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THE EFFECT OF EXTREMELY LOW FREQUENCY MAGNETIC FIELD (ELF-MF) ON THE FREQUENCY OF MICRONUCLEI IN HUMAN LYMPHOCYTES INDUCED BY BENZO(A)PYRENE

Yoon Hee Cho, Su Young Kim, and Hai Won Chung

School of Public Health, Seoul National University, Seoul 110-460, Korea

The interaction of extremely low frequency magnetic field (ELF-MF) on the frequency of micronuclei (MN) induced by benzo(a)pyrene (BP) in human lymphocytes was examined. A 60 Hz ELF-MF of 0.8 mT field strength was applied for 24 hours either alone or with the tumour initiator, BP. The frequency of MN induced by BP increased in a dose-dependent manner. The exposure of cells pretreated with BP to 0.8 mT ELF-EMF led to 2 to 3 folds increase in the frequency of MN compared to BP treatment alone, but no significant difference was observed between field exposed and sham exposed control cells. The obtained result suggests that low density ELF-MF would act as an enhancer of the initiation process of BP rather than as an initiator of mutagenic effects in human lymphocyte cells.