

## **INFLUENCE OF HYPERTENSION ON GESTOSIS RATE AND SEVERITY**

**Kulterbayeva MA, Badoyeva ZT, Gubareva MS, Badoyeva FS, Faizullin LZ, Sukhikh GT.**

**Research Center for Obstetrics, Gynecology and Perinatology of Russian Academy of Medical Sciences (Director; Academician of the RAMS, Professor Kulakov VI), Moscow, Russia**

Hypertension is a leading clinical symptom of one of the most severe pregnancy complications; gestosis. Pregnancy prognosis for women suffering from essential hypertension (EH) and hypertensive vasoneurosis (HV) is the actual problem for obstetrics. The aim of study: to reveal interrelation between hypertensive syndrome and severity of complications for mother and fetus.

Materials and methods: we examined 62 third-trimester pregnant women who were divided into 2 groups: the main group included 43 patients with gestosis divided into two subgroups: the subgroup A 23 pregnant women without hypertension; the subgroup B 21 pregnant patients with hypertension; among the last subgroup 7 patients had EH and 14 - HV. 19 pregnant women with uncomplicated gestation were included in the control group. Additionally to standard clinical and obstetrical examinations we used special methods of research:

- automated blood pressure monitoring (ABPM) using oscillometric monitor; Bplab; (Russia);
- ultrasound assessment of endothelial-dependent vasodilation (EDVD) of brachial artery (BA) by using real-time duplex color doppler system "Aloka SSD 2000" (Japan); shear stress test;
- Doppler waveforms recording of uterine (UtA) and umbilical arteries (UmA);
- homocysteine (Hct) plasma level of maternal venous blood using polarization immunoassay method IMxa (Bio-Rad Laboratories).

Results: the worse pregnancy outcomes for mother and fetus were revealed in the subgroup B; 2 antenatal and 1 early neonatal death and majority cases of intrauterine growth retardation. Premature labor were registered in 26% in subgroup A and in 45% in subgroup B. 30,4% and 57% of patients of subgroups A and B, accordingly, were delivered by cesarean section.

The majority of pregnant women (90,5%) with hypertension showed the signs of fetal distress on cardiotocography (CTG), whereas the deterioration of a parameter of a fetus status on CTG was observed less than in half patients without hypertension; control group patients did not demonstrate fetal distress signs.

Direct correlation founded between doppler indices in uteroplacenta bloodflow and ABPM data (average daytime and night-time blood pressure values and pressure overload indices) for systolic (SBP) and diastolic blood pressure (DBP). We revealed moderate correlation between S/D ratio and DBP ( $r = 0,33$  in UtA and  $r = 0,45$  in UmA,  $p < 0,05$ ) in contrast to weak correlation between S/D ratio and average SBP ( $r=0,29$  and  $r=0,27$  accordingly,  $p < 0,05$ ).

Hyperhomocysteinemia was revealed in 40 % pregnant of subgroup A and in 65 % of subgroup B. It has been found the direct correlation between Hct level and average daily

proteinuria ( $r = 0,60$ ) and pressure overload both in day and night periods. The degree of correlation of individual Hct levels with pressure overload was higher for DBP compared to SBP and reached nearer to high degree (day time;  $r = 0,66$ ; night time;  $r = 0,67$ ).

Significant endothelial dysfunction revealed by shear stress test in pregnant woman with hypertension. EDVD in subgroup B was substantially lower than in control group: the enlargement of BA diameter in this subgroup was  $7,4 \text{ plusmn}; 1,5 \%$  whereas in the control group;  $16,9 \text{ plusmn}; 1,9 \%$  ( $p < 0,05$ ). The differences of enlargement of BA diameter in subgroup A and control group was not significant ( $> 0,05$ ).

Conclusion: the prevalence of hypertension syndrome in pregnant women are associated with more often and severe complications for mother and fetus than the availability of other gestosis symptoms; edema and proteinuria.

email: [opb@freemail.ru](mailto:opb@freemail.ru); [m\\_kulterby@mail.ru](mailto:m_kulterby@mail.ru)