Association Between Choice of Radical Prostatectomy, External Beam Radiotherapy, Brachytherapy, or Active Surveillance and Patient-Reported Quality of Life Among Men With Localized Prostate Cancer.


Abstract

IMPORTANCE: Patients diagnosed with localized prostate cancer have to decide among treatment strategies that may differ in their likelihood of adverse effects.

OBJECTIVE: To compare quality of life (QOL) after radical prostatectomy, external beam radiotherapy, and brachytherapy vs active surveillance.

DESIGN, SETTING, AND PARTICIPANTS: Population-based prospective cohort of 1141 men (57% participation among eligible men) with newly diagnosed prostate cancer were enrolled from January 2011 through June 2013 in collaboration with the North Carolina Central Cancer Registry. Median time from diagnosis to enrollment was 5 weeks, and all men were enrolled with written informed consent prior to treatment. Final follow-up date for current analysis was September 9, 2015.

EXPOSURES: Treatment with radical prostatectomy, external beam radiotherapy, brachytherapy, or active surveillance.

MAIN OUTCOMES AND MEASURES: Quality of life using the validated instrument Prostate Cancer Symptom Indices was assessed at baseline (pretreatment) and 3, 12, and 24 months after treatment. The instrument contains 4 domains-sexual dysfunction, urinary obstruction and irritation, urinary incontinence, and bowel problems-each scored from 0 (no dysfunction) to 100 (maximum dysfunction). Propensity-weighted mean domain scores were compared between each treatment group vs active surveillance at each time point.

RESULTS: Of 1141 enrolled men, 314 pursued active surveillance (27.5%), 469 radical prostatectomy (41.1%), 249 external beam radiotherapy (21.8%), and 109 brachytherapy (9.6%). After propensity weighting, median age was 66 to 67 years across groups, and 77% to 80% of participants were white. Across groups, propensity-weighted mean baseline scores were 41.8 to 46.4 for sexual dysfunction, 20.8 to 22.8 for urinary obstruction and irritation, 9.7 to 10.5 for urinary incontinence, and 5.7 to 6.1 for bowel problems. Compared with active surveillance, mean sexual dysfunction scores worsened by 3 months for patients who received...
radical prostatectomy (36.2 [95% CI, 30.4-42.0]), external beam radiotherapy (13.9 [95% CI, 6.7-21.2]), and brachytherapy (17.1 [95% CI, 7.8-26.6]). Compared with active surveillance at 3 months, worsened urinary incontinence was associated with radical prostatectomy (33.6 [95% CI, 27.8-39.2]); acute worsening of urinary obstruction and irritation with external beam radiotherapy (11.7 [95% CI, 8.7-14.8]) and brachytherapy (20.5 [95% CI, 15.1-25.9]); and worsened bowel symptoms with external beam radiotherapy (4.9 [95% CI, 2.4-7.4]). By 24 months, mean scores between treatment groups vs active surveillance were not significantly different in most domains.

CONCLUSIONS AND RELEVANCE: In this cohort of men with localized prostate cancer, each treatment strategy was associated with distinct patterns of adverse effects over 2 years. These findings can be used to promote treatment decisions that incorporate individual preferences.

Comment in
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