



BRACHYTHERAPY

Combined brachytherapy and ultra-hypofractionated radiotherapy for intermediate-risk prostate cancer: Comparison of toxicity outcomes using a high-dose-rate (HDR) versus low-dose-rate (LDR) brachytherapy boost

Marisa A Kollmeier, Daniel Gorovets, Jessica Flynn, Sean McBride, Victoria Brennan, Joel Beaudry, Gilad Cohen, Antonio Damato, Zhigang Zhang, Michael J Zelefsky

Brachytherapy, 2022, Sep-Oct;21(5):599-604. doi: 10.1016/j.brachy.2022.04.006. Epub 2022 Jun 17

What was your motivation for initiating this study?

Given the many choices of primary therapy for patients with prostate cancer, treatment-associated morbidity plays a crucial role for patients in their therapy selection. Additionally, there is increasing interest in reducing the burden of treatment for patients and in improving efficiency and cutting the cost of healthcare delivery. At our institution, we offer both low-dose-rate (LDR) and high-dose-rate (HDR) brachytherapy, so we had the opportunity to clarify whether the selection of isotope had an impact in terms of toxicity during the use of shortened (ultra-hypofractionated) courses of treatment. Regarding patients who had received combined brachytherapy and ultra-hypofractionated therapy, no previously published data addressed this question. We were able to perform this analysis in the form of a single institution study through the use of a uniform technique and experience level.

What were the main challenges during the work?

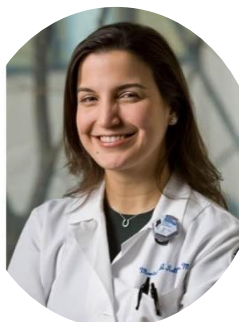
Our study was challenging given its retrospective nature, because it required a careful review of recorded symptoms. Despite this, we were able to discern important differences in urinary toxicity between the two methods. Ideally, we would also have compared erectile toxicity; however, there were too few patients who had sufficient potency prior to treatment to enable this type of analysis. Further efforts to capture this data are underway.

What are the most important findings of your study?

The application of HDR brachytherapy combined with ultra-hypofractionated radiation therapy (UHRT) was associated with significantly less urinary toxicity than LDR brachytherapy combined with UHRT. At our institution, as a result of these findings, we have adopted HDR + UHRT as our standard approach for the treatment of unfavourable, intermediate-risk prostate cancer.

What are the implications of this research?

This approach provides a means to optimise both quality of life during and after treatment as well as a reduced burden of therapy.



Marisa A Kollmeier, M.D.

Associate Director, Brachytherapy Service
Chair, Radiation Oncology Quality Assurance Committee
Department of Radiation Oncology
Memorial Sloan Kettering Cancer Center
New York, USA