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Bigger Dose Will Not Improve Prostate Cancer Survival

A bigger radiation dose will not improve the long-term chances of patients with non-metastatic prostate cancer, a new study in the U.S. by Thomas Jefferson University has found.

Despite advances in technology that has allowed doctors to administer higher radiation doses to prostate cancer patients with fewer side effects, the new study, published online in the *American Journal of Clinical Oncology* , showed that increasing the dose does not necessarily help patients, especially those with localised prostate cancer, in the long term.

“In the field of radiation oncology, we often assume that the highest dose that the body can tolerate will be most effective at killing cancer,” said Dr. Robert Den, M.D., a researcher at the Sidney Kimmel Cancer Center at Thomas Jefferson University and senior author on the paper. “Our results argue that this may not be the case, at least not with lower-risk prostate cancer patients.”

Dr. Den, an Associate Professor of Radiation Oncology, Cancer Biology, and Urology at Jefferson, and colleagues analysed data from 12 randomised controlled trials of external beam radiation treatment for men with non-metastatic prostate cancer, which included a total of 6,884 patients. By pooling data from multiple clinical trials, the researchers were able to see trends that would not have been apparent in the individual studies.

Rather than use the typical proxy for patient improvement, the prostate cancer antigen (PSA) test, researchers looked at long term outcomes such as the development of metastatic cancer and death from cancer. They found that while PSA levels decreased as patients received higher doses of radiation, the overall survival and incidence of metastases, among other measures, did not improve.

“Our reliance on the PSA test as a proxy for patient outcomes may not be as useful as many researchers thought, which has broad implications for the design of future clinical trials and the interpretation of current and previous studies,” said Adam Dicker, Chair of Radiation Oncology at the Sidney Kimmel Medical College of Thomas Jefferson University.

Dr. Den’s study also demonstrated that increasing dose was not associated with worse treatment toxicity, suggesting that current practices are safe.

“These data suggest that other therapies may be needed with radiation to increase survival,” he concluded.

Journal Reference:

Nicholas G. Zaorsky, Scott W. Keith, Talha Shaikh, Paul L. Nguyen, Eric M. Horwitz, Adam P. Dicker, Robert B. Den. “Impact of Radiation Therapy Dose Escalation on Prostate Cancer Outcomes and Toxicities”. *American Journal of Clinical Oncology* , 2016; 1 DOI: 10.1097/COC.0000000000000285

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