

UDC 612.014.424.5

BIOLOGICAL EFFECT OF MILLIMETER RADIOWAVES

Kiev VRACHEBNOYE DELO in Russian No 3, 1977 pp 116-119

[Article by N. P. Zalyubovskaya, Khar'kov Scientific Research Institute of Microbiology, Vaccines and Sera imeni Mechnikov]

[Text] Morphological, functional and biochemical studies conducted in humans and animals revealed that millimeter waves caused changes in the body manifested in structural alterations in the skin and internal organs, qualitative and quantitative changes of the blood and bone marrow composition and changes of the conditioned reflex activity, tissue respiration, activity of enzymes participating in the processes of tissue respiration and nucleic metabolism. The degree of unfavorable effect of millimeter waves depended on the duration of the radiation and individual characteristics of the organism.

The ubiquitous propagation of radiowaves, radio broadcasting and television is contributing to the appearance of a new physical factor -- electromagnetic waves of the radio-frequency range. In recent years it has been established that radiowaves of different ranges have an unfavorable influence on the organism. The literature data (A. G. Subbota, 1970; N. V. Tyagin, 1971; B. A. Chukhlovin, 1973; M. I. Yakovleva, 1973; Yu. D. Dumanskiy et al, 1975) testify that long stay in conditions of the effect of radiowaves (the dm and cm ranges) leads to change of the functions of the nervous, cardiovascular and other systems of the organism, with the development of a characteristic complex of symptoms which permit speaking of a special nosological form of disease -- radiowave disease (M. N. Sadchikova, 1973). However, in the literature there is almost no information about the biological effect of radio frequencies of the millimeter range, although that range is widely used in technology and the question of its biological activity has acquired special urgency.

The goal of the present investigations consisted in study of the physiological and biochemical processes lying at the basis of the changes which occur in animals as a result of the effect of radiowaves in the range of 5-8 mm, at a density of the flow of power of 1 milliwatt/cm<sup>2</sup>. The investigations were conducted on rats of the Wistar line and mice of the CBA line, irradiated for 15 minutes daily in the course of 60 days in the volume resonator of an experimental installation working on the basis of a type OV-12 generator.