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.

Objectives
Primary aim of this study was to present the tolerance parameter 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, subtotaly resected or recurrent astrocytome and gliomas (WHO grade II to IV) or metatastases with progression after radio- and/or chemotherapy and a Karnofsky Performance Score of >= 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 median ages of patients were 43.9.

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:

<table>
<thead>
<tr>
<th>Grade</th>
<th>No. of patients</th>
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<th>No. of patients</th>
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<th>No. of patients</th>
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<tbody>
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<td>IV</td>
<td>16</td>
<td>I</td>
<td>26</td>
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Elapse time to 1st EHY median values:

<table>
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<th>ERT/RT</th>
<th>ERT/RT+TMZ</th>
<th>ERT total</th>
<th>MRC/RT</th>
<th>MRC/RT+PCV</th>
<th>MRC total</th>
<th>RTOG total</th>
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The statistical data:

<table>
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<tr>
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<th>ERY+Radio</th>
<th>ERY+Supportive</th>
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Pretreatments

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References


Contacts

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