Abstracts

Absence of Heart-Rate Effects in Rabbits During Low-Level Microwave Irradiation

I.T. Kaplan, W. Metlay, M.M. Zaret, L. Birenbaum and S.W. Rosenthal. "Absence of Heart-Rate Effects in Rabbits During Low-Level Microwave Irradiation." 1971 Transactions on Microwave Theory and Techniques 19.2 (Feb. 1971 [T-MTT] (Special Issue on Biological Effects of Microwaves)): 168-173.

Soviet studies have reported that low-level microwave irradiation alters the heart rate of humans and animals. In a replication of one such study, 16 rabbits were exposed to dorsal irradiation n of the head by 2.4-GHz CW. microwaves at a power density of 10 mW/cm² for 20 min. The rest of the animal's body was shielded by absorbent material. There was no significant difference between the heart rate during or after irradiation and the heart rate of the same animals during a control condition in which they were not irradiated. Analysis of the variability in heart rate observed in this experiment suggested that the heart-rate effects reported in the original Soviet study might have been chance variations. In a second experiment, heart rate, respiration rate, and body temperature were recorded simultaneously while each of two rabbits was irradiated as before, on the dorsal aspect of the head only, at various power densities from 0 to 100 mW/cm², in steps of 20 mW/cm². Respiration rate increased during irradiation at 40 mW/cm², body temperature rose at 80 mW/cm², and ultimately the heart rate also increased, but only at 100 mW/cm².

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