

## Journal Article



## A retrospective study of the safety of BCNU wafers with concurrent temozolomide and radiotherapy and adjuvant temozolomide for newly diagnosed glioblastoma patients

Journal	Journal of Neuro-Oncology
Publisher	Springer Netherlands
ISSN	0167-594X (Print) 1573-7373 (Online)
Category	Clinical-patient studies
DOI	10.1007/s11060-008-9576-7
Subject Collection	Medicine
SpringerLink Date	Friday, April 04, 2008


 PDF (188.3 KB)

 HTML

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**Received:** 20 December 2007 **Accepted:** 26 March 2008 **Published online:** 4 April 2008

**Abstract** Despite aggressive therapy, most patients with glioblastoma multiforme (GBM) die within 2 years of diagnosis. The efficacy and safety of carmustine (BCNU) wafers followed by radiotherapy have been demonstrated in patients with malignant glioma. However, there is a reluctance to recommend them for newly diagnosed GBM patients due to the potential toxicity of BCNU wafers combined with temozolomide (TMZ) chemotherapy and radiotherapy. The purpose of this study was to assess the safety of BCNU wafers implanted at initial surgery, followed by concurrent TMZ and radiotherapy, and then adjuvant TMZ for the treatment of newly diagnosed GBM. We conducted a retrospective analysis of clinic and hospital records of 21 newly diagnosed GBM patients who received multimodal therapy at Florida Hospital Cancer Institute from January 2003 to December 2005. Three of 21 patients had grade 3 toxicities (two with cerebritis, one with psychosis). Grade 4 toxicities were not observed. Median overall survival was 17 months, median progression-free survival was 8.5 months, and 2-year survival was 39%. Multimodal treatment with surgery, BCNU wafers, radiotherapy, and TMZ did not result in a notable increase in significant toxicities. Survival outcomes were comparable to those in other studies in which patients were treated with concurrent TMZ and radiotherapy followed by adjuvant TMZ. Thus, the implantation of BCNU wafers prior to TMZ and radiotherapy appears safe in newly diagnosed GBM patients.

**Keywords** BCNU wafers - GBM - Gliadel - Glioblastoma - Radiotherapy - Safety - Temozolomide - Toxicity

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