Radical Prostatectomy or External Beam Radiation Therapy vs No Local Therapy for Survival Benefit in Metastatic Prostate Cancer: A SEER-Medicare Analysis.

Satkunasivam R¹, Kim AE², Desai M³, Nguyen MM³, Quinn DI⁴, Ballas L⁵, Lewinger JP², Stern MC², Hamilton AS², Aron M³, Gill IS³.

Abstract

PURPOSE: We assessed survival after radical prostatectomy, intensity modulated radiation therapy or conformal radiation therapy vs no local therapy for metastatic prostate cancer adjusting for patient comorbidity, androgen deprivation therapy and other factors.

MATERIALS AND METHODS: We identified men 66 years old or older with metastatic prostate cancer treated with radical prostatectomy, intensity modulated radiation therapy, conformal radiation therapy or no local therapy in the SEER-Medicare linked database from 2004 to 2009. Multivariable Cox proportional hazards models before and after inverse propensity score weighting were used to assess all cause and prostate cancer specific mortality. Competing risk regression analysis was done to assess prostate cancer specific mortality.

RESULTS: Of 4,069 men with metastatic prostate cancer radical prostatectomy in 47, intensity modulated radiation therapy in 88 and conformal radiation therapy in 107 were selected as local therapy vs no local therapy in 3,827. Radical prostatectomy was associated with a 52% decrease (HR 0.48, 95% CI 0.27-0.85) in the risk of prostate cancer specific mortality after adjusting for sociodemographics, primary tumor characteristics, comorbidity, androgen deprivation therapy and bone radiation within 6 months of diagnosis. Intensity modulated radiation therapy was associated with a 62% decrease (HR 0.38, 95% CI 0.24-0.61) in the risk of prostate specific cancer specific mortality. Conformal radiation therapy was not associated with improved survival compared to no local therapy. Propensity score weighting yielded comparable results. Competing risk analysis revealed a 42% and 57% decrease (SHR 0.58, 95% CI 0.35-0.95 and SHR 0.43, 95% CI 0.27-0.68, respectively) in the risk of prostate cancer specific mortality for radical prostatectomy and intensity modulated radiation therapy.

CONCLUSIONS: Local therapy with radical prostatectomy and intensity modulated radiation therapy but not with conformal radiation therapy was associated with a survival benefit in men with metastatic prostate cancer. This finding warrants prospective evaluation in clinical trials.

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KEYWORDS: SEER program; intensity-modulated; mortality; prostatectomy; prostatic neoplasms; radiotherapy

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