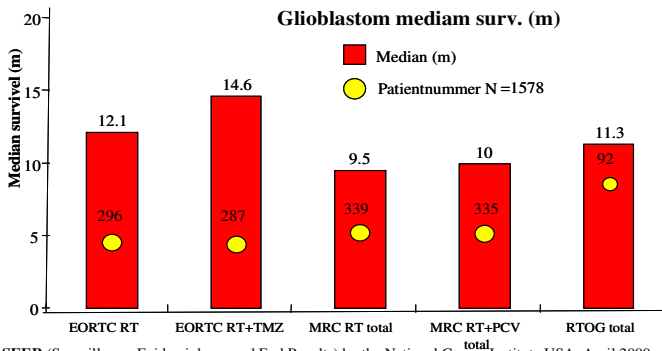


Retrospective clinical study for advanced brain-gliomas by elektro-hyperthermia treatment

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Introduction

Introduction: Treatment of high-grade malignant glioma contrary of numerous new approaches is still disappointing. The median survival time (MST) after surgery, radiotherapy and chemotherapy is 10-12 months, the prognosis of the disease is still poor. The high grade gliomas are not radiosensitive, and chemotherapy has only a marginal effect on survival. Only 20-30% of the patients with gliomas grade III and less than 15% of the patients with gliomas grade IV have benefit from a mono- or polychemotherapy in addition to surgery and radiation. Median survival in palliative care is 2-4 months, and 4-6, 8-10, 10-12 months, after radiation, after surgery and radiation and after combined surgery, radiation and chemotherapy, respectively.



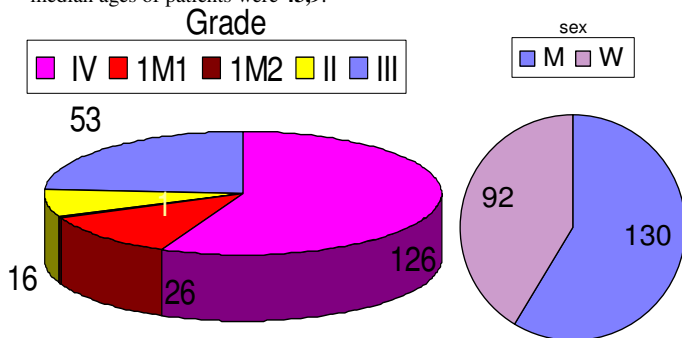
SEER (Surveillance, Epidemiology, and End Results) by the National Cancer Institute USA, April 2000
 MRC (Medical Research Council, Brain Tumor Working Party)
 RTOG (Radiation Therapy Oncology Group)
 EORTC (European Organisation for Research and Treatment of Cancer)
 RT = Radiotherapy, PCV = Procarbazine+CCNU(Lomustine)+Vincristine, TMZ = Temozolomide

Objectives

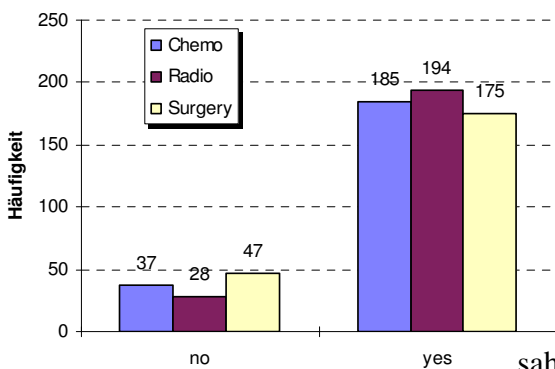
Primary aim of this study was to present the therapy tolerance for patients of electro-hyperthermia (EHY) for advanced malignant gliomas and as main intention to show the increase of the median survival time (MST).

Methods

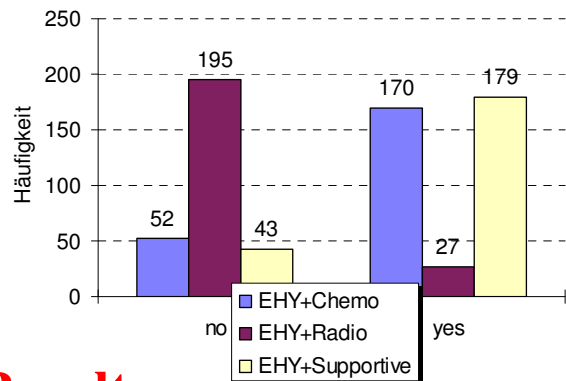
Our study was performed between February 2000 and April 2007. Patients with inoperable, subtotally resected or recurrent astrocytoma and gliomas (WHO grade II to IV) or metastases with progression after radio- and/or chemotherapy and a Karnofsky Performance Score of $\geq 30-40\%$ were included into the study. The statistics of the treated **222 brain-tumor** patients were treated with hyperthermia in combination with chemo/radiation. The median ages of patients were **43,9**.



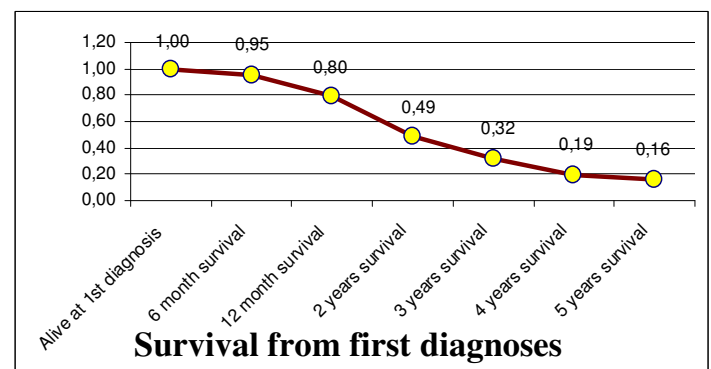
Pretreatments



ADJ-Treatments



Results



Discussion

Capacitively coupled low-frequency (13.56 MHz) deep-hyperthermia is feasible for brain tumor treatments. Partial remission and/or significant retardation of tumor growth were shown in advanced cases. The applied hyperthermia-treatment was well tolerated (also pediatric cases) by the patients even in advanced tumor stages: The curve show the Survival from first diagnoses.

The relevant statistical data:

	Grade II	Grade III	Grade IV	Metast I	Metast II	All
No. of patients	16	53	126	26	1	222
Age Median						46
Age Mean						43,9
Overall survival median						23,5
Overall survival mean						36,6
Survival from 1st EHY median						7,2
Survival from first EHY mean						11,3
Elapsed time to 1st EHY median						11,1
Elapsed time to 1st EHY mean						25,1
Survival from first Diagnoses mean	24,88	22,02	21,66	24,9	7	36,4
Survival from first Diagnoses median						23,5

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