

Treatment and prevention of obstetrics and perinatal complications in women with hypertension

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The research is devoted to actual problem of modern obstetrics - frequency reduction of obstetrics and perinatal complications of pregnant women suffering from hypertension by the way of improving the complex of treatment and prevention measures on the base of studying new links of patogeny (abnormality of vascular regulation). According to Doppler research the existence of endothelial dysfunction (predominance of hyperergic type of brachial artery reaction after occlusion), which is proved by researching the indices of condition of endothelial function (increasing the level of endothelin-1 and redaction nitrogen oxide), system of prostanoids (increasing the level of thromboxane, reduction in prostacyclin), established the reduction of protective action of angiotensin-1 on vessel wall. Inflammatory immune injures endothelium of vessels (increasing the level of pro-inflammatory cytokine interleukin-6 without increasing the level of controlling interleukin-2). By immunohistochemical research of placentas was established the weak level of expression and low propagating factor of adhesion of thrombocyte to endothelium CD31, indicating a lack of compensatory angiogenesis and the risk of thrombosis. By having improved medico-prophylactic measures for pregnant women suffering from hypertension and with the high risk of perinatal complications, aimed at elimination endothelial dysfunction and abnormality of vessel regulation. For pregnant women with hypertension characterized by endothelial dysfunction and violation of vascular regulation, as evidenced by the growth of the diameter of the shoulder arteries in reactive hyperemia is on average less than 10%, the predominance of the hypoergic type of post-occlusion reaction, in part of women there is a hyperergic and paradoxical type of reaction (3.8 and 15.7% pregnancies from the 1st and 2nd stage of the disease, $p < 0.05$), indicating a failure of compensatory possibilities. Functional disorders of peripheral blood flow regulation are manifested by an increase in the index of vascular peripheral resistance (10.4 and 26.7% women respectively, $p < 0.05$). The expansion of the intima-media complex of the carotid artery (up to 1.1 mm in women with stage-2 disease) indicates atherosclerotic lesions of the vascular wall. In hypertensive disease in pregnant women, there is an imbalance of vasogenic factors: A decrease in NO and an increase in ET-1- the ratio of NO/ET-1 in the first half of pregnancy is increased by 60-80% and in the second half by 3 to 4 times. In women with hypertension stage 2, there is no physiological increase of angiotensin-1 that is its protective effect on the vascular wall is weakened. The combination of macroscopic and histochemical features of placental cells with hypertension testifies to subcompensated chronic placental insufficiency with elements of pathological immaturity against the background of circulatory disorders. Such changes are the manifestation of endothelial dysfunction against the background of reducing the regulatory influence of angiotensin-1, the damaging effect of pro-inflammatory cytokines. At an immunohistochemical study in 50% of the placenta, a weak degree of expression of the platelet adhesion factor expression to the CD31 endothelial is 0-1 point, a prevalence of 10-20%, indicating a lack of compensatory angiogenesis and an impairment of expression and formation of adhesion factors on the endothelial cells, which leads to excessive thrombotic formation. By having improved medico-prophylactic measures for pregnant women suffering from hypertension and with the high risk of perinatal complications, aimed at elimination endothelial dysfunction and abnormality of vessel regulation.

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