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Abstract

OBJECTIVES: To assess the prognostic significance of a positive surgical margin in the radical prostatectomy specimen, and to test for the presence of statistically significant interactions between surgical margin status and select pathologic stage variables.

METHODS: We combined prospectively collected data from 7816 consecutive patients treated with radical prostatectomy at eight institutions. The pretreatment serum prostate-specific antigen level, pathologic Gleason sum, surgical margin status (positive versus negative), presence of extracapsular extension, seminal vesicle involvement, and pelvic lymph node status were examined as predictors of the rate of biochemical progression in 5831 patients with complete records.

RESULTS: In multivariate Cox regression models, a positive surgical margin was associated with a 3.7-fold greater risk of progression (P = 0.001). Moreover, a statistically significant interaction was found between surgical margin status and Gleason sum 7 to 10 (P = 0.008) and lymph node invasion (P < 0.001).

CONCLUSIONS: The presence of a positive surgical margin in the radical prostatectomy specimen has an adverse effect on prognosis. The greatest risk of biochemical recurrence may be expected if a positive surgical margin is present with Gleason sum 7 to 10 disease or lymph node invasion.

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