

Combining hyperthermia with the new biologic and immunotherapy drugs

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Combining hyperthermia with the new biologic and immunotherapy drugs

The combined synergistic effect of hyperthermia with radiation, chemotherapy, supplements, photodynamic therapy and more, is well known.

In the recent years, many new anti-cancer agents appeared and become an important part of any cancer treatments. These are the biologic agents affecting intracellular processes and related to genetic changes in the tumor cells. In addition, there are in use several new immunotherapy agents affecting the possibility of cancer cells to hide from the body own immune system.

Laboratory and clinical studies as well as case reports, published in the medical literature, are indicating that these new biologic and immunologic agents work synergistically with hyperthermia.

Antiangiogenic agents such as bevacizumab (Avastin) are more effective when combined with hyperthermia which is an antiangiogenic by itself, in lung, ovarian and other cancer types.

In an Indian study, all 6 patients with advanced H&N cancer treated with cetuximab, radiation and hyperthermia achieved a complete response. In a Dutch study only one out of 7 advanced cervical cancer progressed after treatment with cisplatin, lapatinib and hyperthermia.

Similar impressive effects were observed combining sunitinib, sorafenib, gefitinib, bortezomib, mapatuzumab and several immunotherapy agents with hyperthermia. The scientific basis of these combined effects and studies details will be presented.