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Control and treatment of Ehrlich tumors implanted in mice by extremely low frequency electromagnetic waves at resonance frequency

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ELF) electromagnetic waves (EMW) at resonance frequency with the bio-impulses generated from specific metabolic process will be discussed. The inhibiting frequency of ELF-EMW impulses to Ehrlich tumor growth and in this talk, the basic interaction mechanisms of extremely low frequency implanted intramuscularly the thigh of mice was investigated and found to be at 4.5 Hz. The studies were carried out by different modes of ELF namely, amplitude modulated waves (AMW), positive electric or magnetic impulses at the same frequency. Experimental data indicated the inhibition of tumor growth and highly significant improvement of survival period of the ELF treated animals relative to control. The studies were expanded to study the effects of whole body exposures of tumor implanted animals to 4.5Hz EMF on preventing metastasis in liver, kidney and spleen. Histological examinations and dielectric relaxation studies for these organs indicated that treatment by EMW caused a decrease in the percentage of metastasis in the studied organs and loss of animals as compared with untreated groups. It was concluded that exposures of animals injected with Ehrlich tumor to 4.5 Hz EMW can inhibit tumor growth in secondary sites or distant organs and can be used as preventing agent to murine metastatic development.

Biography

Fadel M Ali has done BSc in Physics from Cairo University in 1957 and PhD in 1961 from Hungarian Academy of Science. He became Professor of Radiation Physics in 1975, Professor of Radiation and Medical Biophysics in 1979 at faculty of Science Cairo University. He founded the Biophysics Dept. Cairo University 1982, the Egyptian Biophysical Society 1985 and Egyptian Journal of Biophysics 1994. He has published papers in the fields of radiation physics and medical biophysics and is the President of the Egyptian Biophysical Society.

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