



**15-16th
MAY**

**32
SESSIONS**



**MULTIPLE
WEBINARS**

16th International
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JUVENES PRO MEDICINA 2020

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EFFECT OF INTERLEUKIN BETA AND RESISTIN ON DEVELOPMENT OF CARDIOMYOPATHY IN TYPE 2 DIABETES

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Introduction. Type 2 diabetes occurs when our body becomes resistant to insulin and pancreas produce more insulin to compensate and later pancreas becomes decompensated. Type 2 diabetes is major risk factor for cardiovascular disease.

The purpose of the study. was to determine the effect of interleukin-1 *beta* (IL-1 *beta*) and resistin to development of cardiomyopathy (CMP) in patients with diabetes mellitus (DM) type-2.

Materials and methods. Our work is part of study of the Department of Internal Medicine and Endocrinology Kharkiv National Medical University (Diabetes mellitus and co-morbid pathology). An analysis of the survey data was performed with 102 patients with type 2 diabetes with disease duration from 1 to 9 years. Depending on the degree of CMP, patients were divided into groups: group 1 (n = 38) - with moderate CMP expression, significant distribution factor was body mass index (BMI) of less than 28.5 kg/m², group 2 (n = 64) - with severe CMP expression (BMI of more than 28.5 kg/m²). The control group consisted of 20 healthy individuals

The levels of resistin and IL-1 *beta* in serum was determined by ELISA according to standard instructions. Statistical analysis of the results was carried out Statistica 7.0.

Results.

The levels of IL-1 *beta* (pg/ml) in the blood serum of patients with DM type 2 of the 1st and 2nd groups ($11,34 \pm 0,25$ and $14,76 \pm 0,28$ respectively) were higher ($p < 0,05$) compared to the control group ($8,12 \pm 0,24$). Resistin levels in patients of the 2nd group ($13,19 \pm 0,18$, ng/ml) was

significantly higher than in patients of the 1st group ($10,51 \pm 0,25$, ng/ml, $p < 0,05$) and control group ($10,06 \pm 0,35$, ng/ml, $p < 0,05$). significant correlations was found between the levels of IL-1 *beta* and resistin in patients of the group 1 ($R = +0,589$, $p = 0,00010$), and patients in group 2 ($R = + 0,450$, $p = 0,00019$).

Conclusions.

The levels of IL-1 *beta* and resistin were significantly higher in patients with severe cardiomyopathy. The presence of relationship between Resistin and IL-1 *beta* can demonstrate the interaction and influence on the formation of diabetic myocardial damage of these cytokines.

Thus in patients with type 2 diabetes with a BMI of more than 28.5 kg/m² and increased levels of pro-inflammatory IL-1 *beta* and resistin is an additional risk factor for the formation of diabetic CMP, which is a precursor to heart failure.