Tumor Volume Adds Prognostic Value in Patients with Organ-Confined Prostate Cancer.

Kim KH, Lim SK, Shin TY, Kang DR, Han WK, Chung BH, Rha KH, Hong SJ.

Department of Urology, Urological Science Institute, Yonsei University College of Medicine, Seoul, Korea.

Abstract

PURPOSE: This study was designed to assess the independent prognostic value of tumor volume (TV) and whether adding TV provides additional prognostic information for predicting biochemical recurrence (BCR) after radical prostatectomy.

METHODS: We reviewed the medical records of 1,129 patients who underwent radical prostatectomy between July 2005 and July 2011. TV was categorized as minimal (≤1.0 ml), moderate (1.1-5.0 ml), or extensive (>5.0 ml). Cox regression analysis was performed to identify independent predictors of BCR. The predictive accuracies of Cox's proportional hazard regression models with and without TV were quantified and compared using time-dependent receiver operating characteristic curve analysis.

RESULTS: Increasing TV was associated with higher prostate specific antigen, pathological Gleason score, and pathologic tumor stage. TV was an independent predictor of BCR in multivariate analysis (p < 0.001). When patients were stratified by organ-confined and nonorgan-confined tumor groups, TV remained an independent predictor of BCR in organ-confined tumors (p < 0.001). In the nonorgan-confined tumor group, a significant difference was found only between extensive versus minimal TV (p = 0.023). The predictive accuracy of the Cox regression model increased significantly by adding TV in organ-confined tumor group (0.748 vs. 0.704, p < 0.05) but not in nonorgan-confined group (0.742 vs. 0.734, p > 0.05).

CONCLUSIONS: TV was an independent prognostic predictor of BCR in organ-confined prostate cancers and provided additional prognostic information with increased predictive accuracy. In contrast, TV did not increase the predictive accuracy in nonorgan-confined tumor. TV should be considered as a prognosticator in organ-confined tumors.

PMID: 23720069 [PubMed - as supplied by publisher]