CENTRAL ASIAN JOURNAL OF MEDICAL AND NATURAL SCIENCES

Volume: 04 Issue: 06 | Oct-Nov 2023 ISSN:2660-4159

www.cajmns.centralasianstudies.org/index.php

IMMUNOLOGICAL INDICATORS CHILDREN WITH HELMINTHIC INVASION

1. Khamidova Nargiza Kosimovna

Received 28th Sep 2023,
Accepted 28th Oct 2023,
Online 2nd Nov 2023

Assistant of the Department of Infection and Epidemiology of the Bukhara State Medical Institute of the Ministry of Health of the Republic of Uzbekistan. Bukhara, Uzbekistan.[1]

Annotation: *A detailed analysis of the main clinical and laboratory parameters in groups of children suffering from allergic rhinitis (AR) with concomitant hymenolepiasis during antiallergic, antiparasitic and complex therapy is given. Patients with AR with hymenolepidoses were divided into three groups: 21 patients received antiallergic therapy, 22 patients received antiparasitic therapy, and 24 patients underwent 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 patients with AR with hymenolepidoses only with antiallergic or antiparasitic drugs shows that, despite the 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 suppressor, and thereby contributes to a faster relief of the allergic process in the body.*

Key words: hymenolepiasis, children, dynamics, immunology.

Relevance. Uzbekistan is one of the countries with a hot climate, for which helminth and protozoal diseases are endemic [1]. Today, the number of infected people is about 200 thousand people, 70% are children under 14 years of age. The most widespread protozoal infestation on the territory of Uzbekistan is giardiasis, and from helminthic infestations, hymenolepiasis [5, 8]. The wide distribution of parasitic infestations and the severity of the intraorgan pathology they cause is not only medical, but also socio-economic important [4,7]. Parasitic diseases are characterized by relatively slow development, chronic course, and often long-term compensation. It is this particularity that is mainly the reason for the underestimation of the medical and social significance of these diseases [2, 7, 9]. Parasitic diseases cause delays in the mental and physical development of children [10,], reduce resistance to infectious and somatic diseases [1], reduce the effectiveness of vaccine prevention [3], and cause allergization of the

body, inducing secondary immunodeficiencies. Under the influence of helminths and protozoa, homeostasis is disrupted in the body, pathological and immunopathological processes that are adaptive in nature develop. The nervous system is the most sensitive to pathological changes in homeostasis. At the same time, according to many researchers, restoration of body functions and human recovery also depend on the state of the nervous system. At the same time, the composition of the organism determines the possibility of development and vital activity of pathogens of invasion, their activity, the breadth of intraorgan changes, the neurological complications that they cause, and the activity of parasites, their ability to change the physiological state of a person determines the severity of pathological changes [2,6]. To date, research results show that the most common forms of invasion are not isolated, but combined. The main reason for this is the common path of helminth penetration into the human body, a decrease in the immune status of the body and pathology of the gastrointestinal tract.

Materials and methods. The study presents an analysis of the results of dynamic observation of 120 sick children aged 5 to 14 years with intoxication of the central nervous system (CNS) as a result of invasion by giardiasis and hymenolepiasis. To form groups, careful selection was carried out in order to exclude the possibility of long-term consequences of the negative influence of perinatal factors, previous traumatic brain injuries, infectious and viral diseases with high fever, which may result in the development of damage to the central nervous system and autonomic disorders. In the presence of chronic foci of infection, differential diagnosis of possible neurological complications was carried out, with the obligatory condition of compensation for the process during the study period. Subsequently, on the basis of semi-accurate scatological data for the presence of protozoal and helminth infestations, the examined children were divided into 2 groups. The 1st group (main) included 70 children (58.3%), with combined invasion of giardiasis with hymenolepiasis; the average age of the children was 9.7±0.35 years. The 2nd group (comparison) consisted of 50 children (41.7%) infected with an isolated form of giardiasis, average age - 9.2±0.6 years.

Results and discussion: the main complaints of patients and the main reason for visiting medical institutions were not clinical signs of invasion, but complaints of an astheno-neurotic nature (48.4%), as well as convulsive syndrome (30.8%) and tic hyperkinesis (20.8%). The clinical manifestations of combined invasion by hymenolepiasis and giardiasis were a combination of manifestations of each invasion, since in children of the main group the clinic of invasion by hymenolepiasis reliably prevailed, and the clinic of giardiasis was more pronounced in children of the comparison group with isolated invasion. In most cases, convulsive syndrome occurred in the main group (37; 52.9%), while it was absent in the comparison group ($P<0.001$). In the comparison group, vegetative-vascular dystonia (VSD) predominated, which was recorded in 43 (86%) children versus 15 (21.4%) of the main group ($P<0.001$). Tic hyperkinesis was recorded in both groups, but there was a significant predominance in the main group (18; 25.7±3.2% versus 7; 14±4.9%; $P<0.05$). The frequency of complaints with vegetative disorders in children in the main group was significantly higher than in children in the comparison group ($P<0.01$). Signs of asthenia were more pronounced in the comparison group, which is associated with the toxic effect of Giardia on the child's body, while in combination with hymenolepiasis these signs weakened. At the same time, in the neurological status of children with combined invasion, scattered microsymptoms were noted in the form of a uniform increase in tendon reflexes (55; 78.6 ± 4.9%), trembling of the eyelids and fingers of outstretched arms (31; 44.3 ± 5.9%), fibrillary twitching of the tongue (26; 37.1±5.8%), pathological dermographism, deviation of Thus, tic hyperkinesis in children

with helminthic and protozoal infestation were functional in nature and limited by neurological microsymptoms.

For 37 children with combined helminth and protozoal infestation with convulsive syndrome, 72.9% were characterized by generalized clonic-tonic convulsions, short-term, without a clear delineation of phases. Single seizures occurred in 13.5% of cases.autonomic tone, ortho- and clinostatic tests, Dagnini-Aschner test towards sympathicotonia. The rapid restoration of consciousness, the absence or short period after sleep, the absence of gross neurological symptoms in the neurostatus also distinguished these attacks from organic ones.

Thus, as a result of the studies, the presence of signs of damage to the autonomic nervous system was revealed in all examined children with both combined and isolated forms of helminth and protozoal infestation. Whereas in the comparison group this type occurred in 18.8% (6) of cases. Type 2 EEG synchronous was found in 17.1% (12) of children in the main group and 21.9% in the comparison group, which was characterized by hylersynchronization of the bst rhythm. The main activity was absent or was represented by single oscillations or small groups of alpha waves, both in the comparison group and in the main group. All children with EEG type 2 were characterized by tic hyperkinesis. Type 4 EEG was recorded in most cases in the examined children, so in the main group it was recorded in 48.6% (34) of children and in 59.4% (19) of the comparison group.

Detection of specific IgM to Giardia antigens by enzyme-linked immunosorbent assay (ELISA) showed that in children of the main group, IgM indicators exceeded the norm by almost 4.5 times, while in the comparison group they were 1.8 times higher, which indicated an acute course of the disease. According to our data, the level of antigen binding lymphocytes (ABL) to intestinal TA exceeded the control figures by almost 5 times in children from the main group and 6 times from the comparison group (8.2+0.19% and 10.7±0.2% in children of the main and comparison groups, respectively, with control 1.74±0.08%; $P<0.001$).

Conclusions:

1. Damage to the nervous system as a result of parasitic intoxication in children with helminth and protozoal infestations was expressed in the form of convulsive syndrome (52.9+5.9%), tic hyperkinesis (25.7+5.2%) and SVD (21.4+ 4.9%), while in children with isolated forms of giardiasis these manifestations manifested themselves in the form of tic hyperkinesis (14+4.9%) and SVD (86+4.9%).

2. When giardiasis and hymenolepiasis were combined, neurological complications were accompanied by sympathetic tone and reactivity with a higher severity of SVD. In children with giardiasis in an isolated form, neurological complications in most cases were accompanied predominantly by a parasympathetic direction.

3. The formation of a secondary immunodeficiency state was noted mainly due to the inhibition of T-helper and suppressor links, as well as B-lymphonitis, more pronounced in children with combined invasion of giardiasis and hymenolepiasis

Literature:

1. Хамидова, Н. К. (2021). Клинико-иммунологические показатели гименолепидоза с аллергическом ринитом у детей в зависимости от вида терапии. Central Asian Journal of Medical and Natural Science, 331-333.
2. Khamidova, N. K., Mirzoeva, M. R., & Narzullaev, N. U. (2021). Clinical and Immunological Study of the Effect of Different types of Therapy on the Course of Allergic Rhinitis in Children with Hymenolepiasis. Annals of the Romanian Society for Cell Biology, 1900-1908.

3. Садыкова, Г. К., & Азимова, Н. М. (2013). Клинико-неврологические и иммунологические показатели у детей с гельминтной и протозойной инвазиями. Здравоохранение Кыргызстана, (3), 91-94.
4. Kosimovna, K. N. (2023). CLINICAL, NEUROLOGICAL AND IMMUNOLOGICAL PARAMETERS IN CHILDREN WITH HYMENOLEPIDOSIS AND PROTOZOAN INVASIONS. Galaxy International Interdisciplinary Research Journal, 11(4), 398-403.
5. Navruzova, U. O., Khamidova, N. Q., & Yusupov, S. H. (2019). A. Featurus of Periodontitis in Metabolo c Disorders. European journal of pharmaceutical and medical research, 3, 108-113.
6. Mirzoeva, M. R., & Khamidova, N. K. (2020). Clinical and epidemiological characteristic of hymenolepidosis children. AcademiciaAn International Multidisciplinary Research Journal, 169-173.
7. Мирзоева, М. Р., Нарзуллаев, Н. У., & Хамидова, Н. К. (2020). Клинико-эпидемиологическая характеристика гименилипедоза у детей. Новый день в медицине, (2), 441-443.
8. Oblokulov, A. R., Hamidova, N. Q., & Aslanova, M. R. (2021). Clinical and epidemiological aspects of hymenolepidosis and teniarynchosis in pediatrics. Europe's Journal of Psychology (EJOP).-11.07, 224-229.
9. Narzullaev, N. U., Mirzoeva, M. R., & Khamidova, N. K. (2022). ANALYSIS OF THE INCIDENCE OF HYMENOLEPIASIS AMONG PARASITOSES IN OUTPATIENTS AND INPATIENTS. INTERNATIONAL JOURNAL OF SOCIAL SCIENCE & INTERDISCIPLINARY RESEARCH ISSN: 2277-3630 Impact factor: 7.429, 11, 8-9.
10. Khamidova, N. K., Mirzoeva, M. R., & Narzullaev, N. U. (2021). Clinical and Immunological Study of the Effect of Different types of Therapy on the Course of Allergic Rhinitis in Children with Hymenolepiasis. Annals of the Romanian Society for Cell Biology, 1900-1908.
11. Азимова Н.М. Клинико-иммунологические показа¬тели гименолепидоза и лямблиоза у детей с интоксикацией ЦНС // Сборник тезисов 4-го съезда неврологов Узбекиста¬на. - Ташкент, 2012. - С. 167.
12. Поляков В.Е.. Лысенко А.Я.. Константинова Т.Н., Авдюхина Т.И. Гименолепидозы у детей и подростков // Ме¬дицинская помощь. - 2015. - № 5. - С. 43-48.
13. Oblokulov A. R., Elmuradova A. A., Khadieva D. I., Pondina A. I. (2020) Improved methods of treatment of patients with chronic giardiasis using "Diform" / / New Day in Medicine. 4(32) - pp. 560-562.
14. Хамидова Н.К. Клинико-эпидемиологическая характеристика гименолипедоза у детей // Новый день медицине. Ташкент 2020г.с.441-443.
15. Oblokulov A. R., Niyazov G. E., Oblokulov A. A., Narziev B. I. (1999) Features of the course of giardiasis in adults / / Infection, immunity and pharmacology. -1999. - p. 151-156.
16. Kilincel O., Ozturk C.E., Gun E., Uzun H. A rare case of Hymenolepis diminuta infection in a small child // Mikrobi- yol Bul. - 2015 Jan. - № 49(1). - P 135-8.
17. Хамидова Н.К. Клинико-иммунологические показатели гименолепидоза саллергическом ринитом у детей в зависимости от вида терапии // Central Asian Journal Of Medical and Natural Sciences.-11.11.2021.-P. 331-333.
18. Khamidova N.K. (2021). Clinical and Immunological Study of the Effect of Different types of Therapy on the Course of Allergic Rhinitis in Children with Hymenolepiasis. Annals of the Romanian Society for Cell Biology, 1900–1908.
19. Lin R.J., Chen C.Y., Lu C.M., Ma Y.H. Anthelmintic constituents from ginger (Zingiber officinale) against Hyme¬nolepis nana // Acta Trop. - 2014 Dec. - № 140. - P. 50-60.
20. Mirzoeva M.R., & Khamidova N.K. (2020). Clinical and epidemiological characteristic of hymenolepidosis children // Academicia An International Multidisciplinary Research Journal. – 2020. – P. 169-173.

21. Аслонова М.Р. Возникновение Случаев Гиповитаминоза Из-За Гельминтозов // CENTRAL ASIAN JOURNAL OF MEDICAL AND NATURAL SCIENCES. – 2021.- С. 46-50.
22. Khamidova N.K. Clinical and immunological study of the effect of various types of therapy on the course of allergic rhinitis in children with hymenolepiasis // WORLD MEDICINE JOURNAL . -2021. -№ 1(1).- P. 387-391.