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TO STUDY THE FREQUENCY OF PARASITOSIS AMONG CHILDREN WITH ALLERGIC DISEASES

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ABSTRACT

The presence of parasitic invasion (PI) affects not only the prevalence of allergic diseases in the population, but also the severity of the clinical manifestations of the disease. The maximum detect ability of parasitic invasions is observed in children under 6–11 years of age, nematodes prevail in boys, and giardiasis occurs with the same frequency in boys and girls [7]. In patients with allergic rhinitis, giardiasis was also significantly more often detected - 24 children (80.0%), 5 children suffered from ascariasis (16.7%), one child had a combined parasitic invasion (3.3%). Thus, the studied samples of children were comparable in gender, age and living conditions. The main group consisted of 100 patients with bronchial asthma (37%), 100 (37%) - with allergic rhinitis, 70 (25.9%) - with atopic dermatitis.

KEYWORDS: *Prevalence, Nematodes, Prevail*

INTRODUCTION

The growing prevalence of allergic diseases (AD) is a serious medical and social problem in all countriesthe world [5,9,10]. In the world, according to epidemiological studies, the prevalence of AD is from 15 to 35%, while children most often suffer[4]. At its core, ADs not only have a

hereditary predisposition, but belong to multifactorial diseases [1,8], while the modifying role is played by the invasion of helminths and lamblia [2,6].

The prevalence of helminth-protozoal infections is also quite high: at present, about 500 species of helminths parasitizing humans have been registered in the world [1, 10].The presence of parasitic invasion (PI) affects not only the prevalence of allergic diseases in the population, but also the severity of the clinical manifestations of the disease. The pathological effect of all parasites (P) is due to the modulating effect on the human immune system [6,9].According to many researchers, the processes characteristic of allergic reactions: blood eosinophilia, overproduction of immunoglobulin E (IgE), release of mediators by mast cells, mucus hyper secretion, interleukin synthesis are a protective reaction and a manifestation of the body's mobilization in the fight against parasites [3,4].On the one hand, the data of numerous experimental studies demonstrate an inverse relationship between the presence of parasitic invasion and the activity of the inflammatory process in allergic diseases [2].On the other hand, parasites and their metabolic products are allergens, cause inflammatory changes, have a sensitizing effect, which initiates the development of chronic allergic diseases such as urticaria (C), atopic dermatitis (AD), bronchial asthma (BA) [3,5]. According to some authors, the evolutionary phenomenon of an allergic reaction was formed exclusively due to the molecular similarity of antigens of parasites and antigens entering the body from the outside (dust, pollen, food), which determines the development of nonspecific sensitization in the infected [4]. In this regard, it is extremely important to determine the role of parasitosis in the formation of allergic diseases, to assess objective allergy diagnostics in the combined course of allergic diseases and parasitic invasions in children, to optimize their treatment, and to increase the effectiveness of controlling risk factors.

Purpose of work. Determine the frequency of occurrence of parasitosis among the observed children with allergic diseases.

Research results. At the initial stage of the study, we conducted a comparative study of the frequency of occurrence of parasitosis in samples of children with allergic diseases, as well as children without allergic diseases. The study involved 300 children aged 2 to 16 years, inclusive:

- The main group: children with allergic diseases (n = 270, average age 6.14 ± 0.13 years);

- Control group: children without allergic diseases (n = 30, average age 6.41 ± 0.21 years).

According to a few studies, there is a relationship between the risk of parasitic diseases and the sex and age of the child, as well as dependence on living conditions. It has been shown that the prevalence of parasitosis is observed among urban residents than among the rural population [1].

The maximum detect ability of parasitic invasions is observed in children under 6–11 years of age, nematodes prevail in boys, and giardiasis occurs with the same frequency in boys and girls [7]. In this regard, we compared the children of the studied samples by gender, age and living conditions. Among the patients of the main group, there were more urban residents (151 children, 55.9%) than the rural population (119 patients, 44.1%). The same tendency was observed in children of the control group - 20 (67%) and 10 (33%), respectively (p = 0.52).

So, among the children we studied, the largest proportion were boys: 149 (55.1%) in the main group and 18 (60.0%) in the control group (p = 0.121). When comparing patients in the study

samples by agethe sign also did not reveal statistically significant differences. In the main group of the studied children prevailed 4–7 years old (36.0%), in the control group: 4–7 (34.2%) and 8–12 (35.1%) years old. The smallest number of patients wasat the age from 13 to 16 years, both in the main (15.0%) and in the control group(11.0%), (p = 0.124). Thus, the studied samples of children were comparable in gender, age and living conditions. The main group consisted of 100 patients with bronchial asthma (37%), 100 (37%) - with allergic rhinitis, 70 (25.9%) - with atopic dermatitis. All children with bronchial asthma were diagnosed with an atopic form of the disease; by severity, 45 children had mild intermittent (45.0%), 32 (32.0%) - mild persistent, 21 (21.0%) moderate persistent and 2 children (2.0%) - severe persistent asthma. Intermittent AR occurred in 25 patients (25.0%), persistent - in 75 patients (75.0%). BP of mild, moderate, and severe severity was detected in 32.0–63.5–4.5% of patients, respectively. The presence of concomitant allergic diseases was detected in 181 patients, which amounted to 67.0%. Among comorbid pathologies, allergic rhinitis was most often recorded - 53 patients (19.6%), less often atopic dermatitis - 31 (11.4%).The control group consisted of 30 children without allergic diseases. According to the results of parasitological examination, among the studied children with allergic diseases, parasitic invasion was detected in 98 people, which amounted to 36.2%. Among the patients of the control group, helminthiasis and giardiasis were diagnosed only in 4 children (13.3%), (p = 0.000001).Thus, the results of the study showed that the frequency of occurrence of parasitosis in the samples of children comparable in gender, age and living conditions is 2.7 times higher among patients with allergic diseases, compared with children without allergic pathology.

The most frequent clinical signs of parasitosis were: allergic syndrome (75.6%); dyspeptic (44.7%) and abdominal pain syndrome (35.6%); asthenoneurotic syndrome (21.4%); syndromes of damage to the gastrointestinal tract and hepatobiliary system:reactive changes in the liver and pancreas (38.9%), biliary dyskinesia (30.7%), cholecystocholangitis (8.1%), hepatosplenomegaly (10.4%), increased aspartate aminotransferase (18.1%), dysproteinemia (6.2%), hypersalivation (5.8%); anemic syndrome (18.0%); polylymphadenopathy syndrome (4.3%), body weight deficiency syndrome (18.5%), blood eosinophilia (59.9%).

In the structure of parasitic invasions in children with AD (n = 98), giardiasis was most often recorded - 54% (53 patients), less often ascariasis - 38% (38 people), opisthorchiasis - 6.1% (6 children) and toxocariasis 1.0 % (1 child). Moreover, 7 patients (7.1%) were found to have combined parasitic invasion.Among the combined invasions were identified: ascariasis + giardiasis (2 children), ascariasis + toxocariasis (1 patient), ascariasis + opisthorchiasis (2 children), giardiasis + opisthorchiasis (2 patients). The results of the study for enterobiasis, trichinosis, toxoplasmosis and echinococcosis in all children were negative.The lack of positive results of parasitological examination for enterobiasis, according to our data, was due to the timely detection and treatment of patients with this helminthiasis. According to the results of our study, the highest incidence of parasitoses was recorded in children of early, primary, and senior school age (45.3, 46.3 and 52.4%, respectively).The smallest number of parasitic infestations was found in children aged 4–7 years (33.7%). In the structure of parasitosis, the share of giardiasis among young children was 92.6% (25 patients), among preschoolers - 56.7% (17 people), among children of primary school age - 76.5% (26 people), which corresponds to the world data. Statistics [7]. Among parasitic invasions in patients aged 13–18 years, helminthiasis (ascariasis, opisthorchiasis, toxocariasis) prevailed - 77.3% (17 people), the proportion of

giardiasis was only 22.7% (5 children).Parasitosis was more common among children with atopic dermatitis(42.9%) and bronchial asthma (40.0%), somewhat less frequently in patients with allergic rhinitis - 35.3%. The highest percentage of positive results of parasitological examination was noted among patients with acute allergic urticaria - 22 people, which amounted to 68.8%. Among children with bronchial asthma,giardiasis - 73.4% (22 patients), less often ascariasis (6 children, 20.0%), opisthorchiasis(1 patient, 3.3%) and combined invasion (1 child, 3.3%).

In patients with allergic rhinitis, giardiasis was also significantly more often detected - 24 children(80.0%), 5 children suffered from ascariasis (16.7%), one child had a combined parasitic invasion (3.3%). In children with atopic dermatitis, the most common cases were giardiasis (66.7%), less often ascariasis (5 people, 16.7%), opisthorchiasis (4 children, 13.3%) and concomitant invasion (1 patient, 3.3%). Among children with acute allergic urticaria, giardiasis was equally common (8 people, 33.4%), ascariasis and opisthorchiasis - 6 patients each (25.0%), respectively. Two children were diagnosed with toxocariasis (8.3%) and two (8.3%) - combined invasion.

FINDINGS

Thus, it can be assumed that in the pathogenesis of chronic allergic diseases, such as atopic dermatitis, allergic rhinitis and bronchial asthma, invasion by lamblia plays a key role, and both giardiasis and helminthiasis are alikely cause of acute allergic urticaria.

LIST OF REFERENCES

1. Allergology and immunology / under the general. ed. A. A. Baranova,(revision 2014) / ed. A.S. Belevsky. - M.: Russian Respiratory Society, 2015.- 150 p.

2. Degarege, A. Association between intestinal helminth infections and underweight among school children in TikurWuha Elementary School, Northwestern Ethiopia /A. Degarege, B. Erko // J. Infect. Public Health. – 2013. – Vol.6,№ 2. – P. 125–33.

3. Global strategy for the treatment and prevention of bronchial asthmaHalafli, H.N. Influence of intestinal parasitoses on the health status of children //Fundamental research. - 2013. - No. 9. - P. 156-162.

4. Mirrakhimova M. X. et al /Antileukotriene Drugs in The Treatment of Atopic Dermatitis in Children. International Journal of Pharmaceutical Research |Jan - Mar 2021|Vol 13 | Issue 1: 2117-2121

5. Nishonboyeva N. Yu. et al.Digestive organs status in children with atopic dermatitis /Journal of Critical Reviews, 2020.7/5. 678-679

6. Heppe. // Pediatrics. Journal them. G. N. Speransky - 2012. - T. 91. –No. 3. - P. 76–92.

7. Geppe, N.A. Relevance of the Problem of Bronchial Asthma in Children.R.M. Khaitova. - M.: Union of Pediatricians of Russia, 2008 - 248 p.

8. S.A. Ibragimova et al /Comordid course of atopic dermatitis with bronchial asthma in children: frequency, clinical and allergological characteristics - Journal of Critical Reviews, 2020.7/17.2317-2321

9. WAO White book on Allergy. – 2011-2012. – P. 13

10. Zakirova U.I. et al /Analysis of The Prevalence of Bronchial Asthma in Children in Outpatient Clinics. International Journal of Pharmaceutical Research | Oct - Dec 2020 | Vol 12 | Issue 4: 759-765