



Abstract 60740

Abstract Preview

Heart Failure 2021 Online Congress

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Agreement Form sent on 26/05/2021 07:28

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Title : The association of Beta-adrenoreception system genes polymorphisms and interleukins levels in patients with heart failure

Topic : 15.1.1 - Pathophysiology

Category : Clinical

Option : No Options

Funding Acknowledgements : - Type of funding sources: None - - I agree that this information can be used as submitted and made available online within the context of ESC research projects

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The aim: to study the relationship of the β -adrenoreception system (β -ARs) genes polymorphisms with interleukins (IL) levels in patients with heart failure (HF).

Materials and methods. 285 patients with heart failure on the background of post-infarction cardiosclerosis were included. 55 healthy volunteers made up the control group. Enzyme-linked immunosorbent assay was conducted: levels of tumor necrosis factor- α , interleukins (IL) IL-1 β , IL-4, IL-6 were evaluated. Genetic studies were conducted by using polymerase chain reaction method, which included determination of allelic polymorphisms of β 1-adrenoreceptor (β 1-AR) genes (rs1801253, p.Ser49Gly; c.1165G>C; p.Gly389Arg); and (rs1801252; c.145A>G; p.Ser49Gly), β 2-AR (rs1042714; c.79C>G; p.Gln27Glu). Genetic and epidemiological analysis was carried out using the SNPStats program.

Results. In patients with heart failure, the C-allele of Gly389A polymorphism of the β 1-AR gene is associated with a reduced risk of increased levels of TNF- α > 1.96 pg/ml (Odds ratio (OR) = 0.48 (0.25 - 0.93), p = 0.028 - dominant model of inheritance; OR = 0.62 (0.39 - 0.99), p = 0.046 - log-additive model of inheritance). The level of IL-1 β increases > 2.13 pg/ml in patients with heart failure and with the A-allele of the Ser49Gly polymorphism of the β 1-AR gene (OR = 1.82 (1.01 - 3.27), p = 0.042 - the dominant model of inheritance). Heterozygous (by A/G-Ser49Gly polymorphism of the β 1-AR gene) patients with heart failure have a reduced risk of an increase in IL-6 level > 2.13 pg/ml (OR = 0.44 (0.21 - 0.93), p = 0.035 - overdominant model of inheritance). In patients with heart failure on the background of NG with a heterozygous genotype of Ser49Gly (c, 145A > G) polymorphism of the β 1-AR gene, there is a risk of an increase in the level of TNF- α (OR = 4.55 (1.27 - 16, 34), p = 0.028).

Conclusions. The results allow us to conclude that the levels of interleukins in the blood of patients with heart failure may be associated with congenital genetic differences in the pathways of β -adrenoreception.

