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Chemopotential by ultrafractionated radiotherapy in glioblastoma resistant to conventional therapy.

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Abstract

INTRODUCTION: Induced radiation resistance (IRR) and hyper-radiosensitivity (HRS) are well-described phenomena in basic literature, yet few reports have been published in which such phenomena are exploited clinically for the benefit of patients. Glioblastoma is a prime example.

CASE AND METHODS: The case of an 82-year-old woman is described whose resected frontoparietal glioblastoma progressed through treatment administered according to standard methods. With review board and patient approval, we continued her treatment using radiotherapy and temozolomide, but drastically modified the radiotherapy fractionation, administering 50 cGy twice daily on each of the first 5 days of a 14-day cycle. Temozolomide was administered on the first 4 days of each cycle. We use the term "ultrafractionated radiotherapy" to refer to the extremely low doses of radiation used in this case.

RESULTS: This modified regimen resulted in regression of the contrast-enhancing areas of disease recurrence identified on MRI, and the patient survived approximately 6 months following recurrence of her disease, having received 5 cycles of additional therapy after prior full-dose treatment.

CONCLUSIONS: Ultrafractionated radiotherapy and concurrent temozolomide were efficacious and tolerable in this patient whose glioblastoma previously progressed through conventional treatment. Additional studies of this approach are warranted.

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