

Clinical Significance of Neoadjuvant Combined Androgen Blockade Before I-125 Prostate Brachytherapy in Patients with Localized Prostate Cancer

Introduction and Objective: To evaluate the synergistic effect of neoadjuvant combined androgen blockade (CAB) before prostate brachytherapy, we retrospectively evaluated clinical outcomes in patients with localized prostate cancer who received ¹²⁵I brachytherapy with or without neoadjuvant CAB.

Materials and Methods: From July 2003 to March 2009, consecutive patients with 119 low-risk, 114 intermediate-risk and 42 high-risk prostate cancers, which was defined by the D'Amico risk classification, were treated using ¹²⁵I permanent prostate brachytherapy with or without neoadjuvant CAB for six months. The patients treated with combined external beam radiation were excluded from this study. Mean duration of follow-up after brachytherapy was 53.3 months (range, 24-80 months).

Results: A total of 121 patients were treated with brachytherapy monotherapy, and 154 patients were treated with neoadjuvant CAB for at least 6 months before brachytherapy. Biochemical relapse free rates in patients with low-, intermediate-, and high-risk prostate cancer were 99.0 %, 91.7 %, and 83.3 %, respectively. There was no significant difference in biochemical relapse free rates between hormone naive and neoadjuvant CAB for 6 months before seed implantation (93.5 % vs. 93.1 %, $p=0.793$). Neoadjuvant CAB had no significant impact on biochemical relapse free rates in patients with low-, intermediate-, and high-risk prostate cancer. Only in patients with intermediate-risk prostate cancer which the dose delivered to 90% of the prostate gland (D90) was less than 160 Gy, there was a significant difference in biochemical relapse free rates between brachytherapy monotherapy and brachytherapy with neoadjuvant CAB ($p=0.039$).

Conclusion: Neoadjuvant CAB for 6 months had no significant impact on biochemical relapse-free rates in patients with localized prostate cancer. Only in patients with intermediate-risk prostate cancer, in which D90 was less than 160 Gy, neoadjuvant CAB had favorable impact on biochemical relapse free rates.