Mortality after radical prostatectomy or external beam radiotherapy for localized prostate cancer.


Vanderbilt University Medical Center, 2525 W End Ave, Ste 600, Nashville, TN 37203-1738. david.penson@vanderbilt.edu.

Abstract

Background No randomized trials have compared survival outcomes for men with localized prostate cancer (PC) being treated with radical prostatectomy (RP) or external beam radiotherapy (EBRT). The goal of the study, therefore, was to estimate the association of RP (compared with EBRT) with overall and PC mortality. Methods We analyzed an observational cohort from the population-based Prostate Cancer Outcomes Study, which included men aged 55 to 74 years diagnosed with localized PC between October 1994 and October 1995 who underwent either RP (n = 1164) or EBRT (n = 491) within 1 year of diagnosis. Patients were followed until death or study end (December 31, 2010). Overall and disease-specific mortality were assessed with multivariable survival analysis, with propensity scores to adjust for potential treatment selection confounders (demographics, comorbidities, and tumor characteristics). All statistical tests were two-sided. Results After 15 years of follow-up, there were 568 deaths, including 104 from PC. RP was associated with statistically significant advantages for overall (hazard ratio [HR] = 0.60, 95% confidence interval [CI] = 0.53 to 0.70, P < .0001.) and disease-specific mortality (HR = 0.35, 95% CI = 0.26 to 0.49, P < .0001.). Mortality benefits for RP were also observed within treatment propensity quintiles, when subjects were pair-matched on propensity scores, and in subgroup analyses based on age, tumor characteristics, and comorbidity. Conclusions Population-based observational data on men diagnosed with localized PC in the mid-1990s suggest a mortality benefit associated with RP vs EBRT. Possible explanations include residual selection bias or a true survival advantage. Results might be less applicable for men facing treatment decisions today.