МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ
БУКОВИНСЬКИЙ ДЕРЖАВНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ»

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The aim of the study. To investigate the features of carbohydrate metabolism in patients with latent autoimmune diabetes in adults depending on the degree of autoimmunity.

Material and methods. 53 patients with LADA were examined (an average age – 44,7±1,77 years, duration of DM – 6,3±0,97 years), the comparison group consisted of 22 people with T1DM (the average age – 37,2±2,57 years, the duration of the disease – 16,4±2,28 years). The guidelines of the Immunology of Diabetes Society (IDS, 2005) were followed in establishing LADA. 23% of LADA patients received insulin therapy alone; 47% – a combination of insulin and oral hypoglycemic agents; 30% – only oral hypoglycemic drugs. The degree of autoimmunity was determined by the level of antibodies to glutamic acid decarboxylase (antiGAD) and to tyrosine phosphatase-2 (IA-2ab), the state of carbohydrate metabolism - the level of blood glucose, glycosylated hemoglobin (HbA1C), C-peptide. Patients with LADA according to the main phenotypes were divided into 2 groups: LADA 1 (27 people) with high antibody titers (≥180 U/ml) to antiGAD and LADA 2 (26 people) with low antibody titers (18-180 U/ml). Relationships between titers of antibodies to islet antigens in LADA with the main indicators of carbohydrate metabolism were studied.

Results. Both antibodies (antiGAD and IA-2) were positive in 85% of patients with LADA and 68% of patients with T1DM. In 15% of patients with LADA, the antibody titer to IA-2 was considered negative. 20% of patients with classical T1DM were positive only for IA-2, another 12% – only for antiGAD.

Among patients with LADA, 27 people with the LADA 1 phenotype (mean antiGAD titer – 272,2±33,96 U/ml, duration of the disease – 6,3±1,27 years) and 26 people with the LADA 2 phenotype (the average antiGAD titer – 84,9±12,29 U/ml, duration of DM – 6,2±1,43 years). In patients with T1DM, the average antiGAD was 210,8±37,48 U/ml. As well as the duration of diabetes in the LADA 1 and LADA 2 groups is almost the same, this eliminates the likelihood of a decrease in immune load with increasing disease duration, which apparently occurred in the group of patients with classical T1DM: in patients with a duration of the disease less than 5 years antiGAD titers were 604,7±36,41 U/ml, at the same time 5 and more years after the manifestation they were 148,6±17,26 U / ml.

Regarding IA-2 titers, in LADA they were 31,8±3,04 U/ml and were similar to those in T1DM – 31,4±5,34 U/ml.

A positive correlation was found between antiGAD and HbA1C levels, and a negative correlation – between antiGAD titers, insulin, and HOMA index.

Conclusions. Determination of autoantibody titers is the most important part of the diagnosis, which should be carried out in overt diabetes mellitus of any type or in case of suspicion of this disease. High levels of autoimmunity in patients with latent autoimmune diabetes in adults are associated with poorer compensation for diabetes and decreased insulin secretion, indicating a worse prognosis and requiring faster initiation of insulin therapy.

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LONG COVID AND DIABETES

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Introduction. Long-COVID is a new syndrome characterized by manifestations of functional, metabolic, coagulation or inflammatory dysfunctions after COVID-19. Poorly controlled diabetes increases the risk of severe COVID-19 and is associated with increased morbidity and mortality. On the other hand, COVID-19 has led to poor control of diabetes, its progression, and an increase in the number of new cases (especially corticosteroid-induced diabetes). COVID-19 may add to or exacerbate tachycardia, sarcopenia (and muscle fatigue), and microvascular dysfunction (and organ damage) in patients with diabetes.

The aim of the study. To evaluate the influence of clinical and demographic parameters (age, sex, body mass index (BMI), glycemic control (HbA1c)), as well as antidiabetic drugs on clinical outcomes in patients with type 2 diabetes (T2DM) after experiencing COVID-19.

Material and methods. Inclusion criteria: detection of SARS-CoV-2 RNA by polymerase chain reaction. The first group consisted of patients with type 2 DM diagnosed before infection with COVID-19. The second group consisted of patients without a diagnosis of DM before SARS-CoV-2 infection (practically healthy). Exclusion criteria: presence of neoplasia, immunodeficiency or other concomitant infections. Ninety-six patients with a positive diagnosis of COVID-19 were studied. Only 30 people met the inclusion criteria considering the exclusion criteria. All 30 patients underwent 3- and 6-month follow-up: 10 patients without diabetes (type 2 diabetes) and 20 patients with diabetes. 10 non-DM patients (6 men and 4 women) with an average age of 62 years and 20 diabetic patients (12 men and 8 women) with the average age of 60.

Results. No difference was observed in inflammatory markers of infection in relation to the period of SARS-CoV-2 disease at hospitalization, hospital discharge and after hospitalization (90 and 180 days), such as neutrophil-to-lymphocyte ratio, lymphocyte, neutrophil, monocyte count, aspartate aminotransferase (ASAT), alanine aminotransferase (ALAT), C-reactive protein and coagulation biomarkers between patients with and without diabetes.

The next step is taking into account the results after 180 days to determine the long-term effects of COVID-19. As expected, an increase in fasting blood glucose was observed in the group of patients with diabetes compared to patients without diabetes. But in more than 20% (3 patients) without diabetes, reference fasting blood glucose levels were detected.

Further, the increase in glycated hemoglobin was verified in the group of patients with diabetes compared to the group of healthy people (without diabetes). However, 20% (5 patients) of the group without diabetes had elevated reference values for glycated hemoglobin.

In addition, C-peptide levels were similar between the group with and without diabetes. In both groups, C-peptide was within or above reference values.

Conclusions. SARS-CoV-2 infection can lead to a decrease in the function of pancreatic beta cells or even their destruction, which can lead to an exacerbation of diabetes, its onset or long-term metabolic changes. In the cohort, more than 20% of patients without diabetes and more than 85% of patients with diabetes had values above the reference range for fasting blood glucose. To confirm a long-term increase in blood glucose, a glycated hemoglobin test was performed and its changes were detected in the entire group of patients with diabetes and in more than 20% without diabetes.

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STATE OF INDICATORS OF CELLULAR AND HUMORAL LINK OF IMMUNITY IN PATIENTS WITH GRAVES' DISEASE

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Introduction. Epidemiological studies conducted in recent years have shown a wide distribution of the thyroid gland diseases. However, the insufficiently studied role of thyroid hormones in the implementation of the functional activity of cells of the immune system determined the relevance of studying the features of the course of inflammation against the background of thyrotoxicosis. The inflammatory process, which continues against the background of these changes, has certain peculiarities of formation and course. These changes are caused by a decrease in the functional activity of cells involved in the formation of an inflammatory response (Ilyinska I.F., 2020). It should be noted that the successful development of fundamental immune-endocrinology has largely clarified the mechanisms and regularities of the interaction of the endocrine and immune systems, and allowed us to determine the place and role of immunological factors in the pathogenesis of endocrine diseases. However, there still are many controversial and unresolved issues. Thus, the question of violations of non-specific and specific immune protection in the development of autoimmune diseases of the thyroid gland remains insufficiently studied today.

The aim of the study. Investigation of indicators of the cellular and humoral link of immunity in patients with Graves' disease.