

Clinical Outcomes of Gamma Knife Radiosurgery in the Primary Treatment of Patients with High-grade

Glioma

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Introduction

- Treatment of a high-grade glioma includes measures to relieve symptoms and eliminate or reduce the tumor. This may include surgery, radiation, and/or chemotherapy.
- Cognitive impairment tends to be more severe with larger radiation fields, tends to worsen over time.
- Gamma knife Radio-surgery (GK) has become progressively utilized as a treatment modality for patients diagnosed with gliomas. The porpuose of this study is to evaluates the impact of gamma knife Radiosurgery as an adjuvant therapy in the management of patients with GBM.





Atypic cells around a necrotic area "typical presentation of high grade gliomas".

Learning Objectives

Assess the efficacy, of treating patients with glioblastoma using Gamma-Knife Radiosurgery (GKS). Review and compare GK treatment to the usual Radiotheraphy treatment after surgery with chemotheraphy.

Methods

- Prospective, single-center, study evaluating subjects undergoing High grade Glioma treatment.
- Protocol guidelines was brain tumor resection, radiosurgery using gamma knife perfection and chemotherapy.
- Primary outcomes survival rate, quality of life and neurological disability.
- Secondary estimated total radiosurgery dosage, chemotheraphy and Preoperative/postoperative analysis.





Results

- The median survival from time of diagnosis was 31.6 months (95%CI: 17.4-44.7) with progression-free survival 17.6 months, (95%CI: 12.5-28.3), and local tumor control 68%.
- A multivariate analysis adjusted for possible confounding factors (tumor volume, recursive partitioning analysis class, neurological deficits, time to recurrence, adjuvant therapy, and tumor location) showed considerably longer survival.
- Time to the 1st recurrence was (mo) 18.5 (median) (range, 4-43).
- Adjuvant chemotherapy was 82% Temo, 18% PCV.

Tumor Control and Rediosurgery Outcomes



Conclusions

- Gamma knife radiosurgery is a secure alternative for selected cases diagnosed with high-grade glioma.
- Although treatment outcomes have improved in the past years, additional evidence in the clinical design of prospective, randomized, blinded clinical trials is needed to evaluate the strength of treating patients in detailed scientific situations.

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