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Survival Evaluation Following Stereotactic Radiosurgery (SRS) +/- Whole Brain Radiotherapy (WBRT) of Brain Metastases from Lung, Breast, Skin, Renal, GI, and Uterine Cancer

Cara Sherrill¹, Naren Ramakrishna²

1. College of Medicine, University of Central Florida 2. UF Health Cancer Center, Orlando Health

☑ Corresponding author: Cara Sherrill, cara.sherrill@knights.ucf.edu

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Abstract

Introduction: The treatment of brain metastases is complex and its understanding incomplete, however stereotactic radiosurgery (SRS) is becoming the forefront of therapies. Whole brain radiotherapy (WBRT) is often used in conjunction with SRS. Patient and tumor characteristics can help guide treatment choices. We investigated the effect of SRS, with and without WBRT, in comparison to multiple patient and tumor characteristics, on survival outcomes in brain metastases of lung, breast, skin, renal, gastrointestinal, and uterine cancers.

Methods: A retrospective chart review of 48 patients with brain metastases, undergoing treatment with SRS was performed. Data was collected between September 2013 and October 2015, at the Radiation Oncology department of UF Health Cancer Center at Orlando Health. Overall survival analysis, as well as survival analysis comparing SRS without WBRT, and SRS with WBRT, was carried out using Kaplan-Meier plots.

Results: There were 11 (22.9%) patients deceased by the end of the data collection period. The median time to survival failure for the deceased group as a whole was 167 days (61-436). Treatment using SRS without WBRT or SRS with WBRT were not statistically different (P=0.795).

Discussion: Statistical analysis showed a higher median total brain metastasis load in the deceased group, as compared to the group as a whole. There was no statistical significant effect between treatment using SRS without WBRT and SRS with WBRT on survival outcomes (P=0.795).

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