Increased radiation dose does not increase long-term side effects for prostate cancer patients

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Boosting the radiation dose given to prostate cancer patients to a level that cut tumor recurrence in half did not increase the severity of side effects reported by patients up to a decade later. The study led by Massachusetts General Hospital (MGH) Cancer Center researchers also found that patients characterized the impact of continuing side effects on their quality of life as considerably less bothersome than would be expected, based on earlier studies. The article appears in the March 17 cancer issue of the *Journal of the American Medical Association*.

"A surprising number of men who reported symptoms that had bothered other patients surveyed before or soon after prostate cancer treatment described their current symptoms as normal," says James Talcott, MD, SM, of the Center for Outcomes Research at the MGH Cancer Center, who led the study. "If this result is seen in other groups, it may alter how we describe the long-term impact that patients should expect on their quality of life."

The current study is based on a survey of participants in trial conducted in the late 1990s at MGH and at the Loma Linda University Medical Center in California. That study compared the results of two different radiation doses for treatment of early-state prostate cancer. All participants received an equal dose of conventional X-ray therapy and a booster dose of proton therapy that brought the total dose to either the then-standard level of 70 Gy or to 79 Gy, which is now the usual dosage

for similar tumors. Proton therapy reduces the amount of radiation delivered to normal tissues in front of and behind a tumor, and the X-ray therapy was also given in a way to minimize the irradiation of normal tissues.

The earlier study showed that, five years after treatment, the higher radiation dose had reduced tumor recurrence by about half, a benefit that persisted up to nine years after treatment. Participants' physicians reported similarly low rates of treatment-related toxicity in both groups, but the patients themselves had not been asked about their post-treatment experiences.

The current investigation was designed to study participants' reports of their experiences, considered to be the most accurate measure of side effects. The researchers sent all surviving participants a questionnaire that included standardized assessments of the urinary, bowel and sexual symptoms usually affected by prostate cancer treatment. Separate from the specific symptom assessment, participants were asked to rank their function in those areas as normal, intermediate or poor. They also were surveyed about their attitudes regarding their current health, their cancer and the treatment decisions they had made.

Survey questionnaires were returned by 280 of the original 398 study participants, evenly divided between the standard- and high-dose groups. Both groups reported similarly low levels of treatment side effects and quality of life problems. Patients in the standard-dose group - who had greater incidence of tumor recurrence, often requiring additional therapies - expressed less confidence that their tumors were under control and more regret about their treatment choice, which in this case was to enroll in the randomized trial. Participants' overall ranking of the urinary, bowel and sexual functions was often better that would be expected based on the symptoms they reported.

"The assessment we used includes scales that ask patients how bothered or distressed they are by each symptom," Talcott explains. "In earlier work, Wwe matched reported the symptom levels they reported to how much those symptoms had bothered other patients we surveyed before or soon after treatment in previous studies. If no symptoms were at a level that caused distress, that function would be considered normal. If a patient reported one symptom that usually caused high levels of distress, that function would be ranked as poor. Everyone else - those who reported any moderately distressing symptoms but no highly distressing ones - was ranked as intermediate."

More than half of the participants in the current study whose function would be categorized as intermediate actually ranked that function as normal. Similarly about 20 percent of those who would be categorized as poor in terms of urinary irritation or obstruction ranked that function as normal, as did around 40 percent of those rated poor for bowel problems.

"Symptoms that seem to bother other patients early in the course of their prostate cancer were regarded as normal by these patients nearly a decade after treatment," Talcott says. "As clinicians, we know that patients adapt to their situation and accept physical changes as the 'new normal.' When talking with prostate cancer patients, I've been surprised when, for example, a patient in his late 60s who became impotent two or three years after treatment would comment, 'Well, it would have happened anyway to a man my age.'

"While these results need to be confirmed, since this is just one study," he continues, "it's looking as if we should tell patients that treatment side effects probably will bother them less than they originally fear because they are likely to adjust and experience less distress over time. We also may need to rethink our standard measures of treatment outcomes, which assume that the impact of symptoms on patients' quality of life

does not change over time. While that may be true for pain, it doesn't seem to be true for these sorts of symptoms." Talcott is an associate professor of Medicine at Harvard Medical School.

Provided by Massachusetts General Hospital

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