

Jefferson doctors strengthen case for high-dose radiotherapy technique after radical prostatectomy

April 13 2011

A widely-available yet expensive radiotherapy technique used to treat prostate cancer patients after surgery has promising benefits -- higher dose and less damage to the rectum and bladder -- compared to a less precise technique, Thomas Jefferson University researchers document for the first time in a new study published in *Practical Radiation Oncology*.

A team of [radiation oncologists](#) and medical physicists, including lead author Amy Harrison, M.S., the medical physics clinical supervisor at Jefferson, show that intensity-modulated radiotherapy (IMRT) allows a higher dose to be delivered to the area after their glands have been removed while maintaining the same dose to the rectum and bladder compared to 3D conformal [radiation therapy](#).

Higher doses to the prostate bed have been shown to be more effective in that setting for controlling prostate-specific antigen (PSA) levels.

IMRT is currently being used at some centers in the United States, including the Kimmel Cancer Center, to treat men after they've had their prostate glands removed, but detailed data are limited evaluating the advantages of this approach compared to 3D conformal radiation therapy. In other words, documented justification for the approach was lacking.

"This is the first contemporary study to look at IMRT versus 3D radiation therapy for post-op patients using consensus guidelines," said Timothy Showalter, M.D., assistant professor of Radiation Oncology at Thomas Jefferson University, and an expert in image-guided therapy of prostate cancer. "This is also filling a gap for information that no one supplied before to show that this radiotherapy is beneficial in the postoperative setting, similar to its role in non-surgical approaches."

"The reason that it's more and more relevant now is that there are emerging data to support doing adjuvant radiation therapy after prostatectomy for high risk patients," he added.

There a variety of toxicities associated with radiation therapy after a prostatectomy, including late gastrointestinal bleeds, loose stools and painful bowel moments, but IMRT can minimize damage that can lead to such side effects.

"The biggest benefit for our patients who have a PSA failure after radical [prostatectomy](#) is to be able to deliver high dose radiation while sparing normal tissue," said Dr. Showalter.

Future studies, the researchers report, should determine whether these advantages translate into improved clinical outcomes for [prostate cancer](#) patients.

Provided by Thomas Jefferson University

Citation: Jefferson doctors strengthen case for high-dose radiotherapy technique after radical prostatectomy (2011, April 13) retrieved 17 April 2024 from <https://medicalxpress.com/news/2011-04-jefferson-doctors-case-high-dose-radiotherapy.html>

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