Phase II study of high central dose Gamma Knife radiosurgery and marimastat in patients with recurrent malignant glioma.

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Abstract

PURPOSE: To assess the outcome of high central dose Gamma Knife radiosurgery plus marimastat in patients with recurrent malignant glioma.

METHODS AND MATERIALS: Twenty-six patients with recurrent malignant glioma were enrolled in a prospective Phase II study between November 1996 and January 1999. The radiosurgery dose was prescribed at the 25-30% isodose surface to increase the dose substantially within the tumor's presumably hypoxic core. Marimastat was administered after radiosurgery to restrict regional tumor progression. Survival was compared with that of historical patients treated at our institution with standard radiosurgery.

RESULTS: The median times to progression after radiosurgery for Grade 3 and 4 patients was 31 and 15 weeks, respectively. The corresponding median survival time after radiosurgery was 68 and 38 weeks. The median survival time after radiosurgery in the historical patients was 59 and 44 weeks.

CONCLUSION: The dual strategies of using high central dose radiosurgery to overcome tumor hypoxia together with marimastat to inhibit local tumor invasion may offer a small survival advantage for recurrent Grade 3 tumors; they do not offer an advantage for recurrent Grade 4 tumors.

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