

PubMed

Display Settings: Abstract

[Neurosurgery](#). 1997 Oct;41(4):776-83; discussion 783-5.

Survival benefit of stereotactic radiosurgery for patients with malignant glial neoplasms.

Kondziolka D, Flickinger JC, Bissonette DJ, Bozik M, Lunsford LD.

Department of Neurological Surgery, Presbyterian University Hospital, University of Pittsburgh, Pennsylvania, USA.

Abstract

OBJECTIVE: During an 8-year interval, we evaluated the survival benefit of stereotactic radiosurgery performed in 64 patients with glioblastomas multiforme (GBM) and 43 patients with anaplastic astrocytomas (AA).

METHODS: Adjuvant radiosurgery was performed either before disease progression or for recurrent tumor at the time of disease progression. Clinical and imaging follow-up data were obtained for all patients. The diagnosis of GBM was obtained by performing craniotomies in 41 patients and by performing stereotactic biopsies in 23. The diagnosis of AA was obtained by performing craniotomies in 19 patients (44%) and by performing biopsies in 24.

RESULTS: Of the entire series, the median survival time after initial diagnosis for patients with GBM was 26 months (standard deviation [SD], 19 mo; range, 5-79 mo) and the median survival time after radiosurgery was 16 months (SD, 16 mo; range, 1-74 mo). The 2-year survival rate was 51%. No survival benefit was identified for patients who underwent intravenously administered chemotherapy in addition to radiosurgery ($P = 0.97$). After undergoing radiosurgery, 12 patients (19%) underwent craniotomies and resections and 4 (6%) underwent subsequent radiosurgery for regional or remote recurrence. For 45 patients who underwent radiosurgery as part of the initial management plan, the median survival time after diagnosis was 20 months. Of the entire series, the median survival time after diagnosis for patients with anaplastic astrocytomas was 32 months (SD, 23 mo; range 5-96 mo) and the median survival time after radiosurgery was 21 months (SD, 18 mo; range 3-93 mo). The 2-year survival rate was 67%. Ten patients (23%) underwent subsequent craniotomies at a mean of 8 months after initial surgery, and two underwent subsequent radiosurgery. There was no acute neurological morbidity after radiosurgery. Histologically proven radiation necrosis occurred in one patient with GBM (1.6%) and two patients with AA (4.7%). For 21 patients for whom radiosurgery was part of the initial management plan, the median survival time after diagnosis was 56 months.

CONCLUSION: In comparison to historical controls, improved survival benefit after radiosurgery was identified for patients with GBM and patients with AA. Although this survival benefit may be related to our selection of patients for radiosurgery based on their having smaller tumor volumes, no selection was made based on location. We observed that radiosurgery was safe and well tolerated. Its effectiveness as an adjuvant therapy deserves a properly stratified randomized trial.

PMID: **9316038** [PubMed - indexed for MEDLINE]

[+](#) **Publication Types, MeSH Terms, Grant Support**

[+](#) **LinkOut - more resources**