Salvage radiotherapy for isolated prostate specific antigen increase after radical prostatectomy: evaluation of prognostic factors and creation of a prognostic scoring system.


Abstract

PURPOSE: This study was performed to evaluate the results and prognostic factors associated with radiotherapy for a detectable serum prostate specific antigen level after radical prostatectomy.

MATERIALS AND METHODS: From July 1987 through July 2003, 368 patients received radiotherapy for a detectable prostate specific antigen level (biochemical relapse) as the sole evidence of recurrence after radical prostatectomy for node negative prostate cancer. Estimated survival and relapse-free probabilities were obtained via Kaplan-Meier estimation. Associations of patient factors with survival and biochemical relapse were investigated using Cox proportional hazards models.

RESULTS: With a median followup of 5 years the 5 and 8-year freedom from biochemical relapse were an estimated 46% (95% CI 41%-53%) and 35% (95% CI 29%-43%) while survival was 92% (95% CI 89%-95%) and 80% (95% CI 74%-87%), respectively. Patient and treatment variables showing evidence of association with biochemical relapse on multivariate analysis included pathological stage T3a or less vs T3b (seminal vesicle involvement, p = 0.029), pathological Gleason score 7 or less vs 8 or greater (p <0.001) and pre-radiotherapy prostate specific antigen (p <0.001). Four biochemical failure risk groups were created by assigning seminal vesicle involvement, Gleason score and pre-radiotherapy prostate specific antigen each a score of 0 to 2. These individual scores were summed. The freedom from biochemical failure at 5 years for each risk group was 0 to 1-69%, 2-53%, 3-26% and 4 to 5-6%.

CONCLUSIONS: The presence of seminal vesicle involvement and high Gleason score in the radical prostatectomy specimen are inherent predictors of adverse outcome. Early referral for salvage radiotherapy can decrease subsequent biochemical relapse.

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