Abstracts

Microwave-Induced Post-Exposure Hypertherrnia: Involvement of Endogenous Opioids and Serotonin

H. Lai, A. Horita, C.K. Chou and A.W. Guy. "Microwave-Induced Post-Exposure Hypertherrnia: Involvement of Endogenous Opioids and Serotonin." 1984 Transactions on Microwave Theory and Techniques 32.8 (Aug. 1984 [T-MTT] (Special Issue on Electromagnetic-Wave Interactions with Biological Systems)): 882-887.

Acute exposure to pulsed microwaves (2450 MHz, 1 mW/ cm/sub 2/, SAR 0.6 W/kg, 2- µs pulses, 500 pulses/s) induces a transient post-exposure hyperthermia in the rat. The hyperthermia was attenuated by treatment with either the narcotic antagonist naltrexone or one of the serotonin antagonists cinanserin, cyproheptadine, or metergoline. It was not affected, however, by treatment with the peripheral serotonin antagonist xylamidine nor the dopamine antagonist haloperidol. It thus appears that both endogenous opioids and central serotonin are involved. It is proposed that pulsed microwaves activate endogenous opioid systems, and that they in turn activate a serotonergic mechanism that induces the rise in body temperature.

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