

## **RENAL FUNCTION IN THIRD TRIMESTER OF PREGNANCY COMPLICATED BY CHRONIC HYPERTENSION**

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Background: Chronic hypertension affects distinct organs and systems. The aim of the study was to evaluate the influence of chronic hypertension on renal function during the third trimester of pregnancy.

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±3.1 years before pregnancy and the mean arterial pressure during the 3rd trimester was 160±18/98.5±10 mmHg in the study group. The following biochemical parameters were measured in maternal serum: uric acid, urea, creatinine, Na<sup>+</sup>, K<sup>+</sup>, Cl<sup>-</sup>, and protein. Moreover, the degree of proteinuria was compared in both groups.

Results: The increase in serum uric acid (27.7±11.4 vs. 19.0±6.0 micromol/L, P<0.001), creatinine (73.4±10.8 vs. 66.3±4.42 micromol/L, P<0.005), Na<sup>+</sup> (139±1.3 vs. 137±5.5 mmol/L, P<0.01) and Cl<sup>-</sup> (106.3±2.3 vs. 105±2 mmol/L, P<0.02) concentration accompanied by the decrease in protein concentration (60.0±5.6 vs. 65.0±5.0 g/L) was observed in pregnancies complicated by chronic hypertension compared with healthy controls. 24-hour protein excretion was significantly higher in the study group (0.81±0.65 vs. 0.2±0.3 g/24 hours, P<0.001). No differences in urea and K<sup>+</sup> concentrations were observed between the groups.

Conclusion: Chronic hypertension impairs renal function in the course of pregnancy what is reflected by changes in the serum concentrations of uric acid, creatinine, Na<sup>+</sup>, Cl<sup>-</sup> and protein, and pathological proteinuria.

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