Oncologic Outcomes of Definitive Treatments for Low- and Intermediate-Risk Prostate Cancer After a Period of Active Surveillance.

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BACKGROUND: To compare oncologic outcomes of different definitive treatment (DT) modalities in a cohort of patients with prostate cancer (PCa) after active surveillance (AS).

METHODS: We identified 237 patients with National Comprehensive Cancer Network (NCCN) low- and intermediate-risk prostate cancer diagnosed from 1990 to 2012 who did not undergo immediate DT within 12 months of diagnosis (ie, AS patients as well as watchful waiting and those refusing DT). Charts were examined for clinical/pathologic data and type of DT: surgery (RP), radiation including brachytherapy (XRT), cryotherapy, and androgen deprivation therapy monotherapy (ADT). The impact of DT on oncologic outcomes of biochemical recurrence (BCR), metastasis, disease-specific (DSS), and overall survival (OS) was examined with the Cox proportional hazards model, along with the Kaplan-Meier method and log-rank test.

RESULTS: After median time on AS of 63.4 months, 40% of patients underwent DT: 47% XRT, 28% RP, 14% ADT, and 11% cryotherapy. On multivariable analysis, the use of XRT predicted higher BCR (hazard ratio [HR] 6.1, P = .001) and worse overall mortality (HR 2.1, P = .03) compared with other treatments, controlling for age, Charlson Comorbidity Index (CCI), stage, Gleason score, and NCCN risk category. Median follow-up was 71.7 months. On Kaplan-Meier analysis, 10-year OS was superior for RP versus XRT among patients with prostatic specific antigen (PSA) velocity >2.0 ng/mL/y.

CONCLUSIONS: Low- and intermediate-risk patients with PCa who progress to DT after AS may be inadequately treated with radiation therapy compared with other DT modalities, especially when pretreatment PSA velocity is > 2 ng/mL/y.

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KEYWORDS: Active surveillance; Definitive treatment; Outcomes; PSA velocity; Prostate cancer

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