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ΕΠΙΘΕΟΡΗΣΗ ΚΛΙΝΙΚΗΣ ΦΑΡΜΑΚΟΛΟΓΙΑΣ ΚΑΙ ΦΑΡΜΑΚΟΚΙΝΗΤΙΚΗΣ  
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## Gliadel Wafers in the Treatment of Malignant Glioma: our Experience

S. Plakas, I. Spanos, G. Dimogerontas, E. Rokas, M. Papadopoulos, A. Rovlias, E. Konstandinidis

Neurosurgical Department, General Hospital Asclapieion Voulas, Athens, Greece

**Key words:** Gliadel, carmustine, malignant glioma, glioblastoma multiforme, anaplastic astrocytoma

### INTRODUCTION

We present the safety and the efficacy of interstitial chemotherapy with Gliadel wafers in the treatment of newly diagnosed or recurrent malignant glioma (that is anaplastic astrocytoma or glioblastoma multiforme-GBM).

### METHODS

13 patients had been treated, in our department, for newly diagnosed malignant glioma, from September 2005 to April 2007. In all patients a craniotomy was performed with a near gross total resection of a histologically confirmed GBM in 11 patients and anaplastic astrocytoma in 2 patients, except one patient who had resected only a part of the mass. The cavity was subsequently lined with six to eight Gliadel wafers.

### RESULTS

The postoperative outcome underwent without problems. Clinical and radiological follow up in one, three, six and eight months, in some patients. We report a significant survival benefit for all patients as compared with patients before carmustine had been used. Two patients developed a cerebral edema with marked midline shift through out the operated hemisphere which was

more pronounced than preoperatively, with neurological symptoms. The patients were improved with dexamethazone and mannitol.

### DISCUSSION

Gliadel wafers are an option for selected patients with newly diagnosed malignant glioma where a near gross total resection is possible. No evidence is available comparing Gliadel with systemic therapy and the decision to combine Gliadel with systemic therapy should be made for patients individually. The patient's population that would benefit from Gliadel is unclear; further investigations are needed. Gliadel is also an option for patients with surgically respectable recurrent malignant glioma.

### REFERENCES:

1. Ranasinghe M.J., Sheehan J.M.: Surgical management of brain metastases. *Neurosurgical Focus* 22(3): E2 (2007)
2. Weber E.L., Goebel E.A.: Cerebral edema associated with Gliadel wafers: Two case studies. *Neuro-oncology* January 2005: 84-89 (2005)
3. Perry J., Chambers A., et al.: Gliadel wafers in the treatment of malignant glioma: a systematic review. *Curr. Oncol.* 14: 189-194 (2007)
4. Chiocca A.E.: Being old is no fun: treatment of glioblastoma multiforme in the elderly. *J. Neurosurgery* 108: 639-641 (2008)