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Associations of IRS-1 polymorphism with parameters of cardiovascular remodeling in hypertensive patients depending on body mass index and the presence of metabolic comorbidity**Valentyna Psarova***Sumy State University, Sumy, Ukraine*

The aim was to establish the relationship between IRS-1 gene polymorphism and cardiovascular remodeling parameters in hypertensive patients depending on body mass index and the presence of metabolic comorbidity.

Methods: 340 AH patients, with different body mass index (BMI) and metabolic comorbidity, and 30 healthy individuals aged 45-55 were examined. The polymorphisms of the IRS-1 was assessed by molecular genetic method.

Results: The frequency of presence of genotypes G/R and R/R in the polymorphism G972R of the IRS-1 gene in obese hypertensive patients is 45 %, that is 1.3 times higher than in the group with normal body weight and, accordingly, less 1.2 times and 1.3 times than in the group with excess body weight and triple comorbidity (AH with obesity and type 2 diabetes mellitus (DM2)). The frequency of presence of G/G genotype in AH patients with obesity is 1.4 times higher than in case of triple comorbidity. Hypertensive patients with obesity, carriers of G/R and R/R genotypes displayed more severe vascular remodeling (higher intima-media thickness (CIMT), pulse wave velocity of carotid artery (cPWV) and lower endothelium-dependent vasodilatation (EDVD)) and cardiac remodeling (larger sizes and left ventricular mass (LVM)) compared with G/G genotype carriers. Overweight carriers of the G/R + R/R genotypes were characterized by enlargement of LVM and its sizes, a higher CIMT indicator, but this effect was less than in the comorbidity of hypertension and obesity. In hypertensive patients with triple comorbidity, the presence of G/R + R/R genotypes was associated with an increase in left ventricular size, left ventricular mass index (LVMI) and CIMT.

Conclusions: The severity of IRS-1 polymorphism associations with the difference in echocardiographic parameters in hypertensive patients differed according to BMI and the presence of metabolic comorbidity.

Biography

My name is Valentyna Psarova. I am MD, PhD, Associate Professor of Department of Internal Medicine with the Center of the Respiratory Medicine of the Sumy State University, Ukraine. For a long time I have been working on the topic "Molecular genetics and neurohumoral mechanisms of cardiovascular remodeling and their corrections in patients with essential hypertension with concomitant obesity". As a leader of a research group I'd like to introduce the results of our work on the topic "Associations of IRS-1 polymorphism with parameters of cardiovascular remodeling in hypertensive patients depending on body mass index and the presence of metabolic comorbidity"

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