

## **HORMONAL CHANGES IN THIRD TRIMESTER OF PREGNANCY COMPLICATED BY CHRONIC HYPERTENSION**

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Background: Chronic hypertension is a multiorgan disease. The aim of the study was to examine selected hormone concentration characteristics in pregnancy complicated by chronic hypertension.

Methods: The study covered 20 hypertensive pregnancies (the study group) and 105 normal pregnancies (the control group) in the third trimester of gestation. Both groups did not differ in terms of maternal and gestational age. Hypertension was diagnosed 4.1 $\pm$ 3.1 years before pregnancy and the mean arterial pressure was 160 $\pm$ 18/98.5 $\pm$ 10 mmHg in the study group. The hypertensive group was characterized by higher values of both prepregnancy and predelivery body mass index (BMI) compared with healthy controls (28.6 $\pm$ 6.5 vs. 22.5 $\pm$ 2.6, P<0.001 and 33.1 $\pm$ 7.0 vs. 26.5 $\pm$ 3.4, P<0.001, respectively) but the BMI increase during pregnancy did not differ in both groups (16.0 $\pm$ 5.6 vs. 17.8 $\pm$ 6.3%, NS).

Progesterone, cortisol, free triiodothyronine (FT3), free thyroxine (FT4) and thyroid stimulating hormone (TSH) concentrations were assessed in the serum.

Results: Pregnancies complicated by chronic hypertension were characterized by increased concentrations of cortisol (325.4 $\pm$ 152.7 vs. 225.0 $\pm$ 136 ng/mL, P<0.007), FT3 (5.02 $\pm$ 0.71 vs. 3.73 $\pm$ 0.72 pmol/mL, P<0.001) and TSH (3.02 $\pm$ 1.95 vs. 1.37 $\pm$ 0.9 microIU/mL, P<0.001) concentration compared with healthy controls. No changes in progesterone and FT4 concentration were observed in this disorder.

Conclusion: Chronic hypertension affects serum concentration of cortisol, FT3 and TSH in the course of pregnancy.

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