



# The TBSI Experience: Local Tumor and Intracranial Response Following Surgical Resection of Intracranial

## Metastases With Various Adjuvant Radiation Therapies

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### Introduction

Intracranial metastases occur in 9-26% of patients with cancer, with some retrospective studies citing up to 40% incidence. Effective therapeutic options remain limited, however, current treatment options involve surgical resection, chemotherapy, whole brain irradiation (WBI), and stereotactic radiosurgery (SRS), whether as a monotherapy or combined regimen.

While guidelines exist for the recommended use of each therapy, no uniform standard of care has been established. Surgical resection has become increasingly relied upon for molecular characterization of metastases, histological diagnosis and authentication, and local tumor control; an increase in median survival outcomes for patients with isolated lesions has recently been documented. Yet, it is the efficacious use of adjuvant WBI versus SRS versus WBI+SRS boost, which remains uncertain and contested.

### Methods

Retrospective, single institution chart review between 2008-2015.

Inclusion Criteria:

- 1). >18 years old

### Results

Total # patients eligible for analysis, n=40.

See attached data table\*

### Conclusions

WBI: The local tumor response (33%) for single metastasis patients corresponds with the Kimmell (2015) study which documented a mean response of 26.4% across all clinical studies.

The following sub-groups were limited by small sample sizes, thus preventing immediate meaningful comparisons: Resection Only, SRS, WBI+ SRS Boost. Ongoing analysis of the SRS sub-group, as patient data accumulates, is vital since no efficacy reports exist for this therapy.

### Learning Objectives

By the conclusion of this session, participants should be able to:

- 1). qualitatively and semi-quantitatively describe the clinical course of TBSI patients receiving adjuvant radiation post-surgical resection of intracranial metastases
- 2). discuss, in small groups, the gaps and limits of retrospective research studies concerning comparative radiation therapy efficacy
- 3). describe the importance of maintaining similar databases in order to conduct ongoing institutional analysis

### References

Kimmell KT, LaSota E, Weil RJ, Marko NF, Comparative Effectiveness Analysis of Treatment Options for Single Brain Metastasis, World Neurosurgery (2015), doi: 10.1016/j.wneu.2015.06.021.

Metellus P, Bialecki E, Le Rhun E, Dhermain F. Neurosurgical and radiosurgical decision making in brain metastasis patients in the area of targeted therapies? Chin Clin Oncol 2015;4(2):19. doi: 10.3978/j.issn.2304-3865.2015.06.02