Abstracts

Selective Electromagnetic Heating of Tumors in Animals in Deep Hypothermia

R.P. Zimmer, H.A. Ecker and V.P. Popovic. "Selective Electromagnetic Heating of Tumors in Animals in Deep Hypothermia." 1971 Transactions on Microwave Theory and Techniques 19.2 (Feb. 1971 [T-MTT] (Special Issue on Biological Effects of Microwaves)): 238-245.

A technique for heating tumors with microwave energy has been developed to achieve differential hypothermia in laboratory animals. In the differential hypothermia technique, a temperature difference of about 25°C is maintained between the tumor and the body with the tumor being at normal body temperature. While the animal is in this deep differential hypothermic state, chemotherapeutic drugs are administered to treat the tumor. For large tumors, the technique was implemented with S-band equipment and for smaller tumors it was implemented with X-band equipment. Both systems employ a feed or probe designed for use with the particular system. Results are presented that show the applicability of microwave energy in the selective heating of tumors.

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