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P215. Metabolism and lipids peroxidation in women with preeclampsia

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Context. One of the factors that cause damage of vascular wall and causes inadequate implantation is products of lipid peroxidation. It may have a genetic nature and be due to the polymorphism of paraoxonase-1 gene (PON 1 192 Q?R).
Objective. Find out the role of gene polymorphism PON-1, changes in lipid metabolism, lipid peroxidation and antioxidant protection in pregnant women with preeclampsia.
Methods. Determination of mutation in PON-1 gene (192 Q?R) (PCR), lipidogramm with the calculation of atherogenicity coefficient (CA), state of antioxidant system (activity of catalase and superoxide dismutase (SOD), intensity of oxidative processes (level of thiobarbituric acid active products) and statistical analysis were performed.
Patient(s). A prospective, cohort study of 64 pregnant women with gestational arterial hypertension (1), 69 with PE (2) was conducted. Control group (C) – 44 healthy pregnant women.
Result(s). It was found that CA and the level of TBA-active products in study group exceeded C group ($p<0.05$). A direct correlation between the CA and the level of fibrinogen 0.231 ($p=0.002$), level of D-dimer 0.192 ($p=0.01$) and reciprocal correlation between the CA and INR -0.224 ($p=0.001$), aPTT -0.277 ($p<0.001$), TAG and aggregation time -0.232 ($p<0.05$) were established. Obtained data indicate that hyperlipidemia, causing damage of vascular wall, accelerates platelet aggregation and activates blood clotting. TBA-active products have correlation with CA, PI and time of platelet aggregation ($p<0.05$). No significant data about increase activity of catalase and SOD ($p>0.05$) were determined. The analysis of the frequency of genotypes and alleles of the PON-1 gene did not reveal any significant differences between the study groups, except 192 QR heterozygotes in groups 1 - 39.06%. It has been determined that the polymorphism PON-1 gene 192 Q?R has a week direct correlation with the content of TBA-active products ($r=0,317$, $p=0,002$) and CA ($r=0,176$, $p=0,019$).
Conclusions. In pregnant women with preeclampsia there is a violation in lipid metabolism, accumulation of atherogenic lipoproteins and the imbalance of the processes of LP-AOS, which leads to damage of endothelium and provokes the development of acquired thrombophilia state. The role of PON-1 (192 Q?R) gene mutation in these changes was not established.

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