CLINICAL AND IMMUNOLOGICAL CHARACTERISTICS OF RECURRENT BRONCHITIS IN YOUNG CHILDREN LIVING IN THE ARAL SEA REGION

Kh.P. Atajanov., A.B. Rajapova.
Urgench State Medical Institute

Relevance. Recurrent bronchitis in young children is a growing pediatric challenge. The severe ecological crisis in the Aral Sea region, characterized by salt-dust air pollution, suppresses children's immunological reactivity and causes an imbalance in local immune factors. Therefore, studying the specific clinical course of recurrent bronchitis in correlation with systemic immune disorders in this region is of high medical and social importance for improving diagnostic measures.

Aim of the study: To determine and evaluate the clinical and immunological characteristics of recurrent bronchitis in young children living in the unfavorable environmental conditions of the Aral Sea region.

Materials and methods. The study involved clinical and immunological examinations of young children with recurrent bronchitis living in the Aral Sea region. Healthy peers served as the control group. The clinical course of the disease was studied dynamically. To evaluate immunological disorders, key immunoglobulins (IgA, IgM, IgG, sIgA, IgE) and immunocompetent cell subpopulations in blood serum and local secretions were analyzed using modern laboratory methods (ELISA).

Results and discussion. In children living in the ecologically unfavorable area, recurrent bronchitis exacerbations were characterized by a prolonged course and frequent development of bronchoobstructive syndrome. Immunological analysis showed a significant suppression of local and systemic immunity in patients: a decrease in T-lymphocytes (CD3+, CD4+), a sharp decline in secretory IgA (sIgA), and an elevated level of total IgE. These changes indicate that environmental factors disrupt the body's compensatory mechanisms.

Conclusion. The course of recurrent bronchitis in young children of the Aral Sea region is directly associated with systemic immune imbalance and a deficiency of local protective factors. The findings highlight the necessity of combining conventional therapy with immunocorrective measures and targeted prevention programs for treating children in this region.

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