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## Safety and feasibility of the adjunct of local chemotherapy with biodegradable carmustine (BCNU) wafers to the standard multimodal approach to high grade gliomas at first diagnosis.

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### Abstract

**AIM:** Among physicians there is still a reluctant attitude in the employment of combined treatment with surgery and intraoperative placement of carmustina 7.7 mg wafers (Gliadel®), followed by standard adjuvant treatment with radiotherapy and concomitant and subsequent chemiotherapy with temozolomide (TMZ), for supratentorial high grade gliomas at first diagnosis. To determine the safety and feasibility of this multimodality sequential adjuvant therapy, we reviewed our single-institution experience, in the light to provide more insights on this continuous multi-stage chemotherapy approach to such a challenging disease as glioblastoma multiforme.

**METHODS:** From February 2006 to January 2008, 32 patients were treated at our institution for cerebral supratentorial high grade glioma with surgery and intraoperative placement of carmustine wafers. No postsurgical complications could be observed. After a median time of 4,8 weeks all patients began adjuvant concomitant radiotherapy with a mean of 60 Gy and TMZ chemotherapy 75 mg/m2 during which weekly hematologic assessments were performed. After 3 to 6 weeks patients commenced adjuvant TMZ, administered 5 days every 28, 200 mg/m2 for not less than 12 cycles. A contrast-enhanced magnetic resonance imaging (MRI) was routinely performed. Median follow-up after surgery was of 6.5 months, ranging from 4 to 23 months.

**RESULTS:** The mean presurgical KPS was of 80 (range: from 60 to 100), and it remained unmodified after adjuvant therapies even at suspension of steroids. In 4 cases there was a radiologic evidence of progression of the disease and the necessity of steroids, with a progression-free survival (PFS) of 6, 8, 9,5 and 13,6 months. One case died 14 months after first operation. All other patients are still alive.

**CONCLUSION:** The integration of local chemiotherapy with carmustine wafers and the standard adjuvant regimen with radiotherapy and concomitant chemiotherapy appears to be safe and feasible, without any adjunctive complication. Promising results on the efficacy require more follow up to be quantified.

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