Ability of linear length of positive margin in radical prostatectomy specimens to predict biochemical recurrence.

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Abstract

OBJECTIVES: To determine whether the linear length of a positive margin (LLPM) in radical prostatectomy specimens is associated with the risk of biochemical recurrence (BCR).

METHODS: A total of 294 patients with a positive margin in the radical prostatectomy specimen were assessed for the association between the LLPM and BCR (defined as a serum prostate-specific antigen level of ≥0.2 ng/mL) using a Cox proportional hazards regression model. The concordance index on multivariate analysis was calculated without the LLPM, with LLPM as a continuous variable, and with the LLPM as a binary variable (≤1 mm vs >1 mm).

RESULTS: The mean LLPM was 3.90 mm (median 2.0, range 0.1-30.5). The LLPM was an independent prognostic factor for BCR (P < .05) on both univariate and multivariate analysis. The concordance index was 0.6802 when the LLPM was not included and was 0.6865 and 0.7189 when the latter was modeled as a binary and continuous variable, respectively. When the patients were stratified according to their pathologic stage, the LLPM was an independent prognostic factor for BCR in the 185 patients with Stage pT2 tumors but not in the 109 patients with Stage pT3 tumors.

CONCLUSIONS: The LLPM in the radical prostatectomy specimen was an independent predictive factor for BCR in patients with a positive margin. This association was stronger for Stage pT2 tumors with a positive margin. Reporting the actual LLPM could improve the predictive accuracy of BCR in patients whose radical prostatectomies had positive margins. We advocate reporting LLPM in radical prostatectomy, particularly for pT2 tumors.

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