

Whole body hyperthermia in water bath: technical-physical aspects and clinical experiences

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It is accepted that the increase in core body temperature above 41.5 ° C may help to destroy tumor cells. Life of cancer patients is particularly threatened by the metastasis. Therefore systemic treatments are preferred. The discussion of the last two decades showed that every tenth of temperature increase helps to improve the damage of cancer cell. Studies by Suvernev et al confirmed efficient reduction of viruses infected individuals at temperatures above 42.5° C. So close to the available methods and their predictive success one should verify the feasibility of a whole-body thermal therapy.

Professor von Ardenne started the development of the extreme whole body hyperthermia in water. After use of short-wave (Selectotherm) he perfected whole body hyperthermia by water filtered infrared-A-radiation, while discussions with other celebrities in research.

Thus temperatures could certainly be achieved up to 42,5°C, in the routine up to 42.3 °C.

While the effort to increase these temperatures, the work fell to the research group led by Professor Suvernev from Novosibirsk (Russia), which are specialized for various reasons, turn on the water as a heat source. After the transfer of know-how, a prospective observational study was initiated to evaluate which of the two competing systems - perhaps Heatheal © procedure or IRATHERM®-2000 - will be suitable, safe and well tolerated, to escalate the temperature above 42.5 °C. In focus of the investigations are the temperature controls, the anesthesia, the safety and tolerability, all things considered the feasibility as the requirement of therapeutic efficiency. Later, the question has to be clarified whether it is better to escalate the temperature significantly (43.0 °C) or even in extreme temperatures (42.3 °C) with a distinct plateau time (> 60 min> 41, 8 °C) to linger and work out for what goals which method will be more suitable.

The Heatheal© procedures accomplished in the gisunt® clinic with its gisunt® Hyperthermia Center are critically analyzed and were presented experts of hyperthermia for the first time to discuss further questions while continued leading investigations.