Long-term outcome in patients with recurrent malignant glioma treated with Perillyl alcohol inhalation.

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Abstract

AIM: This retrospective study aimed to evaluate the long-term response and toxicity of recurrent malignant glioma patients to inhalation chemotherapy with perillyl alcohol (POH).

PATIENTS AND METHODS: The cohort included 117 men and 81 women with primary glioblastoma multiforme (GBM; n=154), grade III astrocytoma (AA; n=26) and anaplastic oligodendroglioma (AO; n=5). POH inhalation schedule 4-times daily started with 66.7 mg/dose; 266 mg/day and escalated up to 133.4 mg/dose; 533.6 mg/day. Clinical toxicity and overall survival following treatment were compared with tumor size, topography, extent of peritumoral edema and histological classification.

RESULTS: Adhesion to the protocol was high (>95%), POH (533.6 mg/daily) occasionally caused nose soreness but rarely nosebleed. Tumor size, peritumoral edema and the oligodendroglial component influenced response to treatment.

CONCLUSION: After 4 years under exclusive POH treatment, 19% of patients still remain in clinical remission. Long-term POH inhalation chemotherapy is a safe and non-invasive strategy efficient for recurrent malignant glioma.

KEYWORDS: GBM, Phase II trial, glioblastoma multiforme, glioma, intranasal administration, perillyl alcohol

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