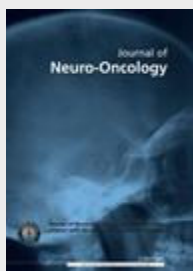


Journal Article



Nitrosourea efficacy in high-grade glioma: a survival gain analysis summarizing 504 cohorts with 24193 patients

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Abstract Even though past studies have suggested efficacy of nitrosourea drugs in patients with high-grade glioma and temozolomide has recently been shown significantly to be beneficial, no conclusive comparisons between these agents have been published. We performed a survival gain analysis of 364 studies describing 24,193 patients with high-grade glioma treated in 504 cohorts, and compared the effects of drugs. The most frequent diagnoses were glioblastoma multiforme (GBM) (72%) and anaplastic astrocytoma (22%). The mean overall survival (mOS) was 14.1 months. The outcome was influenced by several of the known prognostic factors including the histological grade, if the tumors were newly diagnosed or recurrent, the completeness of resection, patients' age, and gender. This information allowed the calculation of a predicted mOS for each cohort based on their prognostic factors independent of treatment. Survival gain to characterize the influence of treatment was subsequently defined and validated as the difference between the observed and the predicted mOS. In 62 CCNU-treated cohorts and 15 ACNU-treated cohorts the survival gain was 5.3 months and 8.9 months ($P < 0.0005$), respectively. No detectable survival gain for patients treated with various BCNU-containing regimens was found. *Conclusion* CCNU- and ACNU- containing regimens were superior to BCNU containing regimens.

Keywords Nimustine - Carmustine - Lomustine - Ranimustine - 1-(2-Chloroethyl)-3-(2,6-dioxo-3-piperidyl) - Glioblastoma multiforme - Survival gain

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References secured to subscribers.

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