

## Polymorphism of candidate genes associated with the risk of developing gestational hypertension

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Hypertensive disorders during pregnancy occur in three types: preeclampsia (PE) / eclampsia, gestational hypertension (GH), chronic arterial hypertension (CAH). In the world practice, many time and work have been spent to study of pre-eclampsia. However, gestational hypertension and chronic arterial hypertension are as well pathologies that significantly impair the course and outcome of pregnancy.

The aim of the study was the identification of the candidate genes associated with the risk of developing CAH and GH during pregnancy

Material and methods: 3 groups of women were examined: 65 with GH, 31 with CAH. The control group consisted of 30 women, with a normal pregnancy. The genetic polymorphisms of ADD1 were detected:  $\_1378\_G > T$ , AGTR1:  $\_1166\_A > C$ , AGT:  $\_704\_T > C$ , AGTR2:  $\_1675\_G > A$ , CYP11B2:  $\_- \_344\_C > T$ , NOS3:  $\_894\_G > T$ , GNB:  $\_825\_C > T$ , MTHFR :  $\_677\_C > T$ , using real-time PCR.

Results of the study: for the CAH group, two significant polymorphisms of AGT were identified:  $\_704\_T > C$  and CYP11B2:  $\_- \_344\_C > T$ . In a comparative analysis of the occurrence of polymorphism of the AGT:  $\_704$  gene among the CAH group in comparison with the control, the genotype CC and CT were 0.355 and 0.548, respectively, 0.067 and 0.367 in the control case, respectively. This indicates that these genotypes are significantly risky ( $P < 0.0002$ ). For the GH group, one significant polymorphism of AGT was identified:  $\_704\_T > C$ . A comparative analysis of the occurrence of AGT:  $\_704$  polymorphism among the GH group in comparison with the control also revealed that the genotype CC and CT are significantly risky ( $P < 0.01$ ). The C/C genotype was 0.662, in the control group was 0.367; genotype C/T 0.277, in the control group 0.600, respectively.

Conclusion: Genetic associations performed in this study may be used as genetic markers of gestational hypertension and chronic arterial hypertension susceptibility, which will allow timely to group risk patients, to work out correct treatment, and preventive measures. But, very large studies or meta-analysis will be required to confirm these findings and refine estimates of the effect size.

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