

LOCAL SUPERFICIAL HYPERTHERMIA IN COMBINATION WITH LOW-DOSE RADIATION THERAPY FOR PALLIATION OF SUPERFICIALLY LOCALIZED NON SMALL CELL LUNG CANCER METASTASES.

Mista W., Owczarek G., Miszczyk L.,
Radiotherapy Department, Center of Oncology, M. Skłodowska-Curie m. Institute, branch Gliwice, Poland

Purpose: The aim of this study is to evaluate the response of superficially located non small cell lung cancer metastases and local toxicity to microwave hyperthermia combined with radiation therapy.

Methods and Materials: From May 2003 through December 2006 36 patients (27 male, 9 female; mean age 61 years) with lymph nodes or skin metastases were treated with microwave superficial hyperthermia combined with low-dose radiation therapy. Hyperthermia was administered twice weekly 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. There were 11 patients with squamous cell carcinoma 16 with adenocarcinoma 9 with type difficult to determine. Treated regions were mainly neck and supraclavicular (34 patients). The toxicity was evaluated using 6 step scale: 0-no skin reaction, 1- delicate erythema, 2- intensive erythema, 3-blisters, 4-brown mark, 5-necrosis. Presence of pain and it's intensity were also analyzed. Diameter of tumor after the treatment was observed.

Results: Complete response was achieved in 7 patients (18%), and partial response in 22 patients (58%), no response was observed in 6 patients (16%) and progression of tumor in 3 patients (8%). No skin reaction was observed in 5 patients, delicate erythema in 17 patients, intensive erythema in 14 patients, blisters in 2 patients, no brown mark or necrosis was observed. The pain occurred in 3 patients but it was not the cause of stopping treatment.

Conclusions: Local superficial hyperthermia combined with low-dose radiation therapy is an effective and safe method of treatment in a proportion of patients with superficial non small cell lung cancer metastases. This combination of treatment modalities is well tolerated and is useful for palliation.