

AbstractID: 1775 Title: Prognostic Significance of Percent Positive Biopsies in Prostate Cancer Treated with Permanent Brachytherapy with or without Supplemental External Beam Radiation

To evaluate the relationship between percent positive biopsies and biochemical outcome in hormone naïve patients undergoing permanent prostate brachytherapy with or without supplemental external beam radiation therapy.

413 hormone naïve patients underwent prostate brachytherapy for clinical T1c-T2b NxM0 adenocarcinoma of the prostate gland. The median patient age was 66.9 years with a median pretreatment PSA of 6.8 ng/mL. The median follow-up was 52 months. Patients were stratified by percent positive biopsies into the following cohorts: < 34%, 34-50%, and > 50%. The influence of percent positive biopsies, patient age, clinical T-stage, Gleason score, pretreatment PSA, risk group, prostate volume, supplemental XRT, isotope, the percent of the prescribed dose covering 90% of the target volume (D_{90}), and the volume receiving 100%, 150%, and 200% of the prescribed dose ($V_{100/150/200}$) were evaluated.

For all 413 patients, the 7-year actuarial freedom from biochemical progression rate was 99.4%, 94.3%, and 89.2% when stratified by percent positive biopsies < 34%, 34-50%, and > 50%, respectively. When low, intermediate, and high risk patients were stratified by percent positive biopsies, a nonsignificant trend for increased biochemical progression was noted with increasing positive biopsies. In multivariate analysis, percent positive biopsies and pretreatment PSA were the only significant predictors of biochemical outcome. The median post-implant PSA for all biochemically disease-free patients was < 0.1 ng/mL regardless of risk group or percent positive biopsy cohort.