Narrowing the Gap: the position of hyperthermia between academic and complementary oncology

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Hyperthermia developed simultaneously in the late 1970s in academic centers and various CAM cancer clinics. Each developed along parallel tracks that addressed the needs of the various constituencies. Specific companies then arose to address the needs of each community. Today, interaction between the two "camps" is sporadic at best and sometimes even hostile. Before broader cooperation can occur each side needs to understand the particular conditions that give rise to their differing approaches.

The goal of Academia is to raise hyperthermia to the status of a precise science, with the same degree of predictability as radiation oncology. This is ultimately a question of quality control. The precise dose of heat delivered to the tumor (but not to surrounding tissues) must be measured, either with probes or thermometric MRIs. A precise calculation must be provided to oncologists of the statistical improvement in tumor responses, disease-free (DFS) and overall survival (OS). Such knowledge is only obtainable through large multi-center, randomized phase 3 clinical trials, preferably published in high-impact English-language journals. Cost and toxicity are of minor consideration compared to the attainment of reliable information on the exact effect of treatment. To date, only 2 such phase 3 trials have been published, addressing only a tiny fraction of all cancer cases.

By contrast, CAM cancer clinics/hospitals emphasize treating patients according to their individual needs and desires. High heat is shunned because of complaints over side effects. Probes are out of the question. Patients are treated individually, not according to strict protocols. Costs are kept to a minimum, corresponding to the patients' ability to pay out-of-pocket. Formal phase 3 trials are impossible in this context because (1) one cannot isolate the treatment effect of hyperthermia from that of other elements in a holistic patient-centered program; (2) no manufacturer or single clinic can afford the cost of conducting a phase 3 trial; and (3) most clinical directors do not have sufficient knowledge, connections or expertise to conduct such trials.

The author will suggest strategies that could be employed to increase scientific knowledge coming from CAM clinics and thereby narrowing the gap between academic and CAM approaches to hyperthermia. This would increase acceptance of the field of hyperthermia as a whole.