AbstractID: 1673 Title: Permanent Interstitial Brachytherapy in Younger Patients with Clinically Organ-Confined Prostate Cancer

This work evaluated biochemical progression-free survival in hormone-naïve men ≤ 62 years of age with prostate cancer who underwent brachytherapy with or without supplemental external beam radiation therapy (XRT).

From April 1995 through December 2000, 119 hormone-naïve patients ≤ 62 years of age underwent permanent interstitial brachytherapy for clinical T1b-T2c NxM0 prostate cancer. The median follow-up was 4.7 years (range 2.6 – 8.3 years). Biochemical progression-free survival was defined by either a PSA ≤ 0.4 ng/mL after a nadir or by the ASTRO consensus definition. No patient was lost to follow-up. Clinical, treatment and dosimetric parameters evaluated for biochemical progression-free survival included age, clinical T-stage, Gleason score, pretreatment PSA, risk group, percent positive biopsies, isotope, supplemental XRT, prostate volume, brachytherapy planning volume, the percent of the target volume receiving 100%, 150%, and 200% of the prescribed dose ($V_{100/150/200}$), the minimum percent of the prescribed dose covering 90% of the target volume (D_{90}), and tobacco status.

Actuarial 7-year biochemical progression-free survival was 96.1% and 98.3% for a PSA cutpoint ≤ 0.4 ng/mL or the ASTRO consensus definition, respectively. Using a PSA biochemical control definition of ≤ 0.4 ng/mL, 94.6%, 100%, and 93.8% of low, intermediate and high risk hormone-naïve patients remain free of biochemical progression. The median post-treatment prostate specific antigen (PSA) for the entire group was < 0.1 ng/mL. In multivariate analysis, only pretreatment PSA predicted biochemical outcome.