

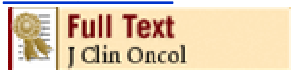


A service of the [U.S. National Library of Medicine](#)  
and the [National Institutes of Health](#)

Select **19188676**

---

1: [J Clin Oncol](#). 2009 Feb 2. [Epub ahead of print]



## **Long-Term Survival of Patients With Glioblastoma Treated With Radiotherapy and Lomustine Plus Temozolomide.**

[Glas M](#), [Happold C](#), [Rieger J](#), [Wiewrodt D](#), [Bähr O](#), [Steinbach JP](#), [Wick W](#), [Kortmann RD](#), [Reifenberger G](#), [Weller M](#), [Herrlinger U](#).

Division of Clinical Neurooncology, Department of Neurology, University of Bonn; Department of General Neurology, Hertie Institute for Clinical Brain Research, University of Tübingen; Dr. Senckenbergisches Institut of Neurooncology, University of Frankfurt, Frankfurt am Main; Department of Neurosurgery, University of Mainz; Department of Neurooncology, University of Heidelberg; Department of Radiation Oncology, University of Leipzig; and Department of Neuropathology, Heinrich-Heine-University of Duesseldorf, Germany; and Department of Neurology, University Hospital Zürich, Zürich, Switzerland.

**PURPOSE:** To evaluate long-term survival in a prospective series of patients newly diagnosed with glioblastoma and treated with a combination of lomustine (CCNU), temozolomide (TMZ), and radiotherapy. **PATIENTS AND METHODS:** Thirty-nine patients received radiotherapy of the tumor site only (60 Gy) and CCNU/TMZ chemotherapy (n = 31 received standard-dose CCNU, 100 mg/m<sup>2</sup>) on day 1 and TMZ 100 mg/m<sup>2</sup>/d on days 2 to 6; n = 8 received intensified-dose CCNU 110 mg/m<sup>2</sup>) on day 1 and TMZ 150 mg/m<sup>2</sup>) on days 2 to 6) for up to six courses. **RESULTS:** In the whole cohort, the median overall survival (mOS) was 23.1 months; 47.4% survived for 2 years, and 18.5% survived for 4 years. After a median follow-up of 41.5 months, mOS had not been reached in the intensified group and was significantly higher than in the standard group (22.6 months; P = .024). In the intensified group, four of eight patients survived for at least 56 months, two of them without recurrence. O(6)-methylguanine-DNA methyltransferase (MGMT) gene promoter methylation in the tumor tissue was associated with significantly longer mOS (methylated, 34.3 months v nonmethylated, 12.5 months). A multivariate Cox proportional hazard model revealed MGMT status (methylated v nonmethylated; relative risk [RR] of death, 0.43; P = .003) and chemotherapy dose (intensified v standard; RR, 0.37; P = .012) as independent prognostic factors. WHO grade 4 hematotoxicity was observed more frequently in the intensified group (57% v 16%). **CONCLUSION:** The combination of radiotherapy, CCNU, and TMZ yielded promising long-term survival data in patients with newly diagnosed glioblastoma. Intensification of CCNU/TMZ chemotherapy may add an additional survival benefit, albeit with greater acute toxicity.

PMID: 19188676 [PubMed - as supplied by publisher]

---