

Novel radiation therapy safely treats prostate cancer and lowers the risk of recurrence

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A recent Phase I/II clinical trial has shown that a new combination of radiation therapies developed at Virginia Commonwealth University Massey Cancer Center escalates radiation doses to safely and effectively treat prostate cancer and lower the risk of recurrence with minimal radiation exposure to nearby healthy tissue and organs.

Recently published in the journal *Brachytherapy*, a novel treatment protocol designed by Michael Hagan, M.D., Ph.D., [radiation oncologist](#) at VCU Massey Cancer Center, that combines intensity-modulated [radiation therapy](#) with high-dose rate (HDR) brachytherapy was tested on 26 prostate cancer patients. Intensity-modulated radiation therapy uses computer-controlled linear accelerators to modulate the intensity of an external [radiation beam](#) to more accurately deliver radiation to tumors. HDR brachytherapy is an internal form of radiation therapy that uses small radioactive pellets implanted near the tumor.

"Recent studies have shown that both higher daily doses and higher total doses of radiation are better than standard doses in controlling prostate cancer, but these higher doses may be associated with higher rates of bladder and bowel complications," says the study's lead author Mitchell Anscher, M.D., Florence and Hyman Meyers Chair of [Radiation Oncology](#) and program co-leader of Radiation Biology and Oncology at VCU Massey Cancer Center. "Our study was designed to reduce radiation exposure to nearby healthy tissue and organs and we were pleased to find that this unique dosing schedule is safe and effective."

The toxicity of the therapy was relatively low and all 26 patients were able to complete treatment. The treatment required only one HDR brachytherapy implant, and all participants were treated as outpatients. After 4.5 years, none of the

patients relapsed and the rate of long-term side effects was low.

"Our goal is to improve outcomes for our patients, so we are continually researching ways to reduce unnecessary [radiation](#) exposure to healthy tissues and make treatments shorter and more manageable. We're hopeful our findings will lead to better tumor control rates and fewer complications for men with prostate cancer," says Anscher.

Moving forward, the researchers plan to continue exploring prostate cancer therapies using higher dose rates and shorter treatment times. The next step will likely be a four-treatment study utilizing stereotactic body radiosurgery, a technique popular with brain cancer that provides higher accuracy and requires fewer treatments by focusing high-powered X-rays on a very small area.

More information:

www.sciencedirect.com/science/.../S1538472111003564

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