

AbstractID: 1704 Title: Effect of neoadjuvant androgen deprivation therapy on PSA kinetics following permanent prostate brachytherapy with or without supplemental external beam radiation

To evaluate the effect of neoadjuvant androgen deprivation therapy on PSA kinetics following brachytherapy with or without supplemental XRT, to evaluate the magnitude and duration of the peak PSA and to compare potential differences in PSA response curves between biochemically disease-free and failed patients in terms of ASTRO and Houston definitions of biochemical disease-free survival.

From November 1995 through August 2000, 179 consecutive patients with clinical T1b-T3a NxM0 (2002 AJCC) prostate cancer received neoadjuvant androgen deprivation therapy (median 4 months) prior to brachytherapy using Pd-103 or I-125 with or without supplemental XRT. The median follow-up was 56 months. Following brachytherapy, PSA determinations were obtained at 3 months and then every 6 months thereafter. A median and mean of 9 and 9.5 PSA determinations were obtained per patient.

Although a trend for higher baseline and peak PSA was noted in I-125 monotherapy patients, the difference between the 4 groups was not statistically significant ($p = 0.088$). Changes in PSA over time, however, were statistically significant ($p = 0.042$). For all 4 groups, the peak PSA occurred approximately 15 – 21 months following brachytherapy. For biochemically disease-free patients, the median PSA increase above nadir was 0.1 ng/mL, and the median number of consecutive rises in PSA was 1. Using the ASTRO and Houston definitions, only 2.3% and 0.6% of patients would have been inadvertently scored as failures.