Research reveals prostate cancer radiation treatment can be shortened by 50% with no loss of effectiveness

Results are expected to change policy and impact the treatment of prostate cancer worldwide

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A shorter 4-week radiation regimen is non inferior to the standard 8-week regimen when it comes to prostate cancer treatment, an Ontario-led study has found.

The Prostate Fractionated Irradiation Trial, (PROFIT) was conducted by Hamilton’s Ontario Clinical Oncology Group (OCOG) and according to Dr. Mark Levine, OCOG director, the study is, “A game changer.”

OCOG, located in the Escarpment Cancer Research Institute, a joint initiative of Hamilton Health Sciences and McMaster University worked with a network of investigators in 3 continents to carry out this research.

Investigators will present their findings at the American Society of Clinical Oncology (ASCO) Annual Meeting which runs from June 3 to June 7 in Chicago. ASCO is the world’s leading professional organization for cancer care. Themed, Collective Wisdom: The Future of Patient-Centered Care and Research, this year’s Meeting will attract 30,000 specialists from around the world.

The paper, which has been selected as one of the Best of ASCO, will be presented on Monday June 6, by Dr. Charles Catton the principal investigator who is a radiation oncologist at the Princess Margaret Hospital. “The PROFIT trial has shown that with modern radiotherapy techniques we can treat patients with a common form of prostate cancer more safely and efficiently than in the past with fewer treatments” said Dr. Catton.

The results of PROFIT are expected to have an impact on treatment worldwide. “The fewer number of treatments will not only be more convenient for patients, but by shortening the treatment more patients can be treated with the same amount of resources” said co-principal investigator Dr. Himu Lukka, a radiation oncologist at the Juravinski Cancer Centre

Prostate cancer commonly presents localized to the prostate gland and is classified into low, intermediate and high risk of prostate cancer recurrence. Radiation is a commonly used treatment for men with intermediate risk prostate cancer.

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Investigators set out to determine whether a shorter radiation treatment regimen was non inferior to the standard 8-week radiation regimen. In this case, non-inferior means “no worse in terms of preventing recurrence of the prostate cancer” and “with no increased toxicity.” The trial compared the current standard treatment of 7800 cGy administered in 39 fractions over 8 weeks to 6000 cGy in 20 fractions over 4 weeks.

The trial enrolled 1206 patients at 26 centres in Canada, Australia and France between 2006 and 2011. With an average follow-up of six years, 166 subjects have experienced a study outcome event in the shorter treatment group compared to 170 in the longer treatment group. About 80% of patients in each group remain free of a treatment failure event. There was no increased long term bowel or bladder toxicity with the shorter treatment. In fact, there was a trend to less toxicity with the shorter treatment.

Speaking to PROFIT’s collaborative approach, Dr. Levine says, “This was an amazing team effort.”

The PROFIT trial is an international collaborative effort, led by Co-Principal Investigators, Charles Catton, MD, Princess Margaret Hospital, Toronto, Canada; Himu Lukka, MD, Juravinski Cancer Centre, Hamilton Health Sciences, Hamilton Canada; Chief Study Statistician, Jim Julian MMATH, Department of Oncology McMaster University and Mark Levine, MD, Director, OCOG, Chair Department of Oncology McMaster University. The trial was sponsored by the Ontario Clinical Oncology Group (OCOG) from the Escarpment Cancer Research Institute Hamilton Canada; with collaboration with the Trans-Tasman Radiation Oncology Group (TROG), Waratah Australia. Funding provided by Canadian Institutes of Health Research (CIHR), Ottawa Canada; Information provided by the Ontario Clinical Oncology Group (OCOG).

Media access to video interviews of Dr. Lukka and Dr. Levine will be available on vimeo. Presenting in Chicago, Dr. Catton is available by phone and upon return to Toronto.

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