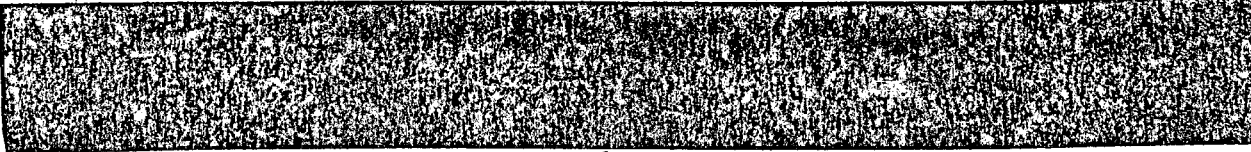


ABSTRACT

Bioelectromagnetics Symposium

EFFECTS OF A.C. MAGNETIC FIELD ON LYMPHOMA CELLS



YC-8 mouse lymphoma cells (1×10^6) in tissue culture were exposed to 130 Gauss, 1950 Hz for 48 and 96 hours. Total cell counts were obtained and cell viability determined by the trypan blue staining exclusion method.

- A. In the magnetic field at 48 hours - 31% increase in cell numbers with 85% viability occurred. At 96 hours - 149% increase in cell numbers with 88% viability.
- B. In the control environment at 48 hours - 75% increase in cell numbers with 89% viability. At 96 hours - 318% increase in cell numbers with 84% viability.

The differences in the percentage of cell increase in the two groups suggests a retarding effect of the magnetic field exposure.

In an in vivo experiment using YAC mouse lymphoma cells (2×10^6) two groups were again used. The first group was exposed for 17 days to 1,000 Gauss, 60 Hz and the second control group maintained in a dummy cage in normal laboratory environment. A slower visible and palpable tumor (subcutaneous) onset noted in the first group with average tumor weights being 2.06 grams as compared to 3.1 grams for the control group. Although the magnetic fields were different in the in vitro and in vivo experiments, a retarding effect on the tumor growth occurred in the magnetic groups.