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**THE INFLUENCE OF ELECTROMAGNETIC RADIATION ON THE LEVEL OF  
RATS STEROID HORMONES**

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**Introduction.** The low-intensity electromagnetic radiation (EMR) is one of the factors of the environment, that has an adverse impact on the human body, primarily on neuroendocrinal system. At the same time it is known that the fetal organism is extremely sensitive to changes in the maternal endocrine state and to the changes in the environment.

**Aim.** The wide use of electromagnetic radiators stipulates impossibility of exception of actions of the EMR during pregnancy. In this connection there is a necessity of studying of the impact of the low-intensity EMR of centimetric range (1-10 cm) on the pregnant individual and on the endocrine state of a fetus.

**Materials and methods.** The experiment was conducted on Wistar rats. Animals were divided into two groups. The first group of animals was exposed to low-intensity EMR of centimetric range for 4 hours every day during the entire period of pregnancy. The second group (control) were placed under similar

conditions to the chamber, but were not exposed to radiation. Posterity of the main and control groups was derived from the experiment at the age of three months. For biochemical study blood serum was taken, after that concentration of corticosterone, estradiol and testosterone was determined by immune-enzyme method.

**Results.** The influence of the low-intensity electromagnetic radiation on female rats during of a pregnancy is reflected on the level of posterity's corticosterone. The females of the main group have the concentration 862,0 nmol/l, control group has 658,9 nmol/l. The males of the main group have the concentration 1522,5 nmol/l, control group has 617,9 nmol/l. In this way significantly the level of corticosterone is elevated in males. The examination of sex hormones level in blood serum of experimental animals is detected the reduction of estradiol level in males (control – 1,19 nmol/l, experiment – 0,21 nmol/l) and females (control – 1,89



nmol/l, experiment -1,51 nmol/l). The level of testosterone is lowered in females (control -1,89 nmol/l, experiment - 0,98 nmol/l), in males is increased (control - 5,47 nmol/l, experiment - 6,32 nmol/l), Such deviations of sex hormones concentration are insignificant and characterize the distribution under reaction rates of population's endocrine state.

### **Conclusions.**

1. Animals that prenatally have suffered the impact of electromagnetic radiation have the increased level of corticosterone, especially in males.
2. These features may indicate the activation of the stress-organized structures affecting function systems hypophysis-adrenal glands, hypophysis-gonads.

**Polikov G.**

## **INNOVATIVE BIO-TECHNOLOGICAL DEVELOPMENTS OF UKRAINIAN SCIENTISTS IN THE AREA OF PROBIOTICS**

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**Actuality.** Malnutritional diet, the use of antibiotics, stresses – all is detrimental to our health. Nowadays, therapeutic and prophylactic use of probiotics is common in the world. Probiotics – are medicinal preparations based on representatives of normal human intestinal microflora.

**Aim.** To analyze the feasibility and benefits of the use of modern recombinant probiotic Subalin for pharmacological treatment of intestinal dysbiosis.

**Materials and methods.** Current literature concerning the analysis of the data representing an innovative generation of probiotics V Subalin obtained via genetical engineering by Ukrainian scientists.

**Results.** The recombinant probiotic generation V - Subalin, is comprised of live bacteria, obtained through the means of genetic engineering by a group of Ukrainian scientists on the basis of the strain *Bifidobacterium subtilis*. *Bifidobacterium subtilis* are widespread in nature and, in food (bread and milk), water, air. It inhibits the growth of pathogenic and conditionally pathogenic flora, creates favorable conditions for the normalization of the qualitative and quantitative composition of intestinal microflora (*bifidobacteria*, *lactobacilli*, *escherichia coli*). *Bifidobacterium subtilis* exists in the spore state, so it allows you to use the drug in conjunction with antibacterial drugs. Resistant to