Protective effect of naloxone in rats received chronic L-arginine

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A high percent of women in the world suffer from reproduction problems. We investigated on the occurrence of reproduction problems in L-arginine treated rats. We examined the protective effect of naloxone on the L-arginine effects. Female Wistar rats (weighing 200-250 g) under the diestrous phase were intraperitoneally (i.p.) injected L-arginine (50 mg/kg) or naloxone (0.4 mg/kg) for 9 days/ once a day. Another group of the rats received collectively L-arginine (50 mg/kg) and naloxone (0.4 mg/kg) i.p. during the period (9 days/ once a day). The naloxone in this group was priorly (30 min) injected to the L-arginine. Control group solely received saline (1 ml/kg, i.p.) throughout the treatment period. All rats were then coupled with intact males and after observation of vaginal plaques they were graded 0 gestationally. The female rats were examined in days 19-20 of gestation to provide the reproduction data. Based on the data the number of fetus decreased in the L-arginine treated group compared with the saline control. This effect however was improved in the group which received naloxone in combination with the L-arginine. Moreover, the group which was injected single naloxone showed no significant change in number of fetus. The crown-rump length (CRL) of all fetuses was indicated as changed not significantly. Since the effects by naloxone are predominately exerted through interaction with receptors into the nervous system, this study likely represents the protective effect of naloxone on reproduction problems induced by chronic injection of L-arginine. This result may open a new gate toward the naloxone signal transduction.

Key words: Naloxone, L-arginine, Gestation, Fetus

Study on Electromagnetic Fields Effects on Serotonin Release

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Serotonin, 5-HT, is a neurotransmitter that is found in both the peripheral and central nervous system, PNS and CNS. Various receptors of 5-HT in CNS is the reason that 5-HT is involved in several cognitive abilities such as memory, learning, sexual behavior, feeding behavior and nociception. Many studies have been made to investigate the factors that influence serotonin effects. Among them electromagnetic field exposure is one of the latest issues to be studied. Previous studies have shown that extremely low frequency electromagnetic fields (ELF-EMF) exposure affected neurotransmitters release. Understanding the exact effects of ELF-EMF with different intensities and frequencies on 5-HT release can be a useful key to treat patients suffering from diseases such as anxiety, depression, migraine, eating and sleep disorders and Alzheimer's disease. In this study serotonin release was investigated in the presence of ELF-EMF. Dodd method, sucrose density gradient centrifugation, was used to prepare synaptosomes suspension. Also