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Effectiveness of temozolomide for primary glioblastoma multiforme in routine clinical practice.

[van Genugten JA](#), [Leffers P](#), [Baumert BG](#), [Tjon-A-Fat H](#), [Twijnstra A](#).

Department of Neurology, Maastricht University Medical Centre, P.O. Box 5800, Maastricht, 6202 AZ, The Netherlands.

Temozolomide has been used as a standard therapy for the treatment of newly diagnosed glioblastoma multiforme since 2005. To assess the effectiveness of temozolomide in routine clinical practice, we conducted an observational study at Maastricht University Medical Centre (MUMC). Data of patients receiving radiotherapy and temozolomide between January 2005 and January 2008 were retrieved from a clinical database (radiochemotherapy group), as were data of patients in a historical control group from the period before 2005 treated with radiotherapy only (radiotherapy group). The primary endpoint was overall survival. A total of 125 patients with GBM were selected to form the study cohort. Median survival benefit was 4 months: the median overall survival was 12 months (95% CI, 9.7-14.3) in the group with radiochemotherapy with temozolomide, versus 8 months (95% CI, 5.3-10.7) in the group with only radiotherapy. Progression-free survival was 7 months (95% CI, 5.5-8.5) in the radiochemotherapy group and 4 months (95% CI, 2.9-5.1) in the group with only radiotherapy. The two-year survival rate was 18% with radiochemotherapy with temozolomide against 4% with radiotherapy alone. Concomitant treatment with radiotherapy and temozolomide followed by adjuvant temozolomide resulted in grade III or IV haematological toxic effects in 9% of patients. The addition of temozolomide to radiotherapy in routine clinical practice for newly diagnosed glioblastoma resulted in a clinically meaningful survival benefit with minimal haematological toxicity, which confirms the experience of previous trials and justifies the continued use of temozolomide in routine clinical practice.

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