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### Features of vegetative regulation in patients with diabetes type-2 depending on the structure of concomitant pathology

Type-2 diabetes (DT2) combined with other diseases often, affects the features of the progression of diabetes. The mechanism, the realization of this influence is a question for study. We made a comparative analysis of the spectral characteristics of the heart rhythm of DT2 patients with concomitant diseases: 28 patients (group-1) with an arterial hypertension (HTN) and 17 patients (group-2) with Gastrointestinal Tract Diseases (GIT) in comparison (group-3) 25 patients with CD2 without concomitant diseases. The power of the frequency spectrum was estimated for HF, LF, VLF, ULF, IC-centralization index. In the group-1, increase in LF and decrease in HF were observed, which is characteristic of chronic stress. ULF was higher in the group-3 ( $p=0.0002$ ;  $r=0.48$ ), which is characteristic for the failure of vegetative regulation. In two patients from this group, the values of ULF occupied almost the entire spectrum (76% and 91%). In both cases, patients died from vascular accidents for half a year, despite active therapy with antihypertensive drugs. In the group-2, activation of central ergotropic and humoral metabolic processes was observed, exceeding the value in the group-3 ( $p=0.001$ ;  $r=0.37$ ). This indicator demonstrates the practically direct effect of HTN on metabolic homeostasis explains the reasons why it is difficult to achieve compensation of DT2 with concomitant hypertension and explains one of the mechanisms of progression of complications of diabetes. The increase IC in the group-2 confirmed the high activity of the central contour of regulation in relation to the autonomic. Moreover, this, in prognostic terms, indicated the depletion of regulatory mechanisms and a high risk of developing vascular accidents ( $OR=2.7$ ;  $p=0.001$ ). In the group-2, the directionality of the regulatory processes indicated chronic stress also.

### Biography

Irina Kurnikova is a Professor of Medicine of RUDN University, Moscow, Russia. She has an experience of problems of endocrinology for over 20 years. Currently, she is Curator of the Scientific Direction Endocrinology in RUDN University. She had published more than 30 articles in well-known journals; author of 25 books and tutorials in Russian language and 10 patents for inventions. Her areas of research are the optimization of the system approach to the treatment and rehabilitation of patients with diabetes and thyroid diseases.

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