

Stereotactic Body Radiation Therapy (SBRT) for Pelvic Recurrence After Pelvic Radiation

Jessika Contreras¹, John Bowers², Samuel Francis³, Harry Lomas³, Nathan Bennion⁴, Martin Richardson⁵, Kelly Spencer⁶, Adam Ducey⁷, Charles R. Kersh⁸

1. Radiation Oncology, Washington University 2. Department of Radiation Oncology, Baylor College of Medicine 3. Washington University 4. University of Nebraska 5. Riverside Health System 6. Radiosurgery, Riverside Regional Medical Center, Newport News, USA 7. Medical Physics 8. Radiation Oncology, Riverside Regional Medical Center, Newport News, USA

✉ **Corresponding author:** Jessika Contreras, jcontreras@radonc.wustl.edu

Categories: Obstetrics/Gynecology, Radiation Oncology

Keywords: stereotactic body radiotherapy, reirradiation, pelvic recurrences

How to cite this abstract

Contreras J, Bowers J, Francis S, et al. (June 16, 2016) Stereotactic Body Radiation Therapy (SBRT) for Pelvic Recurrence After Pelvic Radiation . Cureus 8(6): a53

Abstract

Objectives: To evaluate local control and toxicity of stereotactic body radiation therapy (SBRT) patients with pelvic locoregional relapse after prior pelvic radiation.

Methods: We retrospectively identified patients treated with SBRT for locoregional pelvic recurrences after pelvic irradiation. A total of 30 patients were treated at our institution between November 2008 and December 2014. Primary malignancies included colon, rectal, vaginal, endometrial, cervical, and prostate cancer. Locoregional recurrence was defined as a lesion in the previously targeted treatment field, identified with pelvic CT and FDG-PET scans. Toxicity was measured using the Common Terminology Criteria for Adverse Events (CTCAE). Local and regional control analyses were completed using the Kaplan-Meier method. Dose was prescribed to a non-uniform PTV based on the cone beam CT scan allowing for continued alignment of surrounding organs at risk. The treatment plans consisted of non-coplanar static aperture ARCs and non-coplanar static fields. Treatments were delivered using 6MV X-rays with image guidance.

Results: A total of 30 patients were retrospectively reviewed consisting of 2 anal, 2 rectal, 5 colon, 10 cervical, 2 vaginal, 5 endometrial, and 4 prostate primaries. At time of SBRT treatment, 24 patients had stage IV, five had stage III, and one patient had stage II disease. Median dose of previous pelvic radiation was 45 Gy (range 26-70 Gy) in 25 fractions (range 23-41). Median time from initial radiotherapy to reirradiation was 24 months. SBRT median dose was 24 Gy (range 18-30 Gy) in 4 fractions (range 3-5 fractions) given once weekly. Twenty-six patients demonstrated local control with an actuarial local control of 75% at 2 years. Those patients who recurred locally had disease control for an average of 8.7 months after SBRT completion. Regional control was 60% at 2 years consisting of 7 failures. Analysis of toxicity revealed no grade 4 or 5 events. Five grade 2 events were reported, consisting of ileus, diarrhea, cystitis, fatigue, and hematuria.

Conclusions: Weekly SBRT provides effective local control for pelvic recurrence in previously-irradiated treatment fields with a minimal toxicity profile.

Open Access

Abstract

Published 06/16/2016

Copyright

© Copyright 2016

Contreras et al. This is an open access article distributed under the terms of the Creative Commons Attribution License CC-BY 3.0., which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Distributed under

Creative Commons CC-BY 3.0

