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Abstract

Stereotactic CK-Radiosurgery For Intracranial Metastases From Gastrointestinal Malignancies: A Retrospective Analysis

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Objectives: Cancers of the gastro-intestinal tract are the second most prevalent malignancy and common cause of cancer-related death in the United States. Prognosis for patients with these malignancies is poor and worsens significantly once it has metastasized to the brain. We evaluated the outcome of patients following SRS for brain metastases (BM) in individuals with GI cancers to identify safety and effectivity of treatment, and we assessed prognostic factors that affect tumor control and survival.

Methods: This is a retrospective cohort analysis of 58 brain metastases from 18 consecutive patients who underwent SRS treatment at Beth Israel Deaconess Medical Center in Boston between 2006 and 2013. 11/18 patients underwent prior microsurgical resection for their metastases and 3/18 patients had undergone Whole Brain Radiation Therapy (WBRT). Overall Survival (OS), Local Control (LC), Distal control (DC), and prognostic factors such as age, number of brain metastases (BM), Karnofsky Performance Status (KPS), Recursive Partition Analysis (RPA) and Disease Specific Graded Prognostic Assessment (Ds-GPA) class were evaluated.

Results: The median overall survival (mOS) for the entire cohort was 14 months after the diagnosis of BM. The mOS for patients receiving only SRS, Surgical Resection + SRS, and WBXRT + SRS were 8 months, 18 months, and 13 months respectively. The difference in overall survival between treatment groups was not found to be statistically significant. Increasing number of BM was the only factor shown to negatively influence survival. Local control was achieved in 55% of lesions after SRS, and in 75% of lesions that were surgically resected followed by SRS boost to the resection cavity. The difference in local control between SRS alone vs. Surgery + SRS was found to be statistically significant ($p = 0.012$).

Conclusions: With a higher overall survival and significantly better local control rates, Surgery followed by SRS boost to the resection cavity should be considered as the treatment of choice in this specific subgroup of cancer patients as this study shows that they benefit from this more aggressive treatment option.

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