ASSESSMENT OF ENDOGENOUS INTOXICATION IN RHINOSINUSITIS WITH COMORBIDITY AND CHRONIC OBSTRUCTIVE PULMONARY DISEASE

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Purpose of the study. Assessment of endogenous intoxication (EI) 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 and endotoxicosis in patients with rhinosinusitis, we selected 2 study groups and one group from the Department of Pulmonology 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 treatment and control of EI, 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. The second group (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 and EI level, 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. Of great interest is the dynamics of the body's EI parameters in patients with rhinosinusitis and COPD comorbidity. When patients were admitted to the hospital, the number of leukocytes in patients with acute respiratory viral infections with COPD was within 12.26±0.87 x^{109}/l. Under the influence of complex treatment with sorption-antioxidant therapy, the number of white blood cells decreased by 39.9% on the 3rd day of treatment and was significantly lower than the initial level ($p<0.05$). This is 1.7 times less than at admission ($p<0.05$), and 1.5 times less than at the 1st subgroup, which was carried out using standard treatment tactics ($p<0.05$). In patients with CRS with COPD comorbidity, a significant decrease in leukocytosis in which standard therapy was performed was noted on day 7, and in patients of subgroup 2b, it reached normal values on day 3 of complex treatment. In group 3, the dynamics of the decrease in the number of leukocytes proceeded more slowly,which reached normal values only on the 7th day of inpatient treatment-8.57±0.74 x^{109}/l.

In patients of subgroup 1-B, LII reached an average of 6.78±0.79 cu before the start of treatment, which indicates severe EI. On day 3 of the treatment process, the level of this indicator decreased by 46.1% ($p<0.05$). A significant decrease in this indicator relative to the initial data in the 2nd subgroup of patients with CRS was also observed on the 3rd day of treatment (by 63.4%), but it was higher than the normal indicator. Normalization of LII in patients of the 2nd subgroup was noted on the 7th day of treatment-1.28±0.23 cu, which is 4.5 times less than at admission.

The dynamics of the endogenous intoxication index also corresponded to an improvement in the general condition of patients and a decrease in body intoxication. As a result of complex combination therapy, the level of IEI in the 1st subgroup of patients increased by 1.4 times on the 3rd day of treatment, which significantly differed from the initial data and was 1.1 times higher than in the 3rd group ($p<0.05$). IEI was stablynormalized in the 2nd-Б подsubgroup on the 3rd day It reached 10.21±0.22 CU, while it remained low at 9.24±0.48 CU during standard treatment. This once again confirms that the use of sorption-antioxidant therapy effectively affects the inflammatory process and eliminates intoxication, significantly increases the effectiveness ofdetoxification therapy.

The use of the proposed method of therapy in a complex of standard treatment contributed to a significant improvement in the effectiveness of detoxification therapy, as evidenced by the dynamics of MSM. A significant decrease in MSM levels in patients with acute respiratory viral infections and COPD was observed on day 3 of concomitant therapy by 45%, and on day 7 this difference was 57.1% and the MSM level almost reached the normal level - 0.243±0.007 cu. A significant decrease in MSM levels in the 2nd subgroup was also noted on day 3 of concomitant therapy. 49.2%, and in group 3 in patients with COPD only before discharge.

Against the background of insufficient detoxification, the indicator of disorganization of systems of nonspecific resistance of the body is the determination of the level of CIC. Inflammation is always accompanied by an increase in the level of CIC, and the dynamics of this indicator during the pathological process, in turn, is determined by the functional activity and state of the immune status of patients. A significant increase in the content of CIC in patients with rhinosinusitis indicates not only a pronounced damage to their own tissues, but also the failure of the functions of organs and systems responsible for the fullness of the immune response. Therefore, the inclusion of sorption-antioxidant therapy in the complex of therapeutic measures allowed for faster detoxification of the body and elimination of secondary immunodeficiency. This is confirmed by the dynamics of the CEC. A significant decrease in this indicator in patients with acute respiratory viral infections with COPD on the background of standard treatment with sorption-antioxidant therapy was noted on the 3rd day of treatment, when the CIC content decreased to 7.14±0.31 cu, which is 1.4 times less than at admission ($p<0.05$). On the 7th day of the treatment period, this difference was 45.9%, and in patients of the 2nd subgroup-54%.

The results of the study showed that the level of CIC in the blood is statistically significantly increased under conditions of endotoxicosis of the body, and the analysis of the dynamics of the level of this indicator in the course of therapy proved the pathogenetic validity and high efficiency of including sorption-antioxidant therapy in the standard therapy program for the correction of EI and peroxidation syndrome in patients with acute and chronic rhinosinusitis with COPD comorbidity.

Conclusion. Endotoxicosis in rhinosinusitis with COPD comorbidity is caused by the development of systemic inflammation with an increase in the level of markers of endogenous intoxication (LII-increased by 6.7 times; IEI-reduced by 2.4 times; MSM-increased by 2.6 times, CIC increased by 2.5 times), a decrease in detoxification and antioxidant function of the liver, which in turn leads to an increased risk of the development of multiple organ dysfunction, and the comorbidity of COPD exacerbates the latter.