

## **SUPERFICIAL HYPERTHERMIA WITH LOW DOSE RADIOTHERAPY FOR TREATMENT OF SUPERFICIAL METASTASES.**

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**Purpose:** The aim of this study is evaluation of the tumor response after hyperthermia combined with radiotherapy.

### **Materials and methods:**

From May 2003 till November 2006 108 patients (61 male, 47 female, mean age 60 years) with superficial metastases were treated with microwave superficial hyperthermia combined with hypofractionated radiotherapy. Hyperthermia was administered twice a week with high frequency applicator (~900Mhz) with water bolus. The temperature was set to 43°C for 45 minutes. Radiotherapy was performed daily with dose 2 Gy or 4 Gy per fraction, to a total dose 20 Gy. Treated regions were head and neck-64, chest wall - 16, abdomen and groins - 12, upper limb – 5 and lower limb - 11 patients. Tumor regression was evaluated at the end of treatment, after 2 weeks, after 1,5 month and every 3 months if it was possible due to the natural course of disease. The toxicity was evaluated using 6 step scale: 0-no skin reaction, 1-delicate erythema, 2-intensive erythema, 3-blisters, 4-brown skin, 5-necrosis.

### **Results:**

After the first 2 weeks mean regression value was 18%, after 1,5 month it was 16%. After 4,5 months mean tumor diameter was the same as at the beginning of the treatment. After 7,5 and 10,5 months mean tumor diameter was respectively 16% and 53% larger, than at the beginning of the treatment. No skin reaction was observed in 16 cases, delicate and intensive erythema in 40 and 35 cases respectively. Brown skin was observed in 4 cases. Blisters were observed in 12 cases. No necrosis was observed.

### **Conclusions:**

Hyperthermia combined with radiotherapy provides regression lasting approximately 4 months and is safe treatment scheme.