High-dose tamoxifen treatment increases the incidence of multifocal tumor recurrences in glioblastoma patients.

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Abstract

BACKGROUND: Multifocal tumor recurrences in glioblastoma patients are described in 4% - 14% of cases. Two recent studies, treating newly diagnosed glioblastoma patients with continuous high-dose tamoxifen (TAM), reported an increased incidence of multifocal tumor recurrences in 45.5% and 33% of study patients.

PATIENTS AND METHODS: Fifty newly diagnosed patients with glioblastoma were treated with 3 cycles of carboplatin, continuous high-dose TAM and radiotherapy. Tumor progression was determined on follow-up MRI studies at 3-month intervals and categorized as either local or multifocal.

RESULTS: Multifocal tumor recurrence was found in 16 (33%) out of 49 study patients. Compared to tumors which remained local, multifocal tumor recurrences were characterized by a significantly longer median time to tumor progression (41 vs. 23 weeks, Breslow test: p = 0.0123). Multifocal tumor recurrences were mainly observed after an initial response to the study treatment (81%), whereas local regrowth was more often associated with initial treatment failure, i.e. progressive disease (64%).

CONCLUSION: The association of the pattern of tumor recurrence with the type of response to TAM treatment suggests that acquired resistance to TAM might be an important contributing mechanism in the development of multifocal glioblastoma disease.

PMID: 15736473 [PubMed - indexed for MEDLINE]