

Dialectics of hyperthermia and oncothermia: development through negation

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Electromagnetic therapy in terms of biological effect is initially 'a unity of opposites', namely of the specific, non-thermal effect of alternating electromagnetic fields and inevitable nonspecific heating, each having its own efficiency. First, 'the struggle of the opposites' led to negation of any role of non-thermal effects and absolutisation of the thermal component, resulted in the formation of so-called 'thermal dogma' in 30s. Temperature oncological hyperthermia based on the 'thermal dogma' failed in terms of implementation after 50 years of development. At the same time, theory and practice of non-thermal effects of alternating electromagnetic fields were developing.

Oncothermia (modulated electro-hyperthermia) originated around 1996 from the negation of the central role of temperature in oncological electromagnetic therapy. This was a 'transformation of quantity into a quality', namely transformations of quantity of knowledge about non-thermal effects of alternating electromagnetic fields into a new quality of treatment. Thus, oncothermia is a natural dialectical development of oncological hyperthermia and qualitatively new electromagnetic treatment based on non-thermal effects and hyperthermic heating.

Mixed Response to TS-1 and Oncothermia in a Esophageal Cancer Patient with Lung Metastases: Case Report

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Introduction: Management of patients suffering from esophageal cancer with lung metastasis remains challenging in routine clinical practice. Oncothermia has recently been applied as novel therapeutic option for metastatic or recurrent esophageal cancer patients. We report a case of esophageal cancer patient with showing a restricted response in the Oncothermia application field during TS-1 systemic chemotherapy.

Case report: A 57-year-old male esophageal cancer patient had received esophagectomy. Pathologic specimens showed stage IIA (T3N1MO) squamous cell carcinoma in the upper esophagus. After operation he received 3 times adjuvant FP (5-FU and cisplatin) chemotherapy. Three months later after completing chemotherapy two lung metastases were noted. Since then three times palliative docetaxel chemotherapy was applied but not showing any response. He received three times concurrent chemo (DEF)-Oncothermia treatment in the painful left lung lesion invading a rib. Tumor response was not observed after completing treatment. Since then he took 2 cycles TS-1 chemotherapy with Oncothermia treatment. After completing 2 cycles concurrent chemo-Oncothermia treatment, a mixed response was noted. On the one hand left metastatic lung lesion applied Oncothermia showed decreasing tumor size, on the other hand right lesion not applied Oncothermia revealed the increasing tumor size despite of systemic chemotherapy.

Discussion: In some esophageal cancer patients concurrent chemo-Oncothermia treatment may become a new option for palliation of these patients.