AbstractID: 1734 Title: The Impact of Prostate Volume and Neoadjuvant Androgen Deprivation Therapy on Urinary Function Following Prostate Brachytherapy

To evaluate the impact of prostate size and the magnitude of cytoreduction following neoadjuvant androgen deprivation therapy (ADT) on catheter dependency, urinary symptomatology and the need for post-brachytherapy surgical intervention.

186 consecutive patients underwent monotherapeutic brachytherapy, and 101 consecutive patients received ≤ 6 months of ADT in conjunction with brachytherapy without supplemental XRT for prostate cancer. ADT was initiated 3 months prior to brachytherapy. The median follow-up was 38.6 months. An α-blocker was initiated prior to implantation and continued until the International Prostate Symptom Score (IPSS) returned to baseline levels. Evaluated parameters included patient age, pretreatment PSA, Gleason score, clinical T-stage, preimplant I-PSS, ultrasound volume, hormonal status, isotope, D_{90}, $V_{100/150/200}$, and urethral dose.

Patients receiving ADT were older, presented with higher preimplant IPS scores, and had larger prostate volumes. ADT patients were more likely to require a urinary catheter for the first 3 days following implantation; however, by day 4 there was no difference in catheter dependency between the 2 cohorts. Hormonal status did not predict for post-brachytherapy surgical intervention. IPSS returned to baseline at a mean of 1.8 and 1.7 months in hormone naïve and ADT patients, respectively. In multivariate Cox regression analysis, the maximum post-implant I-PSS increase, the ultrasound volume, and dose inhomogeneities (V_{150} or V_{200}) predicted for IPSS normalization in both cohorts. In hormone naïve patients, any need for a urinary catheter following brachytherapy also predicted for IPSS normalization. Prostate volume did not predict for catheter dependency or the need for post-implant surgical intervention.