** A retrospective review was conducted across five academic institutions of men who received AUS placement and adjuvant radiation therapy between 1993 and 2016. A total of 306 men were included in the study. Out of the 306 men, 292 (95.4%) received radiation before AUS placement (Group 1) and 14 (4.6%) men received radiation after AUS placement (Group 2). Collected variables included demographics, type of prostate cancer therapy, and AUS device specifications. Primary endpoints included complication rates, revision rates, and number of pads per day before and after AUS treatment. Bivariate analysis was used to examine the association between pre-treatment comorbidities and the incidence of AUS-related complications postoperatively.

**RESULTS:** Median duration of follow-up for the entire cohort was 30 months (range 4-148 months). Group 1 was followed for a median of 29 months (range 4-148 months), while Group 2 was followed for a median of 49 months (range 12-141 months). There was no difference between groups in the percentage of men who experienced postoperative complications ( $P = 0.832$ ). In Group 1, 26.0% of patients experienced postoperative complications while 28.6% of patients in Group 2 experienced postoperative complications. While the number of pads per day decreased significantly from before AUS placement to after AUS placement, there was no significant difference in the average number of pads used per day between Group 1 and Group 2 ( $P = 0.907$ ). The number of pads used per day in Group 1 before AUS placement was  $5.24 \pm 3.12$  which decreased to  $1.13 \pm 1.31$  ( $P < 0.001$ ). In Group 2, the number of pads used per day before surgery was  $6.09 \pm 1.97$  which decreased to  $1.53 \pm 0.99$  pads per day after AUS placement ( $P < 0.001$ ). The percentage of men requiring revision in Group 1 was 31.2%, while the percentage of revisions in Group 2 was 14.3% ( $P = 0.028$ ). The median time to revision was 14 months and 18.5 months for Group 1 and Group 2, respectively. The presence of peripheral vascular disease (PVD) and coronary artery disease (CAD) was associated with increased incidence of AUS-related complications (primarily refractory incontinence and cuff erosion) in both Groups ( $P = 0.032$ ). The following factors were not significant: age, race, smoking, hypertension, diabetes mellitus, dyslipidemia, BMI, AUS device specifications, type of radiation therapy.

**CONCLUSIONS:** The timing of radiation therapy does not have a significant impact on complication rates or urinary continence as represented by number of pads used post-AUS placement. There is a non-statistical association between lower revision rates in patients who underwent radiation after AUS placement, as compared to before AUS placement. Patients with pre-existing PVD or CAD may experience more frequent postoperative complications, but this study is underpowered. Further research is needed to confirm these findings.

**Source of Funding:** None

## MP46-07 MULTICENTER ANALYSIS OF ARTIFICIAL URINARY SPHINCTER OUTCOMES IN PATIENTS AFTER BOTH RADICAL PROSTATECTOMY AND ANASTOMOTIC URETHROPLASTY

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**INTRODUCTION AND OBJECTIVES:** We sought to assess artificial urinary sphincter (AUS) outcomes in a subset of patients who have had a history of radical prostatectomy and anastomotic urethroplasty in order to describe outcomes after having two prior urethral transecting surgeries. Our null hypothesis is that multiple transections of the urethra do not increase the possibility of urethral erosion following artificial urinary sphincter placement.

**METHODS:** We performed a retrospective review from five participating centers in the Trauma and Urologic Reconstruction Network of Surgeons. The study period included February 2010 - January 2016. Of the 445 incontinence procedures in our prospective database, there were 35 patients who underwent an AUS and had both a radical prostatectomy and anastomotic urethroplasty. Patients were excluded if they did not have a minimum of 6 months of follow up after AUS placement. Twenty-two patients met inclusion criteria. The surgeon independently determined choice of transcorporeal or standard cuff technique.

**RESULTS:** Median age was 67.5 years. Mean follow up time was 32.2 months (IQR 16.6 - 44.6 months). Twelve patients had a history of prior pelvic radiation for prostate cancer. Of the 22 patients, twenty patients had transcorporeal cuff placement. There were 7 complications - 2 erosions, 3 hematomas, 1 infection, and 1 pump migration. Of these complications, four required additional surgery - the two erosions underwent AUS removal, one hematoma required exploration, and the patient with pump migration had his pump location adjusted. The overall AUS in situ rate in our cohort was 90.9% (20/22). History of prior radiation was not associated with AUS complications ( $p = 0.23$ ).

**CONCLUSIONS:** AUS implantation can be performed in patients after two urethral transecting surgeries with an in situ rate of 90.9% at medium term follow up. Surgeons appear to prefer transcorporeal placement in these scenarios.

**Source of Funding:** None

## MP46-08 URETHRAL STRICTURES ARE NOT AS FREQUENT AS THOUGHT AFTER ARTIFICIAL URINARY SPHINCTER CUFF EROSION

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**INTRODUCTION AND OBJECTIVES:** Erosion of the artificial urinary sphincter (AUS) cuff is an uncommon problem after implantation of the AUS. The degree of injury secondary to the device erosion may lead to formation of scar around and within the urethra however the rate of secondary clinically significant strictures have not been well reported. We hypothesized that the stricture formation rate after an erosion was almost 100% in these patients and conducted a review of our single center experience to establish the natural incidence of stricture after erosion of the AUS cuff.

**METHODS:** We conducted an internal review board approved review of males >18 years old with a history of AUS cuff erosion between January 1st, 2006 and January 31st 2013. Basic demographic, clinical and operative data were recorded. The degree of urethral erosion was stratified into 4 groups for comparison: 1) <25% circumference, 2) 25-50% circumference, 3) >50% and <100%