



Survival Outcomes Associated with Visualase Ablation of Unresectable Tumors

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Introduction

- Laser Interstitial Thermal Therapy (LITT) is an emerging, minimally invasive cytoreductive therapy for otherwise unresectable brain tumors. Few studies have addressed survival benefit associated with LITT therapy.
- This study seeks to determine progression free survival and overall survival associated with laser ablation of otherwise unresectable glioblastomas.

Methods

- Patients undergoing Visualase laser ablation for unresectable glioblastomas were recorded prospectively from 11/15/2013 to 10/17/2014. All patients subsequently received EBRT/temozolamide per Stupp protocol.
- Follow up data including ablation volume, post-operative change in neurological exam, progression free and overall survival were recorded.

Results

- 7 patients underwent stereotactic biopsy immediately followed by laser ablation. Tumor locations were parietal lobe (3), thalamus (3), and basal ganglia (1). 5 patients received greater than 90% volume ablation of tumor, with a mean ablation volume of 6.38 cm3 and median and mean percentage of ablation of 94.87% and 85.23%, respectively.
- Change in post-operative neurological exam (new onset weakness and aphasia) was seen in 4 patients, of which all could be attributed to the volume of coverage. These deficits improved in 2 patients.
- At the present time, 3 patients had progression with a mean progression free survival of 47 days. In addition, 4 patients of the cohort were known to have died with a mean survival of 151 days.

Conclusions

Given the sensitive location of these tumors, a relatively high number of patients experienced new onset or worsening of neurological deficits, although some patients subsequently improved. Although overall and progression free survival remain low, as is consistent with existing data regarding unresectable glioblastomas, there was a subset of patients who appeared to have longer progression free and overall survivals. Future studies will further characterize these patients to determine the survival benefit conferred by laser ablation.

References

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