Medical Xpress

Intensity Modulated Radiation Therapy optimal for localized prostate cancer

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A treatment for localized prostate cancer known as Intensity Modulated Radiation Therapy (IMRT) is better than conventional conformal radiation therapy (CRT) for reducing certain side effects and preventing cancer recurrence, according to a study published in the April 18, 2012 issue of the *Journal of the American Medical Association*. In 2012, approximately 241,740 American men will be diagnosed with prostate cancer.

The study also showed IMRT to be as effective as proton therapy, a newer technique that has grown in popularity in recent years.

Ronald Chen, MD, MPH, senior author, says, "Patients and doctors are often drawn to new treatments, but there have not been many studies that directly compare new radiation therapy options to older ones."

Chen is assistant professor of radiation oncology and a research fellow at the Sheps Center for Health Services Research at the University of North Carolina at Chapel Hill. He is a member of UNC Lineberger Comprehensive Cancer Center.

He explains, "In the past 10 years, IMRT has largely replaced conventional CRT as the main radiation technique for prostate cancer, without much data to support it. This study validated our change in practice, showing that IMRT better controls prostate cancer and results in fewer side effects.

"Our data show that in comparing IMRT to proton therapy, IMRT patients had a lower rate of gastrointestinal side effects, but there were no significant differences in rates of other side effects or additional therapies."

Study scientists report that compared to CRT, IMRT was associated with fewer diagnoses of gastrointestinal (GI) symptoms, such as rectal bleeding or diarrhea, hip fractures and additional cancer therapy, but more difficulty with sexual function. Proton therapy was associated with more GI problems than IMRT.

The UNC team used Surveillance, Epidemiology, and End Results (SEER)-Medicare linked data from 2000-2009 for approximately 13,000 patients with non-metastatic prostate cancer. SEER is composed of 16 population-based cancer registries representing approximately 26 percent of the US population.

This study is an example of comparative effectiveness research, which seeks to inform health care decisions by providing new research-based evidence about the benefits and harms of different health care interventions.

Tim Carey, MD, director of the Sheps Center at UNC, said, "This type of research is critical, comparing one type of treatment with alternatives, so that patients and their providers can arrive at the best decisions for each individual."

CRT, IMRT and Proton therapy represent three types of radiation, each attempting to deliver radiation treatment to a tumor while minimizing radiation dose to surrounding organs. Use of proton therapy use in prostate cancer is controversial because of its high cost and unproven benefit compared to other standard forms of radiation like IMRT.