

SPONTANEOUS APOPTOSIS OF LYMPHOCYTES IN PATIENTS WITH BRONCHIAL ASTHMA WITH COMORBID PATHOLOGY OF DIGESTIVE ORGANS

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Abstract. The aim of this work was to study the features of spontaneous apoptosis of peripheral blood lymphocytes in patients with bronchial asthma (BA) with comorbid pathology of the digestive organs (PDO).

Materials and methods. In each analysis group, the results of the studies of 56 patients with BA were selected, 28 patients in each group (with and without comorbid PDO). The control group was formed from 11 volunteers — persons without clinical signs of infectious and somatic pathology (conditionally healthy). Spontaneous apoptosis of lymphocytes was determined by flow cytometry after staining with annexin 5 (An-5) conjugated with fluorescein isothiocyanate (FITS).

Results. The results of the analysis of the follow-up studies confirmed the negative impact of comorbid PDO on the spontaneous apoptosis of lymphocytes in patients with asthma. In the group of patients with comorbid PDO was significantly (by 85.5 % decrease in the number of lymphocytes with signs of early and by 80.5 % late apoptosis of the lymphocytes ($p < 0.05$), in an important majority of patients. The average value of this indicator did not exceed the reference values in the group of patients with BA without PDO. The frequency of decreased apoptosis of lymphocytes did not exceed the reference values. The frequency of increased spontaneous apoptosis of lymphocytes was suppressed. Patients with asthma experience prolongation of cell life, persistence of inflammation through the release of substances from these cells and a decrease in reparative processes. Increased survival of lymphocytes in blood can lead to persistence and progression of allergic inflammation airways in asthma. Therefore, the relationship between BA and PDO will require further comprehensive investigation of common immunological mechanisms, which will lead to apoptosis. This will allow to influence the control of the progression of illness, and develop targeted, effective therapeutic programs.

Key words: bronchial asthma, comorbid pathology, spontaneous apoptosis, lymphocytes.