

Radiation after prostate removal is costeffective, but less likely to be recommended by urologists

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Receiving radiation therapy immediately after a radical prostatectomy is a cost-effective treatment for prostate cancer patients when compared with waiting and acting on elevated prostate-specific antigen (PSA) levels, according to a new study by researchers at Thomas Jefferson University and Hospital.

What's more, a separate, but related study, found that urologists were less likely than radiation oncologists to recommend adjuvant <u>radiation</u> <u>therapy</u> or to believe it improves overall survival.

There has been question over whether administering adjuvant radiation therapy after removing the prostate is an appropriate course of action because of associated toxicities, risk of overtreatment and costs, even with data supporting its benefits to overall survival, but a new decision analysis published online in the <u>Annals of Oncology</u> on June 9 found that the procedure is a practical option for patients.

"This work demonstrates that adjuvant radiation therapy is a costeffective strategy for selected patients after prostatectomy," said Laura Pizzi, PharmD, associate professor at the Jefferson School of Pharmacy, and senior author of the study. "It is typical for cancer treatments to provide <u>clinical benefit</u> at a cost; however, the cost per success that we reported for adjuvant radiation therapy is on the low end when one broadly considers the cost per success reported for other cancer



treatments."

The objective of the study was to construct a decision analytic model to estimate the real world cost of adjuvant radiation therapy versus observation from the payers' perspective, using peer-reviewed, published data from a Southwest Oncology Group prospective, randomized trial. Side effects, overtreatment and the <u>price tag</u> were taken into account.

Nearly one-third of newly diagnosed men with prostate cancer—almost 220,000 men were diagnosed in 2010—undergo radical prostatectomy. Previous studies have shown that adjuvant radiation therapy improves biochemical progression-free survival and overall survival for these patients; however, most do not receive the treatment.

"Despite being shown to be effective, less than 20 percent of qualifying patients receive it," said Timothy Showalter, M.D., assistant professor of Radiation Oncology at Thomas Jefferson University, associate research member of the Kimmel Cancer Center at Jefferson, and lead author of the study. "Although not all patients will benefit from adjuvant radiation therapy, the level of utilization is lower than expected based on the positive, published results of randomized clinical trials."

"Studies like this one are an important step toward establishing the value of this treatment and suggest that adjuvant radiation therapy should have a role in the treatment of selected patients. Our group has embarked on a large-scale research program to evaluate and improve treatments after prostatectomy for patients with high-risk prostate cancer, and these studies are critical foundational accomplishments," he added.

Side effects, risk of overtreatment (the subset of patients who may not have failed PSA tests after radiation therapy despite adverse pathologic factors) and the high price have cast some doubts for patients and physicians alike. In many cases, physicians choose to observe patients



closely with serial PSA tests and offer radiation therapy only as a salvage treatment after a rise in the <u>PSA levels</u>.

But this new analysis, Dr. Showalter says, "substantiates the benefit of adjuvant radiation therapy," taking these factors into consideration, including toxicity and overtreatment.

Another study by Dr. Showalter and colleagues, published online in the International Journal of Radiation Oncology, Biology and Physics on May 25, attempted to gauge physician beliefs and practices for adjuvant radiation therapy after a radical prostatectomy.

Significant discordance was identified. An online survey found that urologists were less likely to recommend radiation therapy immediately after a radical prostatectomy than radiation oncologists. Instead, those clinicians most likely opt to perform frequent PSA tests to monitor cancer, recommending salvage therapy if levels become elevated.

The investigators designed a Web-based survey of post-radiation prostatectomy radiation therapy beliefs and policies. A total of 218 radiation oncologists and 92 urologists completed the survey instrument. Adjuvant radiation therapy after a <u>radical prostatectomy</u> was recommended for qualifying patients by 78 percent of radiation oncologists and only 44 percent of urologists.

Urologists were also less likely to believe that adjuvant radiation therapy improves overall survival (71 percent of radiation oncologists vs. 63 percent of urologists), and perceived higher rates of radiation-related toxicities than radiation oncologists. Physicians' estimates of radiationinduced urinary problems affected their likelihood of recommending radiation therapy.

The fact that adjuvant radiation therapy use has not increased since the



publication of randomized trials supporting the therapy suggests that clinicians have not embraced it, according to the researchers.

"These two studies provide important insights into decision-making regarding radiation therapy after <u>prostatectomy</u>," said Leonard Gomella, M.D., the Bernard W. Godwin, Jr. Professor of Prostate Cancer and Chairman of the Department of Urology at Thomas Jefferson University. "The disagreement between urologists and <u>radiation</u> <u>oncologists</u> highlights the need for additional research to determine the role of adjuvant therapy in selected patients, and is another example of the importance of multidisciplinary <u>prostate cancer</u> care for our <u>patients</u> to make informed medical decisions."

Provided by Thomas Jefferson University

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