Gene therapy combined with IMRT found to reduce recurrence for select prostate cancer patients

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Combining oncolytic adenovirus-mediated cytotoxic gene therapy (OAMCGT) with intensity modulated radiation therapy (IMRT) reduces the risk of having a positive prostate biopsy two years after treatment in intermediate-risk prostate cancer without affecting patients' quality of life, according to a study published in the June 1, 2014 edition of the *International Journal of Radiation Oncology • Biology • Physics* (Red Journal), the official scientific journal of the American Society for Radiation Oncology (ASTRO).

Previous prospective clinical trials in prostate cancer have shown that increasing the standard radiation dose of 70 Gy by 10 to 15 percent improves the biochemical disease-free survival in some prognostic risk groups; however, more than 25 percent of men with intermediate- or high-risk disease develop prostate-specific antigen (PSA) progression within 10 years, suggesting that radiation doses higher than 80 Gy may be necessary. This prospective randomized phase II trial examines the use of OAMCGT to improve the effectiveness of IMRT without increasing the radiation dose in intermediate-risk prostate cancer.

Based on encouraging results from a prior phase I trial, 44 patients were enrolled in this randomized phase II trial from January 2008 to July 2010. Patients were randomized to receive either OAMCGT with IMRT (21) or IMRT alone (23), and outcomes were focused on toxicity, quality of life and prostate biopsy findings at two years post-treatment. Eligible patients had newly diagnosed, clinically localized, intermediate-risk prostate cancer, defined as clinical stage T1/T2 with a Gleason score of 7 or a PSA of 10 to 20 ng/ml. Patients with a Gleason score of 5/6, a PSA

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