

RETROSPECTIVE CLINICAL STUDY FOR ADVANCED BRAIN GLIOMAS BY HYPERTHERMIA TREATMENT, AN UPDATE

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Introduction – None of the established state-of-the-art treatments in malignant primary brain tumors, could show commonly accepted curative potential until today. Electro-hyperthermia (HT) applied in combination with chemo- and/or radio-therapy is a new modality of brain-glioma (BG) treatments. This new method shows promising preliminary results¹. One of the prospective phase II clinical study on relapsed gliomas treated with electro-hyperthermia, showed markedly good results^{2;3}.

Objective – this retrospective clinical study presents 222 patients with brain tumors or metastases-treated/followed from February 2000 to April 2007. With this study we would like to indicate the feasibility of HT for BG. The primary endpoint was the survival time.

Method – The study is an open-label, single arm, monocentric, retrospective study. The involved patients are being analyzed according to an intention-to-treat (ITT) schedule. Recruiting time was 64 months. The primary endpoints of the study were the overall survival time (OST) and the survival time from the first hyperthermia treatment (TST). The applied test was Kaplan-Meier log-rank (KM). HT is capacitive coupling technique by short (RF) waves of 13.56 MHz. Two/three sessions per week for three to six weeks was performed.

Results – Distribution of the BG patients by WHO-grade show mostly advanced cases: astrocytoma WHO II: 13; astrocytoma WHO III (anaplastic astrocytoma, (AA) = diffuse astrozytoma): 49, glioblastoma WHO IV, (GBM): 116, metastases deriving from peripheral cancers: 26, others: 18. Discontinuation of HT defined as <8 sessions: 47

Most of the patients failed to respond to the applied conventional therapies. Hyperthermia was applied in most of the cases in an adjuvant setting.

Conclusion – The results are well indicating the feasibility and the benefit of the hyperthermia treatment showing a valid treatment potential and safe application. Our present data are only retrospective indications of the efficacy of the hyperthermia method.

References – [¹]A.Szasz, et al: Electro- hyperthermia for anaplastic astrocytoma and glioblastoma multiform ICACT 2004, Paris, 9-12. February, 2004;

[²] A phase II clinical study on relapsed malignant gliomas treated with electro-hyperthermia. Fiorentini G et al PMID: 17203754

[³] D. Hager, et al. The treatment of patients with high-grade malignant gliomas with RF-hyperthermia. 39th ASCO Annual Meeting. 2003 (*Abstract No. 470*);