

AbstractID: 2730 Title: Selecting Patients with a Pretreatment Post-Void Residual Urine < 100 cc May Favorably Influence Brachytherapy-Related Urinary Morbidity

Purpose: To evaluate the relationship between pretreatment post-void residual urine (PVR) < 100 cc and brachytherapy-related urinary morbidity.

Materials and Methods: 204 patients with a pretreatment PVR underwent permanent prostate brachytherapy with urethral sparing techniques (100-140% mPD). Patients were stratified into pretreatment PVR cohorts ≤ 20 cc, 20-50 cc, and ≥ 50 cc. In all patients, an alpha blocker was initiated prior to implantation and continued until the International Prostate Symptom Score (IPSS) returned to baseline. IPSS resolution was defined as a return to within 1 point of baseline. Clinical, treatment and dosimetric parameters evaluated included pretreatment PVR, patient age, PSA, Gleason score, clinical T-stage, risk group, preimplant IPSS, ultrasound volume, planning volume, isotope, values of the minimum dose received by 90% of the prostate gland (D_{90}), the percent of the prostate volume receiving 100%, 150% and 200% of the prescribed mPD ($V_{100/150/200}$), urethral dose, pretreatment TURP, hypertension, diabetes and tobacco status. Catheter dependency and the need for postsurgical intervention were also evaluated.

Results: In patients with a pretreatment PVR < 106 cc, stratification into PVR cohorts ≤ 20 cc, 20-50 cc, and ≥ 50 cc did not predict for meaningful differences in urinary morbidity. For the entire cohort, the mean time to IPSS resolution was 2.5 months. The urinary catheter was removed on the day of implantation in 171 patients (83.8%) with no patient remaining catheter dependent for > 3 days. In multivariate analysis, pretreatment PVR predicted for clinically irrelevant differences in IPSS resolution and did not influence catheter dependency. To date, no patient has required postimplant surgical intervention.

Conclusions: The selection of patients with a pretreatment PVR urine < 100 cc was associated with rapid IPSS resolution, the absence of prolonged (> 3 day) catheter dependency, and the elimination of post-brachytherapy surgical intervention for bladder outlet obstruction.