

## IV НАЦІОНАЛЬНИЙ КОНГРЕС З КЛІНІЧНОЇ ІМУНОЛОГІЇ, АЛЕРГОЛОГІЇ ТА ІМУНОРЕАБІЛІТАЦІЇ

19-21 травня 2021 року

### ТЕЗИ ДОПОВІДЕЙ

*N.O. Abramova, N.I. Stankova*

#### **DEPENDENCE OF ANTITHYROID AUTOIMMUNITY PARAMETERS ON LEPTYN LEVEL IN BLOOD IN PATIENTS WITH DIABETES MELLITUS TYPE 2**

Department of Clinical Immunology,  
Allergology and Endocrinology

Bukovinian State Medical University,  
Chernivtsy, Ukraine

**Introduction.** Thyroid disease as well as type 2 diabetes are the most common endocrine pathologies. Many studies have found an increase in titers of antithyroid antibodies on the background of type 2 diabetes.

Plasma leptin levels have been shown to be significantly increased in obese patients due to the accumulation of white adipose tissue of the abdominal type and the development of leptin resistance. There is also a direct correlation between the level of leptin and serum insulin on an empty stomach, which indicates the effect of this adipokine on the development of insulin resistance.

In addition, leptin increases the production of proinflammatory cytokines, such as interleukin-6, tumor necrosis factor, which adversely affects energy metabolism and insulin and liver sensitivity to insulin.

However, the relationship between autoimmune processes against thyroid tissue and the presence of type 2 diabetes is still poorly understood.

**The aim of the study.** To identify the features of antithyroid autoimmunity in patients with diabetes mellitus type 2, depending on leptin level in blood.

**Materials and methods.** 32 patients with diabetes mellitus type 2 and 12 healthy individuals has been examined. In order to detect autoimmune disorders we studied the levels of antibodies to thyroid peroxidase (AT-TPO) and antibodies to thyroglobulin (AT-TG) in blood serum. To estimate the adipocytes proinflammatory activity leptin concentration was determined in serum of venous blood.

Statistical analysis of the obtained data was carried out using the Student's t-test and Pearson's rank correlation coefficient by means of the software package Statistica 6.0 for Windows. The difference was considered significant at  $p < 0,05$ .

**Results.** AT-TG level at the group of people with type 2 diabetes was 1,5 times higher than in the control group ( $p < 0.05$ ).

The AT-TPO level was established to be 58,4% higher in the main group as compared with the group of healthy individuals ( $p < 0.05$ ).

As a result of correlation analysis we have found positive correlations between the content of leptin and antithyroid antibodies levels, such as with AT-TG ( $r = 0,593$ ,  $p < 0.05$ ) and AT-TPO ( $r = 0,462$ ,  $p < 0,05$ ).

**Conclusions:**

1. In patients with diabetes mellitus type 2 an antithyroid antibodies titers increase.
2. Elevation of antithyroid antibody titers in patients with diabetes mellitus type 2 is associated with the level of serum leptin.

*O.V. Pidverbetska, D.V. Kovtun,  
M.I. Ostafiychuk*

**IMMUNOLOGICAL ASPECTS  
OF IMMUNE RECONSTITUTION  
INFLAMMATORY SYNDROME IN  
HIV-INFECTION**

Bukovinian state medical university,  
Chernivtsi, Ukraine

**Introduction.** The immune re-constitution inflammatory syndrome

(IRIS) in HIV-infected persons is a paradoxical reaction of immune system on opportunistic infections present in the host organism due to the abrupt restoration of T-cell immunity after the antiretroviral therapy (ART) initiating. Among the opportunistic infections that initiate the development of IRIS, the first place is occupied by tuberculosis (TB) infection.

**Aim.** To analyze and summarize data on immunopathogenesis of IRIS in response to the presence of mycobacterial infection in HIV-positive patients.

**Materials and methods.** Analysis and generalization of data from literature sources.

**Results.** It has been proven that IRIS develops mainly during the first 3 months after the start of ART. Predictors of IRIS development are 2 main factors: pronounced T-cell immunosuppression, persistence of opportunistic infection (OI) in the body (clinically manifested or latent).

If Mycobacteria tuberculosis (MBT) are present in the organism, a pronounced deficiency of CD4+ lymphocytes leads to uncontrolled reproduction of the pathogen and its accumulation in large quantities. In the period before ART initiating, macrophages phagocytose MBT, but are unable to destroy them due to the action of virulence factors. The accumulation of macrophages that contain the pathogen contributes to the creation of high concentrations of T-helper-activating cytokines, which, however, do not find their "target". If against this background ART is initi-