

[P-46]**PRE- AND POSTNATAL TOXICITY EVALUATION OF 60 Hz HORIZONTALLY POLARIZED MAGNETIC FIELDS IN RATS.**

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Recently, there is an increasing nationwide concern in Korea that exposure to electric and magnetic fields (MF) in the home environment may not be safe in humans. We previously demonstrated that exposure of MF during the entire period of pregnancy did not induce any adverse effects on both pregnant dams and embryo-fetal development in rats. The present study was conducted to assess the potential adverse effects of MF exposure on pregnancy, delivery, and lactation of dams and postnatal growth, behaviour, and mating performance of offspring. Timed-pregnant female Sprague-Dawley rats (24/group) received continuous exposure to 60 Hz MF at field strengths of 0, 50, 833, or 5000 mG from gestational day 6 to lactational day 21. Experimentally generated MF were monitored continuously throughout the study. No exposure-related changes in clinical signs, body weights, food consumption, pregnancy, delivery, lactation, and necropsy findings were observed in dams of any group. Parameters of growth, behaviour and reproductive performance of F1 offspring showed no changes related to MF exposure. There were no adverse effects on F2 embryo-fetal development at any exposure level. In conclusion, exposure of pregnant Sprague-Dawley rats to 60 Hz at field strengths up to 5000 mG during the pregnancy and lactation periods did not produce any biologically significant effect on dams, offspring, and F2 embryo-fetal development.

keyword : Magnetic fields, pregnancy, delivery, lactation, offspring