EFFECT OF SUBACUTE DIBUTYL PHTALATE TREATMENT ON THE LEVELS OF ESTRADIOL AND PROGESTERONE IN FEMALE WISTAR RATS

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INTRODUCTION

•Dibutyl phthalate (DBP), one of the two most abundant phthalates, is used worldwide as plasticizer in many consumer products.

• Phthalates are known endocrine-disrupting chemicals that can directly target the ovary, potentially causing defects in ovulation and fertility.

•The aim of the study was to examine effects of dibutyl phthalate on ovary.

METHOD / DESIGN:

•Female Wistar rats, aged 40 days at the beginning of the experiment, were divided in 4 groups, and subacutely (28 days) treated with DBP added to the diet in concentrations: 0, 100, 500, 5000 mg DBP/kg diet.

•After treatment termination, plasma was collected in vacutainer tube from rats that were in the diestrus.

•Estradiol and progesterone concentrations were determined on a Roche Cobas e411 analyzer.

RESULTS

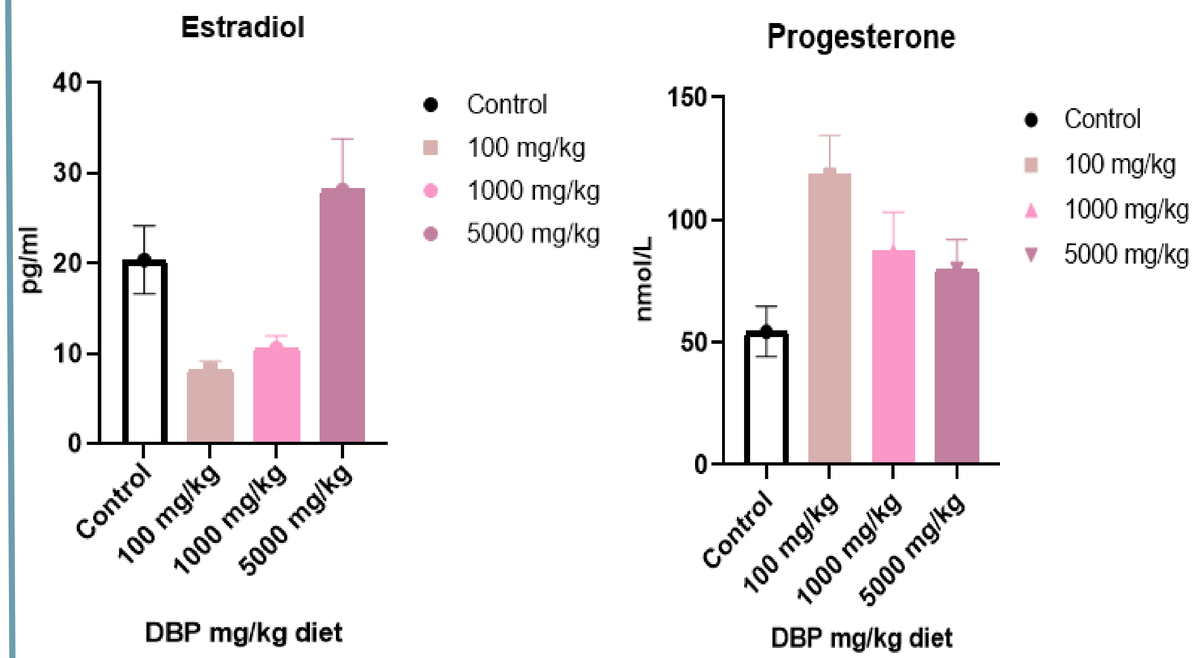

Figure 1. The effect of DBT treatment to the estrogen and progesterone level in the plasma of rats treated with 0, 100, 500, 5000 mg DBP/kg diet. Values in charts are means ± SEM; n = 6.

•DBP treatment in a doses of 100 and 500 mg/kg diet led to decrease in estradiol level, while 5000 mg DBP/kg diet induced increase of estradiol concentration when compared to control.

•DBP treatments led to increase of progesterone concentrations comparing to control, with the most prominent result in group treated with 100 mg DBP/kg diet.

CONCLUSIONS

Statistical analysis revealed that subacute DBP treatment has no significant effect on progesterone and estradiol level in female rats.

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