

MODERN VIEW ON THE ROLE OF BACTERIAL LYSATES IN THE PREVENTION OF BRONCHIAL ASTHMA EXACERBATIONS IN CHILDREN UNDER MARTIAL LAW

O. O. Rechkina, V. O. Stryzh, T. O. Tverdokhlib, S. M. Rudenko, N. V. Promska, O. M. Kravtsova

SO "National Scientific Center of Phthiology, Pulmonology and Allergology named after F. G. Yanovsky of the National Academy of Medical Sciences of Ukraine", Kyiv, Ukraine

Abstract. An analysis of modern scientific publications was conducted, including systematic reviews, meta-analyses, randomized clinical trials, and international guidelines dedicated to the immunopathogenesis of bronchial asthma, mucosal immunity, the concept of the "gut–lung" axis, and the mechanisms of action of bacterial lysates.

It was shown that the development of infection-induced exacerbations of bronchial asthma in children is associated with functional immaturity of innate immunity, impaired dendritic cell maturation, predominance of the Th2-type immune response, and insufficiency of antiviral protection. Oral bacterial lysates activate mucosal immunity via the gut–lung axis, stimulate the maturation of antigen-presenting cells, restore the balance of the Th1/Th2 response, enhance the synthesis of interferons, secretory IgA, and regulatory cytokines, and induce the phenomenon of trained innate immunity. According to the results of modern systematic reviews and meta-analyses, their use is associated with a reduction in the frequency of respiratory infections, virus-induced asthma exacerbations, the need for antibacterial therapy and systemic corticosteroids, as well as improved disease control. Under martial law conditions, when the infectious load and the impact of chronic stress increase, this approach acquires additional clinical importance. Modern experimental and clinical data confirm the pathogenetic rationale for using bacterial lysates as an adjunctive component in the comprehensive prevention of infection-induced asthma exacerbations in children. Their use contributes to the modification of innate and adaptive immune responses, improved disease control, and reduced exacerbation rates. Further research is necessary to determine optimal administration regimens and to identify patient groups that will derive the greatest clinical benefit.

Key words: children, bronchial asthma, prevention, exacerbation, bacterial lysates, immunomodulation, martial law.