

ANALYSIS OF THE CORRELATION BETWEEN ADVANCED GLYCATION END-PRODUCTS LEVELS AND THE CYTOKINE PROFILE IN PATIENTS WITH ALLERGIC DISEASES ASSOCIATED WITH CHRONIC EPSTEIN-BARR VIRAL INFECTION

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Abstract. Advanced glycation end-products (AGEs) serve as densitometric markers of oxidative stress and inflammatory processes in many diseases and their complications. *Objective:* analysis of the correlation between AGEs and the cytokine profile in patients with allergic diseases associated with chronic Epstein-Barr viral infection (EBV-infection) in the active and latent phases. *Object and methods.* Determination and comparative analysis of AGEs levels and cytokines IL-17, IL-33, TNF- α in 66 patients aged (32.4 ± 7.5) years with allergic diseases associated with chronic EBV-infection in the active and latent phases and in EBV-seronegative patients with allergic diseases. *Results.* When determining AGEs by fluorescence spectroscopy in three groups of patients with allergic diseases, there was a reliably smaller number of AGEs than in healthy individuals. Presumably 12.3 % higher levels of IL-33 ($p = 0.041$) was determined in patients with active phase of EBV-infection compared to EBV-seronegative individuals, and in patients with latent phase of EBV-infection, the level of IL-17 was 3.54 times higher compared with EBV-seronegative individuals ($p = 0.011$). It was determined that there is a reliable ($p = 0.049$) weak negative ($r = -0.364$) correlation between AGEs level and IL-33 in patients with allergic diseases associated with chronic EBV-infection in the active phase. It was investigated that no statistical difference between the levels of the proinflammatory cytokine TNF- α in the three groups was found. In patients with allergic diseases associated with chronic EBV-infection in the latent phase, a reliable ($p = 0.032$) weak negative ($r = -0.364$) correlation between AGEs and IL-17 was determined. *Conclusions.* Patients with allergic diseases compared to healthy individuals have lower levels of AGEs. AGEs play a significant pathogenetic role in the induction of allergic inflammatory process. AGEs accompanied by increased synthesis of IL-33 and IL-17 was more pronounced in patients with active phase EBV-infection, which was confirmed by clinical data.

Key words: advanced glycation end-products, allergic diseases, chronic Epstein-Barr viral infection, cytokines.

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