Genetic markers of early onset of arterial hypertension

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INTRODUCTION
Familial history of hypertension is known to increase the risk of hypertension in offsprings. Numerous studies confirming genetic predisposition to arterial hypertension have been performed during the last years, however data on heritability of particular genes from parents to children are rare.

OBJECTIVE
To investigate the heritability of gene polymorphisms associated with essential hypertension in children. We examined whether gene polymorphisms associated with hypertension identified in parents were related a high blood pressure in offsprings.

RESULTS I
The study showed an association of TT genotype of the aldosterone synthase (CYP11B2) C-344T polymorphism with hypertension in children and early onset of the disease in adults (p<0.05).

RESULTS II
T allele/TT genotype of CYP11B2 C-344T were identified in 11 adults and inherited by their offsprings in 100 %. AGT T704C gene polymorphism and AGTR 2 G1675A gene polymorphism were inherited in 80 % offsprings.

CONCLUSION
Family history of arterial hypertension is the main risk marker of high blood pressure in children. An early and regular screening in children of hypertensive parents is necessary to prevent any future cardiovascular diseases.