Survival after Conservative Management Versus External Beam Radiotherapy in Elderly Patients with Localized Prostate Cancer


Abstract

Purpose
Aging population and improvement of life expectancy lead to an increase in the proportion of patients aged 80 or more with prostate cancer (PCa). Few data exist on the management of these patients. In this study we compared survival in elderly men with clinically localized PCa treated with either RT or observation between 1991 and 2009. Competing risks analyses focused on cancer specific mortality (CSM), mortality (OCM), and other cause mortality (OCM), after accounting for confounders. All analyses were repeated after stratification according to grade (well-differentiated vs. moderately differentiated vs. poorly differentiated disease), race, United States regions, in patients with no comorbidities and in patients with at least one comorbidity. Analyses were repeated within most contemporary patients, namely those treated between 2001 and 2009.

Methods and Materials
In Surveillance Epidemiology and End Results (SEER)-Medicare-linked database, we identified 23,790 patients aged 80 years or more with prostate cancer (PCa). Few data exist on the management of these patients. In this study we compared survival in elderly men with clinically localized PCa treated with either RT or observation between 1991 and 2009. Competing risks analyses focused on cancer specific mortality (CSM) and other cause mortality (OCM), after accounting for confounders. All analyses were repeated after stratification according to grade (well-differentiated vs. moderately differentiated vs. poorly differentiated disease), race, United States regions, in patients with no comorbidities and in patients with at least one comorbidity. Analyses were repeated within most contemporary patients, namely those treated between 2001 and 2009.

Results
RT was associated with more favorable CSM rates than observation in patients with moderately differentiated disease (HR: 0.79; 95% CI:0.66-0.94; p=0.009) and in patients with poorly differentiated disease (HR: 0.58; 95% CI:0.49-0.69; p<0.001). Conversely, the benefit of RT was not observed in well-differentiated disease. The benefit of RT was confirmed in black men (HR: 0.54; 95% CI:0.35-0.83; p=0.004), across all United States regions (all p<0.004), in the subgroups of highest health (HR: 0.67; 95% CI:0.57-0.78; p<0.001), in patients with at least one comorbidity (HR: 0.69; 95% CI: 0.56-0.83; p<0.001) and in most contemporary patients (HR: 0.55; 95% CI:0.46-0.66; p<0.001).

Conclusion
RT seems to be associated with a reduction in the risk of death from PCa relative to observation in elderly patients with clinically localized PCa, except for those with well-differentiated disease.

Keywords:
Conservative management, elderly patients, external beam radiotherapy, prostate cancer, SEER-Medicare

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