Predictive factor analysis as the basis for the clinical utility of percent positive prostate biopsies in patients with intermediate-risk prostate cancer.

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Abstract

OBJECTIVES: To define the clinical reason for the further refinement of stratification of prostate-specific antigen (PSA) outcome using percent positive prostate biopsies in intermediate-risk patients.

METHODS: A chi-square metric was used to compare the distribution of pretreatment clinical and post-treatment pathologic factors for patients with intermediate-risk prostate cancer with 50% or less versus greater than 50% positive prostate biopsies. The PSA outcome stratified by the percent positive biopsies was calculated according to the Kaplan-Meier actuarial method. Comparisons of actuarial PSA failure-free survival were performed using the log-rank test.

RESULTS: The group with greater than 50% positive biopsies for prostate cancer had a significantly higher proportion of patients with pretreatment PSA values greater than 10 to 20 ng/mL (P = 0.01), biopsy Gleason score 4+3 (P = 0.05), and 1992 American Joint Committee on Cancer clinical category T2b (P = 0.01) than did the group with less than 50% positive biopsies. The group with greater than 50% positive biopsies also had a significantly higher proportion of patients with prostatectomy Gleason score 4+3 or higher (P = 0.001), pathologic Stage T3b (P <0.0001), and rate of positive surgical margins (P = 0.002) than did the group of patients with less than 50% positive biopsies.

CONCLUSIONS: The results of this study provide an explanation on the basis of the pretreatment and post-treatment predictive factors for the difference in PSA outcome for intermediate-risk patients when stratified by the percent positive biopsies.

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