A nomogram predicting 10-year life expectancy in candidates for radical prostatectomy or radiotherapy for prostate cancer.


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Abstract

PURPOSE: Candidates for definitive therapy for localized prostate cancer (PCa) should have life expectancy (LE) in excess of 10 years. However, LE estimation is difficult. To circumvent this problem, we developed a nomogram predicting 10-year LE for patients treated with either radical prostatectomy (RP) or external-beam radiation therapy (EBRT) and compared it with an existing tool.

PATIENTS AND METHODS: Between 1989 and 2000, 9,131 men were treated with either RP (n = 5,955) or EBRT (n = 3,176), without any secondary therapy and all deaths were considered unrelated to PCa. Age and Charlson comorbidity index (CCI) predicted 10-year LE in Cox regression models. We used 200 bootstrap resamples to internally validate the nomogram.

RESULTS: Median age was 66 years, median CCI was 1, median follow-up was 5.9 years and median actuarial survival was 13.8 years. Advanced age (P < .001), elevated CCI score (P < .001) and treatment type (EBRT v RP, P < .001) were independent predictors of poor 10 year LE. The nomogram predicting 10 year LE after either RP or EBRT was 84.3% accurate in split sample validation and was 2.9% (P = .007) more accurate than the existing tool. A cutoff of 70% or less was 84% accurate in identifying men who did not survive beyond 10 years.

CONCLUSION: Our nomogram can accurately identify those individuals who do not have sufficient LE to warrant definitive PCa treatment and can help optimizing therapy decision-making.

Comment in

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PMID: 17704404 [PubMed - indexed for MEDLINE]