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Prolonged Temozolomide Maintenance Therapy in Newly Diagnosed Glioblastoma.

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Abstract

BACKGROUND: The impact of prolonging temozolomide (TMZ) maintenance beyond six cycles in newly diagnosed glioblastoma (GBM) remains a topic of discussion. We investigated the effects of prolonged TMZ maintenance on progression-free survival (PFS) and overall survival (OS).

PATIENTS AND METHODS: In this retrospective single-center cohort study, we included patients with GBM who were treated with radiation therapy with concomitant and adjuvant TMZ. For analysis, patients were considered who either completed six TMZ maintenance cycles (group B), continued with TMZ therapy beyond six cycles (group C), or stopped TMZ maintenance therapy within the first six cycles (group A). Patients with progression during the first six TMZ maintenance cycles were excluded.

RESULTS: Clinical data from 107 patients were included for Kaplan-Meier analyses and 102 for Cox regressions. Median PFS times were 8.1 months (95% confidence interval [CI] 6.1-12.4) in group A, 13.7 months (95% CI 10.6-17.5) in group B, and 20.9 months (95% CI 15.2-43.5) in group C. At first progression, response rates of TMZ/lomustine rechallenge were 47% in group B and 13% in group C. Median OS times were 12.7 months (95% CI 10.3-16.8) in group A, 25.2 months (95% CI 17.7-55.5) in group B, and 28.6 months (95% CI 24.4-open) in group C. Nevertheless, multivariate Cox regression for patients in group C compared with group B that accounted for imbalances of other risk factors showed no different relative risk (RR) for OS (RR 0.77, $p = .46$).

CONCLUSION: Our data do not support a general extension of TMZ maintenance therapy beyond six cycles. ***The Oncologist*** 2017;22:1-6 IMPLICATIONS FOR PRACTICE: Radiation therapy with concomitant and adjuvant temozolomide (TMZ) maintenance therapy is still the standard of care in patients below the age of 65 years in newly diagnosed glioblastoma. However, in clinical practice, many centers continue TMZ maintenance therapy beyond six cycles. The impact of this continuation is controversial and has not yet been addressed in prospective randomized clinical trials. We compared the effect of more than six cycles of TMZ in comparison with exactly six cycles on overall survival (OS) and progression-free survival

(PFS) by multivariate analysis and found a benefit in PFS but not OS. Thus, our data do not suggest prolonging TMZ maintenance therapy beyond six cycles, which should be considered in neurooncological practice.

KEYWORDS: Glioblastoma; Maintenance chemotherapy; Risk factors; Temozolomide

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