

## CLINICAL AND IMMUNOLOGICAL STUDY OF THE EFFECT OF VARIOUS TYPES OF THERAPY ON THE COURSE OF ALLERGIC RHINITIS IN CHILDREN WITH HYMENOLEPIAS

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**Summary.** A detailed analysis of the main clinical and laboratory parameters in groups of children suffering from allergic rhinitis (AR) with concomitant hymenolepiasis in the course of antiallergic, antiparasitic and complex therapy is presented. Patients with AR with hymenolepiasis were divided into three groups: 21 patients received antiallergic, 22 patients - antiparasitic and 24 patients - complex therapy. The maximum clinical effect was achieved by us with the use of complex treatment, which included antiallergic and antiparasitic therapy. The dynamics of immunological parameters after treatment of AR patients with hymenolepiasis only with antiallergic or antiparasitic drugs shows that, despite a positive result, it is insufficient and does not normalize immunological parameters. Complex antiallergic and antiparasitic treatment has a pronounced immunological effect, activates the severity of the immune response, switches the nature of the immune response to suppressive and thereby contributes to a more rapid relief of the allergic process in the body.

**Key words:** allergic rhinitis, hymenolepiasis.

### Relevance

In recent years, modern sources on allergic rhinitis (AR) have increasingly indicated a frequent association of this disease with hymenolepiasis of the gastrointestinal tract (GIT) [1,4]. Hymenolepiasis disrupts the gut microbiome, often affecting all its sections [1,2,7]. In the intestines, there are disturbances in parietal digestion (accompanied by impaired absorption, permeability, and barrier function of the gastrointestinal mucosa), leading to sensitization of the body, which increases the levels of IgE and histamine [3,5,6] and results in signs of secondary immunodeficiency.

### Objective

The aim of the study is to analyze the dynamics of key clinical and laboratory parameters in children suffering from allergic rhinitis (AR) with hymenolepiasis against the background of combined anti-allergic and antiparasitic therapy.

### Materials and Methods

The main group of examined patients consisted of 100 children (aged 3 to 14) diagnosed at the children's municipal diagnostic center and residing in rural areas; the study was conducted with informed parental consent.

### Results and Discussion

Anti-allergic treatment, including Zyrtec, Loratal, Vibrocil, and endonasal electrophoresis with a 2% calcium chloride solution for 10 days (without vitamin therapy, as vitamins serve as a nutrient medium for Giardia and are easily absorbed by parasites, increasing their viability), led to a significant improvement in allergic status. There was a significant reduction in the number of patients experiencing nasal breathing difficulties, paroxysmal sneezing, and rhinorrhea. Additionally, a decrease was observed in the number of patients with spasmodic cough, lacrimation, and itching in the nose, ears, and throat, although this reduction was not statistically significant.

The IgE level in AR patients with hymenolepiasis after treatment remained significantly elevated (3.05 times higher) compared to the control group, although it showed a significant decrease relative to pre-treatment values, accompanied by a significant reduction in B-lymphocyte levels over the disease's course.

Changes in the content of ASL (anti-secretory leukocytes) followed a similar pattern—their levels decreased significantly, particularly ASL against tracheal and intestinal antigens, but remained higher than those in the control group.

### Conclusion

The maximum clinical effect was achieved with combined treatment, including both anti-allergic and antiparasitic therapy. Anti-allergic therapy led to rapid improvement in patients' conditions, while antiparasitic therapy reinforced this effect. The most pronounced positive dynamics, according to rhinopneumometry data, were observed after comprehensive treatment.

Comprehensive anti-allergic and antiparasitic treatment has a strong immunological effect, enhances immune response intensity, shifts the immune reaction towards a suppressor type, and thus facilitates faster resolution of allergic processes in the body.

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