Is tumor volume an independent predictor of progression following radical prostatectomy? A multivariate analysis of 185 clinical stage B adenocarcinomas of the prostate with 5 years of followup.

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Abstract

Tumor volume has been shown to be proportionate to Gleason grade, capsular penetration, seminal vesicle invasion, lymph node metastases and capsular margins of resection. Because these variables are often interrelated, it is crucial to determine which of these parameters provides independent prediction of prognosis in prostate cancer. The current study analyzed 185 men who underwent radial retropubic prostatectomy for clinical stage B adenocarcinoma of the prostate. Patients with seminal vesicle invasion or lymph node metastases were excluded, since these findings are almost invariably associated with progression. All patients were followed for a minimum of 5 years after radical prostatectomy. Only 2 men received postoperative adjuvant therapy. At 5 years after radical prostatectomy 58 men (31%) experienced progression, defined by either an elevated postoperative serum prostate specific antigen level, local recurrence or distant metastases. Although by themselves capsular penetration, tumor volume and per cent of the prostate involved by tumor predicted progression, in a stepwise regression analysis they did not provide independent prognostic information. In this multivariate analysis Gleason score was the best predictor of progression (p < 0.0001); surgical margin was the only other variable that enhanced prediction, although it was less influential than grade (p = 0.018). This strong predictability provided by Gleason score was all the more impressive given the relatively few patients in our study with either low or high grade tumor. Although an accurate preoperative assessment of tumor volume remains desirable for the management of patients with prostate cancer, our study demonstrates that measurement of tumor volume in radical prostatectomy specimens need not be performed as part of the routine pathological analysis of radical prostatectomy specimens, since it does not provide additional information beyond that of Gleason score and the status of capsular margins.

Comment in

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