

**МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ  
БУКОВИНСЬКИЙ ДЕРЖАВНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ»**



## **МАТЕРІАЛИ**

**104-ї підсумкової науково-практичної конференції  
з міжнародною участю  
професорсько-викладацького персоналу  
БУКОВИНСЬКОГО ДЕРЖАВНОГО МЕДИЧНОГО УНІВЕРСИТЕТУ  
06, 08, 13 лютого 2023 року**

Конференція внесена до Реєстру заходів безперервного професійного розвитку,  
які проводитимуться у 2023 році №5500074

**Чернівці – 2023**

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## **CHANGES IN TNF- $\alpha$ IN COMBINED PATHOLOGY OF HIV INFECTION WITH TUBERCULOSIS**

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**Introduction.** TNF- $\alpha$  (tumour necrosis factor- $\alpha$ ) is a critical cytokine for controlling mycobacterial infection and its role cannot be fulfilled by other cytokines. Tumour necrosis factors play an important role in granuloma formation and anti-infectious defence during *M. tuberculosis* colonization and infection control. In addition, its level increases even in the presence of latent tuberculosis infection, when there are still no manifestations of the tuberculosis process, which is crucial for early detection of mycobacterial infection.

**The aim of the study** is to carry out a comparative analysis of TNF- $\alpha$  indicators in groups of patients with HIV infection combined with tuberculosis (TB) and TB mono-infection.

**Material and methods.** A comprehensive immunological examination of 231 patients was carried out, including 155 HIV-infected patients with active tuberculosis detected for the first time and 76 only with tuberculosis. The HIV/TB group was divided into 3 subgroups depending on the time of TB joining to HIV infection. Tumour necrosis factor- $\alpha$  (TNF- $\alpha$ ) levels were compared for groups with combined HIV/TB infection and patients with TB mono-infection.

**Results.** Significant differences were found between the level of tumour necrosis factor- $\alpha$  in HIV-infected patients and patients only with TB. Thus, in focal, infiltrative, fibrous-cavernous and generalized TB in association with HIV infection, the serum concentration of TNF- $\alpha$  statistically significantly exceeded the corresponding indicator in TB mono-infection ( $p < 0.05-0.001$ ). In the case of caseous pneumonia, the spontaneous production of TNF- $\alpha$  in the HIV/TB group was ( $181.0 \pm 62.2$ ) pg/ml/106, considerably exceeding the studied level in patients with only TB – ( $11.3 \pm 1.5$ ) pg /ml/106. In general, the amount of serum concentration and spontaneous production of TNF- $\alpha$  was higher in the group of patients with combined infection - ( $29.5 \pm 6.4$ ) pg/ml and ( $82.6 \pm 32.8$ ) pg/ml/106 compared to TB mono-infection – ( $6.5 \pm 1.4$ ) pg/ml and ( $16.1 \pm 4.7$ ) pg/ml/106 (in both cases  $p < 0.001$ ).

**Conclusions.** As HIV infection progresses (the number of CD4+ T-lymphocytes decreases and the HIV viral load increases), there is an increase in the serum TNF- $\alpha$  content, which presumably indicates a decrease in the number of anti-inflammatory T-regulatory cells or a decrease in their suppressive activity. Therefore, such a macrophage cytokine as TNF- $\alpha$  participates in the non-specific chain of anti-tuberculosis protection of the body and can serve as an early marker of the tuberculosis process.

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## **IMPROVEMENT OF TREATMENT OF ROSACEA PATIENTS BY MEANS OF ADMINISTERING ANGIOPROTECTIVE AND HEPATOPROTECTIVE AGENTS**

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**Introduction.** Rosacea (acne) is a widespread chronic dermatosis. Its clinical manifestation is localized on open skin areas – central parts of the face (cheeks, nose, and chin). It has a negative effect on psychoemotional condition of patients, reduces their ability to work and social activity. Today rosacea is characterized by a long chronic course, resistance to standard therapy. Therefore, improvement of the effect of treatment of patients with rosacea is a topical issue of modern dermatology. Rosacea is found to be a multifactorial dermatosis. Its pathogenesis includes such important signs as changes of the skin microcirculation, vegetative dysfunctions, neuroendocrine regulation disorders, functional disorders of the digestive organs, which should be considered in a comprehensive examination and treatment of patients.

**The aim of the study.** To improve the efficacy of treatment of patients with rosacea by means of a combined administration of angioprotective and hepatoprotective drugs.