# Active surveillance for low-risk prostate cancer may offer better quality-of-life

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In a study that compared initial treatment strategies for low-risk prostate cancer among men 65 years old, active surveillance showed higher measures on quality of life compared to an initial treatment such as radical prostatectomy, although the optimal strategy was highly dependent on individual patient preferences for surveillance or treatment, according to a study in the December 1 issue of *JAMA*.

In 2009, 192,000 men were diagnosed as having prostate cancer in the United States. Of these men, 70 percent will have been classified as having low-risk, clinically localized disease, and more than 90 percent will have undergone initial treatment, although up to 60 percent of men diagnosed as having prostate cancer may not require therapy. "Initial treatment choices include surgical resection [removal] or radiation therapy. The majority of men experience at least 1 adverse effect of treatment," according to background information in the article. Active surveillance is a strategy of close monitoring for carefully selected patients with low-risk prostate cancer, with the intent being to avert treatment unless disease progression occurs or a patient chooses treatment.

Julia H. Hayes, M.D., of the Dana-Farber Cancer Institute, Harvard Medical School, Boston, and colleagues examined the quality-of-life benefits and risks of active surveillance compared with initial treatment for men with low-risk, clinically localized prostate cancer. In the study, which used a simulation model, men were treated at diagnosis with brachytherapy (internal radiation therapy), intensity-modulated radiation

therapy (IMRT), or radical prostatectomy or followed up by active surveillance (a strategy of close monitoring of newly diagnosed patients with certain prostate-specific antigen measurements, digital rectal examinations, and biopsies, with treatment at disease progression or patient choice). Probabilities were derived from previous studies and literature review.

The researchers found that in men 65 years old, active surveillance, with IMRT for progression, was the most effective strategy (defined as the strategy associated with the highest quality-adjusted life expectancy [QALE], producing 11.07 quality-adjusted life-years [QALYs; a higher QALY reflects a year of life in a preferred health state]). "Brachytherapy and IMRT were less effective at 10.57 and 10.51 QALYs, respectively. Radical prostatectomy was the least effective treatment, yielding 10.23 QALYs. The difference between the most and least effective initial treatment was 0.34 QALYs, or 4.1 months of QALE. In contrast, active surveillance provided 6.0 additional months of QALE compared with brachytherapy, the most effective initial treatment," the authors write.

The researchers also conducted an analysis to identify how much greater the risk of prostate cancer-specific death would have to be under active surveillance compared with initial treatment for the 2 approaches to be associated with equal QALE. "For QALE to be equal, 15 percent of men undergoing active surveillance would have to die of prostate cancer as opposed to 9 percent who received initial treatment, a lifetime relative risk of death of 0.6 for initial treatment vs. surveillance."

The authors note that the QALE gains and the optimal strategy were highly dependent on individual preferences for living under active surveillance and for having been treated.

"The quality-of-life advantage associated with active surveillance is

robust in this model of treatment alternatives for men with clinically localized, low-risk prostate cancer. This benefit reflects the deferred and substantially lower incidence of adverse effects of treatment experienced by men under active surveillance. Active surveillance is associated with significant improvements in QALE even in analyses in which the probability of dying of prostate cancer or of developing progressive disease during active surveillance is increased. However, the finding that the optimal strategy is sensitive to utility weights [weight assigned to an individual's preference for a particular health state] is evidence that the decision whether to pursue active surveillance must be individualized. Models that incorporate individual patient utilities should be developed to assist patients and their caregivers to estimate the risks and potential benefits of active surveillance before making this decision," the authors conclude.

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