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THERMORADIATION THERAPY FOR ADVANCED ORAL CAVITY CANCER

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Introduction: Results of radiation therapy (RT) and thermoradiation therapy (TRT) of 63 patients (T3-4aN0-3M0) with oral cavity (tongue, floor of the oral cavity) carcinoma are presented.

Materials and methods: Patients (pts) were divided into two groups: 31 pts received RT alone (group I), 32 - received TRT (group II). All patients received conventional RT: 2.0 Gy 5 days per week to total dose 56-60Gy. Two weeks break was done after total radiation dose 36-40 Gy for pts both groups. Local-regional hyperthermia (LRHT) in group II started at second week and was carried out three times a week (No 8-10). LRHT was realized at "Supertherm EP-40" unit (40.68 MHz) by using capacitive applicators. Temperature of heating was controlled by fiberoptic thermometers with 2-3 sensor elements. Temperature in the center of tumor was from 42.2 to 43.3 °C and at periphery - 41.4 to 41.7 °C. Survival was calculated according to the Kaplan-Meier method and overall log-rank test was used for comparison of survival analysis.

Results: Complete response (CR), partial response (PR) and stabilization (St) of tumor were obtained in group I in 11 (35.5%), 11 (35.5%) and 9 (29.0%) pts, while at group II were registered in 20 (62.5%), 10 (31.3%) and 2 (6.2%) pts respectively. Difference between groups for CR were statistically significant ($p<0.05$, $\chi^2=4,60$). Significant difference between two groups obtained for local recurrence-free survival ($p=0.041$), local control ($p=0.032$) and diseases-free survival ($p=0.046$). The frequency of CR metastasis in lymphonodules of the submaxillary area after TRT has formed 48.0% vs 22.2% after RT ($p=0.05$, $\chi^2=3,81$).

However difference in overall, regional recurrence-free (without metastasis in submaxillary and necks nodules), distant metastases-free survival and regional control was didn't statistically significant. At the same time TRT increased local acute reactions ($p<0.05$, $\chi^2=3.95$) and didn't increased late complications rate.

Conclusion: Using of LRHT with RT significantly improves immediately tumor response and five-year local recurrence-free survival, local control and diseases-free survival of patients with oral cavity carcinoma.

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Brain glioma results by oncothermia

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Objective – None of the established state-of-the-art treatments in malignant primary brain tumors, especially in glioblastoma multiform (GBM), could show effective or commonly accepted curative potential until today. The editorial question of JAMA [1] in 2005 is actual even now: "Where to go from here?" Our objective to show a feasible way to go, summarizing the results obtained till now made by modulated electro-hyperthermia (oncothermia) in various clinics in EU.

Method – Data are collected from GBM and anaplastic astrocytoma (AA) published observational studies. The method is transcranially applied modulated RF-current capacitive coupled at 13.56 MHz carrier frequency, (Oncotherm, EHY2000+) described in details elsewhere [2]. The applied protocol was unified step-up heating, 40-150 W RF-power with water-bolus cooling. Treatment is applied in combination with chemo- and/or radio-therapy or used as monotherapy if the conventional therapies fall.

Results – Data published in ASCO at 2003 [3] shows 106m (n=9) median survival time (MST) for AA and 20m (n=27) for GBM patients. At newest ASCO presentations [4] 38.2m (n=53) and 20.3m (n=126) was observed for AA and GBM patients, respectively. Witten-Herdecke University published [5] 70.2m (n=17) and 25.2m (n=19) as well as [6] 26.1m (n=40) and 16m (n=92) data for AA and GBM MST, respectively. HTT-Med MST results [5] were 36m (n=8) and 14m (n=10) for AA and GBM, respectively. The very advanced relapsed cases show [7] 9m MST (n=12) for GBM.

Conclusion – The results are strongly indicating the feasibility and the benefit of the oncothermia showing a valid treatment potential and safe application. Oncothermia is a potential way to escape from the present impasse situation and treat brain gliomas successfully. Performing prospective, randomized clinical trials in the future is mandatory. A well designed Phase I study is shown in our other paper [8].

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