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## SNPS ASSOCIATED WITH MYOCARDIUM REMODELING IN HYPERTENSION IN THE KAZAKH POPULATION

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**Introduction:** Cardiovascular Disease (CVD) is the leading cause of mortality in Kazakhstan. Among all CVDs, hypertension is the most common and leads to remodeling of myocardium, which significantly increases cardiovascular risk. Some studies have been carried out to elucidate the genetic markers associated with target organ damage in hypertension, but not in Kazakh population. The aim of this study is to find out SNPs associated with myocardium remodeling in Kazakh population.

**Materials and methods:** The sample size is 500 people. There were 2 groups of 250 hypertensive individuals, age - up to 61 years. 1. Group without remodeling 2. with myocardial remodeling (MR) LVMI  $\geq$ 115 in men,  $\geq$ 95 in women, relative wall thickness  $\geq$ 0.43. Clinical, laboratory, instrumental data were gathered. Peripheral blood was taken for genotyping for SNPs known by association with target organ remodeling in HTN based on GWAS Catalog - EMBL-EBI and Varsome Clinical and PubMed publications. Genotyping was made using QuantStudio 12K Flex Real-Time PCR System by array technology.

**Results:** Out of SNPs, seven SNPs were associated with myocardium remodeling. rs17016480 OR=1.80 (1.07-3.02) p=0.029, rs923109\* OR=0.45 (0.20-1.03) p=0.033, rs11646213 OR=1.69 (1.14-2.53) p=0.009, rs113296370 OR=1.14 (0.68-1.93) p=0.036, rs591044 OR=0.49 (0.27-0.87) p=0.0095, rs2407103 OR=2.04 (1.18-3.52) p=0.011, rs7016717 OR=3.74 (1.20-11.67) p=0.026. \* marked polymorphisms associated with myocardium remodeling, but differing from the Hardy-Weinberg inheritance equilibrium in the control group.