Abstracts

Selective Heating of Cutaneous Human Tumors at 27.12 MHz

P.P. Antich, N. Tokita, J.H. Kim and E.W. Hahn. "Selective Heating of Cutaneous Human Tumors at 27.12 MHz." 1978 Transactions on Microwave Theory and Techniques 26.8 (Aug. 1978 [T-MTT] (Special Issue on Microwaves in Medicine, with Accent on the Application of Electromagnetics to Cancer Treatment)): 569-572.

Data obtained on superficial lesions in different sites and for different patients show that it is possible to correlate average values of the temperature and of the absorbed power density. For healthy tissues, the correlation appears to be defined to within 1°C. For tumor tissues, on the other hand minimum values of the temperature appear to be predictable. This result indicates that hyperthermic dosimetry is feasible. Furthermore, a differential temperature phenomenon is observed, in which a lacalized absorbed power distribution induces higher temperatures in tumors than in the surrounding healthy tissues. This observation, if confirmed with larger statistics and for tumors at a depth, appears to indicate that tumor-killing temperatures can be induced with the heating method employed while simultaneously sparing the surrounding healthy tissues.

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