ASSESSMENT OF CYTOKINESYS STATUS IN RHINOSINUSITIS WITH COMORBIDITY AND CHRONIC OBSTRUCTIVE PULMONARY DISEASE

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Purpose of the study. Assessment of cytokine status in rhinosinusitis with comorbidity and chronic obstructive pulmonary disease (COPD).

Materials and methods of research. The work was carried out according to the research plan of the Andijan State Medical Institute at the clinical base of the Department of Otorhinolaryngology for the period from 2020 to 2023.

In accordance with the inclusion/exclusion criteria, 64 (36%) patients out of 178 patients with rhinosinusitis were diagnosed with COPD at the first stage of the frequency study. The incidence of COPD in patients with acute rhinosinusitis (ARS) was 13.5% - 24 patients, and in 40 patients with chronic rhinosinusitis (CRS) – 22.5%. To further study the nature of COPD comorbidity, endotoxicosis, and lipoperoxidation in patients with rhinosinusitis, we selected 2 study groups and one group from the Pulmonology department of the Institute's clinic with isolated COPD for comparative analysis. Group 1: 24 (25.5%) patients with acute rhinosinusitis with COPD; group 2: 40 (42.6%) patients with chronic rhinosinusitis with COPD; group 3: 30 (31.9%) patients with COPD.

Depending on the methods of assessing the cytokine status and treatment, all study groups were divided into the following subgroups: group 1 was divided into A and B subgroups of 12 (12.76%) patients, in which standard therapy was performed in the A-subgroup, and in the B-subgroup sorption-antioxidant therapy was included in the complex of standard treatment measures. Group 2 (CRS patients with COPD) was also divided into A and B subgroups of 20 (21.28%) patients, and standard and sorption-antioxidant treatment was also performed in these subgroups. The patients ' condition, blood biochemistry, cytokine levels, and the results of dynamic treatment evaluation were compared with the control group (group 3, n=30) of patients with isolated COPD. In all three study groups, basic clinical and functional, instrumental, laboratory examinations and treatments were performed in accordance with the recommendations, GOLD 2020, EPOS 2020 and the approved protocol of the Ministry of Health of the Republic of Uzbekistan.

Results and their discussion. As is known, an increase in the level of anti-inflammatory cytokines in the blood serum indicates the activity of systemic inflammation and reflects the degree of severity of the systemic inflammatory reaction. We studied the relationship of these indicators with various clinical forms of rhinosinusitis and comorbidity with COPD.

In the 1-B and 2-B subgroups of patients, there was a predominant increase in the level of anti-inflammatory cytokines, especially IL-10 cytokine, compared with subgroups 1-A, 2-A and 3-group. The level of cytokines IL-4, IL-6, and IL-8 was also significantly higher than in the 3rd group of patients with isolated COPD, which means that the systemic inflammatory response in comorbid COPD patients with acute and chronic rhinosinusitis corresponded to moderate severity.

In the dynamics of patients with acute respiratory viral infections with comorbidity and COPD on the background of sorption-antioxidant therapy in the complex of standard treatment on day 7, there was

a significant decrease in the levels of the cytokine profile in the B-subgroup: IL-4-by 4.6 times, IL-6-by 3 times, IL-8-by 2.8 times and IL-10 – by 4 times. And at this time, in the comparison group (group 3) of patients with COPD without rhinosinusitis who underwent standard therapy, the level of these indicators was still high (IL-4 was reduced to 11.27±2.6 pg / ml, IL-6 was reduced to 11.34±1.7 pg / ml, IL-8 to 14.22±1.4 IL-10 up to 16.28±2.3 pg / ml), which indicates the ongoing systemic inflammatory process and endogenous intoxication in the body. The level of cytokines in all the studied subgroups had a significant spread, while the predominance of the anti-inflammatory link had a clear focus.

Conclusions. Thus, the cytokine status in rhinosinusitis comorbidity with COPD is due to the development of systemic inflammation with an increase in the activity of anti-inflammatory cytokines (IL-4-4.6 times, IL-6-3 times, IL-8-2.8 times and IL-10-4 times) in the blood. Acomparative analysis of the results obtained revealed the most significant differences with respect to IL-10. Therefore, to analyze the degree of activity of the inflammatory process in acute and chronic rhinosinusitis with comorbidity with COPD, the value of the ratio of the levels of these cytokines was used. Since it is the ratio of cytokine levels that most fully reflects the activity of the inflammatory process and can be used as criteria for determining the severity of inflammation in this category of patients.