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TITLE: Change in the phagocytic and bacteriocidal function of the blood  
in animals during exposure to radiofrequency electromagnetic fields

SOURCE: Gigiyena i sanitariya, no. 6, 1967, 37-41

TOPIC TAGS: microwave biologic effect, electromagnetic field,  
experiment animal, magnetic hematologic effect

ABSTRACT:  
The effects of electromagnetic fields of various wavelengths on the phagocytic and bacteriocidal function of the blood were investigated in 45 white male rats. Three groups were studied: the first group was exposed to  $\lambda = 20.1$  m waves with an intensity of  $2000 \text{ v/m}^2$ ; the second group was exposed to  $\lambda = 7.6$  m waves with an intensity of  $600 \text{ v/m}^2$ ; and the third group was exposed to  $\lambda = 12.6$  cm waves with an intensity of  $10 \text{ mw/cm}^2$ . The animals were irradiated daily for 1 hr over a 2 1/2 month period (66 exposures). Each experimental group had a control complement of five animals. Some results of this investigation are shown in Fig. 1. It

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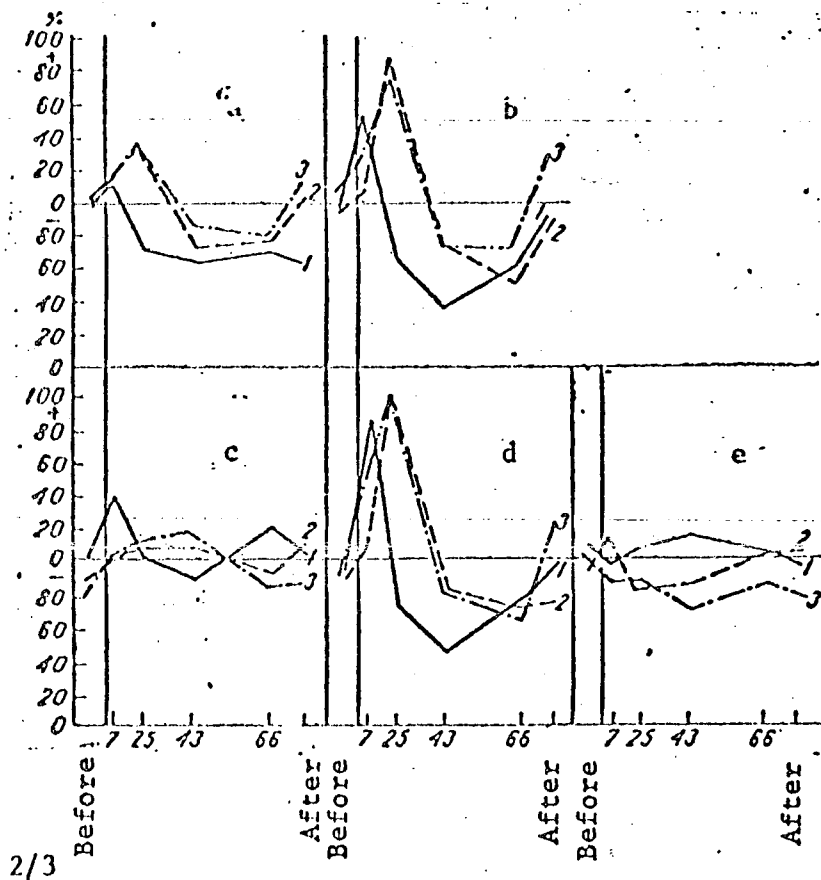


Fig. 1. Dynamics of changes in the phagocytic and bacteriocidal function of the blood (mean data by group in percent of control)

a - Percent phagocytosis; b - phagocytic index; c - percent digestion; d - digestion index; e - bacteriocidal nature of plasma; baseline (0) - control; 1 - first group; 2 - second group; 3 - third group.

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was found that exposure of animals to all the wavelengths tested resulted in phasic changes in blood-phagocytic and bacteriocidal function which were expressed as alternating activation and inhibition. Exposure to  $\lambda = 766 \text{ m}$  produced the most abrupt changes. Phagocytic activity was restored one month after termination of the experiment. Orig. art. has: 1 figure. [CD]

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