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DEGREE AND ETIOLOGY OF INTESTINAL PARASITOSIS IN PATIENTS WITH CUTANEOUS LEISHMANIASIS

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ABSTRACT

In this article, the authors studied the frequency and etiological composition of intestinal parasitosis in 140 patients diagnosed with cutaneous leishmaniasis. According to the results of the study, Giardia lamblia cysts were found in 21.4% of patients with cutaneous leishmaniasis, infection with Enterobius vermicularis in 7.0% of patients, infection with Ascaris lumbricoides in 4.2% of patients, infection with Hymenolepis nana in 5% of patients.

KEYWORDS

Anthroponosis skin leishmaniasis, zoonosis skin leishmaniasis, stomach parasitosis

Introduction

In the world, cutaneous leishmaniasis is one of the serious socio-economic problems for a number of countries. According to the World Health Organization, 600,000 to 1 million people worldwide every year which patients with cutaneous leishmaniasis are registered up to [1]. The long duration of the pathological process in the case of cutaneous leishmaniasis, the presence of problems in etiotropic treatment indicate the importance of timely diagnosis and treatment of concomitant diseases that may negatively affect the course of cutaneous leishmaniasis.

The long duration of the pathological process in cutaneous leishmaniasis, the lack of vaccination against the disease and the peculiarity of etiotropic therapy, the question arises about the modern diagnosis and effective treatment of background or accompanying diseases that can negatively affect the course of cutaneous leishmaniasis [2]. In this case, it is necessary to reduce the duration of the pathological process and prevent the risk of developing complications. Regions endemic for cutaneous leishmaniasis and intestinal parasitosis should be included in the plan [3].

Protection against microparasites (viruses, bacteria) and macroparasites (single-celled Protozoa and multicellular Metazoa) is provided by the immune system. Acquired resistance to L. major occurs in humans through a Th1 immune response [4, 5]. A similar phenomenon is observed in the experimental model TL. Resistance/susceptibility to infection when mice were infected with L. major was found to be associated with Th1- and Th2-response, respectively. The resistant response to L. major in the

mouse line , C57BL/6, is characterized by the production of high concentrations of IFN- γ . IFN - γ is a Th1-cytokine that controls infection by activating macrophages and killing Leishmania [6, 7]. As the infection develops in BALB/c mice, IL-4 is actively produced and the susceptibility to L. major is high, which induces a Th2-response [8]. The role of IL-4 has also been demonstrated experimentally: administration of a monoclonal antibody to IL-4 in BALB/c mice infected with L. brasiliensis led to a reduction in leishmaniasis lesion levels and parasite load, IL-4 in mice infected with L. major in infected skin, and It is also reported that it reduces the flow of lymphocytes in inflammation and limits the clearance of parasites [9, 10]. In TL patients, an increase in the amount of cytokine IL-2 along with IL-4 was found to be correlated [11].

The Purpose of the Study

Determination of incidence rate and etiological composition of intestinal parasites in patients with cutaneous leishmaniasis.

Research Material and Methods

The study was conducted in the clinic and polyclinic of the Scientific Research Institute of Medical Parasitology named after L.M. Isaev in 2016-2018 . For this purpose, all 140 patients diagnosed with cutaneous leishmaniasis were studied. Out of 140 patients, 70 were diagnosed with zoonotic cutaneous leishmaniasis (ZTL), and 70 with anthroponotic cutaneous leishmaniasis (ATL). The diagnosis of cutaneous leishmaniasis was confirmed by Romanovsky-Giemza staining of smear samples taken from the wound. From all 140 patients, a 3-fold stool sample was collected and tested for Turdiev's preservative every day, the samples were tested in the RIEMPYUKIATM laboratory (main group). The results were compared with the results of the parasitological examination of 100 residents of Samarkand who underwent preventive examination at the ITI clinic of medical parasitology named after L.M. Isaev (control group). Follow-up subjects in the baseline and control groups were matched for age and sex.

Results and Discussion

In the control group, Giardia lamblia cysts were detected in 21.4% of the main group, and 16% of the control group. Infection with Enterobius vermicularis showed almost similar results in the main and control groups, that is, 6.4% and 7.0%, respectively. Infection with Ascaris lumbricoides was detected in 4.2% of patients in the main group, compared to 2% in the control group. Infection with Hymenolepis nana was detected in 5% of patients in the main group, while in the control group this indicator was 3%. The incidence of ascariasis in the main group was 2 times higher than in the control group (R<0.05) (Table 1).

Table 1 Infection of the main and control groups with intestinal parasites (abs./%)

Determined parasites	**main group, n = 140**		**control group, n = 1 00**		**P**
	n	**M ± m**	**n**	**M ± m**	
Giardia lamblia	30	2 1 , 4 ± 3.3	15	16,0±3,6	> 0,05
Enterobius vermicularis	9	6,4±2,0	6	7,0±2,5	> 0,05
Ascaris lumbricoides	6	4,2±1,8	2	2,0±1,3	< 0,05
Hymenolepis nana	7	5.0 ± 1.8	3	3.0 ± 1.7	>0.0 5
Mixed parasitosis	9	6.4 ± 2.0	4	4.0 ± 1.9	>0.0 5
Total	**6 1**	**4 3 , 6 ± 4.1**	**30**	**30.0 ± 4.6**	**> 0.0 5**

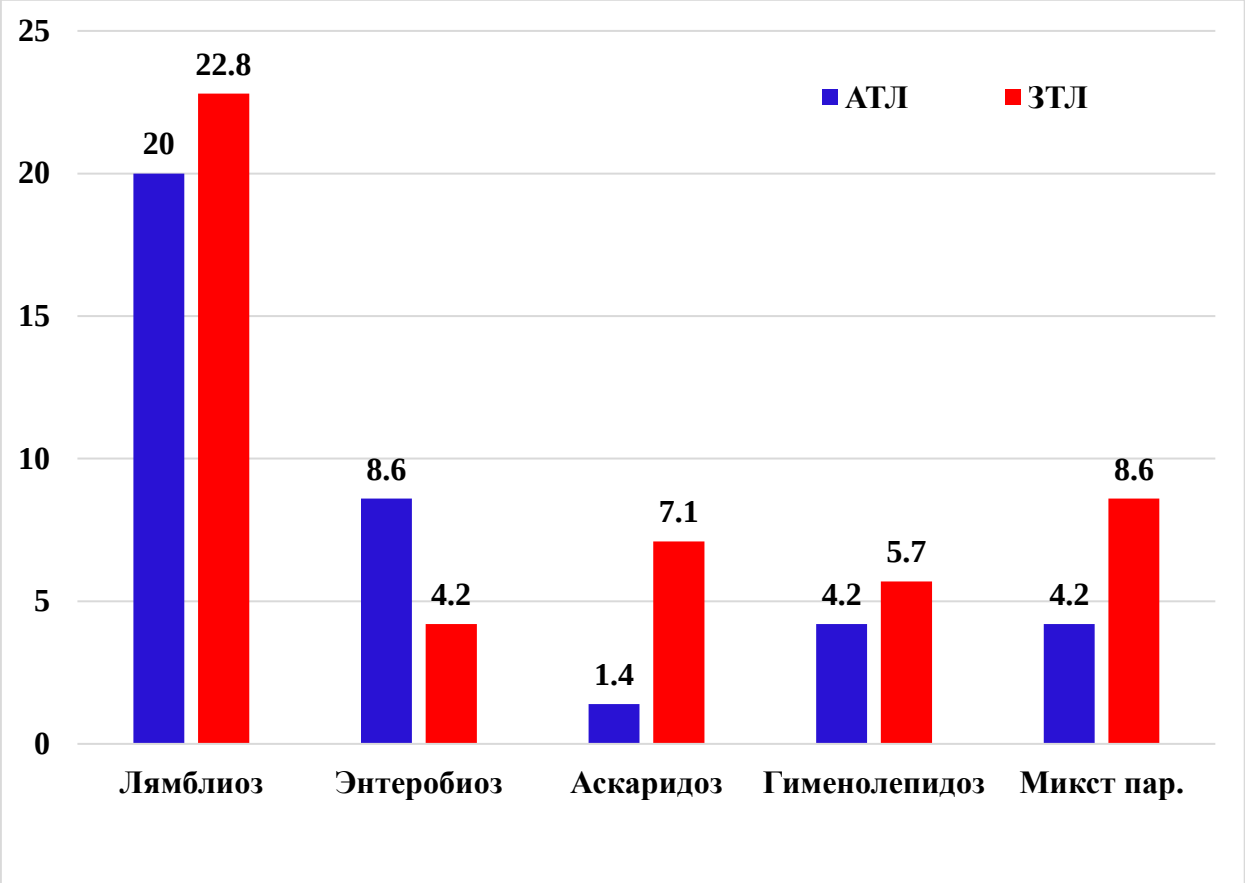
Note : P is the presence of a reliable difference between the main and control groups
The incidence of intestinal parasitosis was 6.4% in the main group and 4% in the control group. There was no statistically significant difference in the incidence rate of mixed parasitosis. Mixed parasitosis was mainly diagnosed as giardiasis+enterobiosis and giardiasis+hymenolepidosis. The total prevalence of intestinal parasites was 43.6% in the main group and 30% in the control group.
After the diagnosis of intestinal parasitosis in patients in the study groups, the occurrence and composition of intestinal parasitosis in ATL and ZTL patients was analyzed. For this, the intestinal parasites detected in 140 patients of the main group, respectively: 70 ATL and 70 ZTL patients were compared (Table 2).

Table 2 Rate and etiological composition of intestinal parasitosis in ATL and ZTL patients (abs./%)

Identified parasitosis	**ATL, n= 70**		**ZTL, n= 70**	
	n	**M±m**	**n**	**M±m**
IP undetermined TL bemorlar	43	61.4±5.8	36	51.4 ± 5.9
Giardiasis	14	20.0 ± 4.8	16	2 2.8 ± 4.9 _
Enterobiasis	6	8.6±3.3*	3	4.2±2.4
Ascariasis	1	1 , 4 ± 0 , 7	5	7.1±3.0*
Hymenolepidosis	3	4.2±2.4	4	5.7±2.7
Mixed parasitosis	3	4.2±2.4	6	8.6±3.3*
Total TL+IP	27	38.5±5.8	34	48.5±5.9

Note : * ATL and ZTL there is a reliable difference between the groups (P<0.05)

It can be seen from Table 2 that if we determine the etiological composition of intestinal parasitosis in ATL and ZTL patients, intestinal giardiasis from protozoan infection, nematodes from enterobiosis and ascariasis, cestodoses from representatives of hymenolepidosis. Mixed parasites were diagnosed in 3 patients with ATL (4.2±2.4), and in 6 patients with ZTL (8.6±3.3). Mixed-parasitises were mainly detected in the combination of giardiasis + enterobiosis and giardiasis + hymenolepidosis.
Intestinal parasitosis was detected in 27 (38.5±5.8%) ATL patients, of which 14 (20.0±4.8%) had labmiosis, 6 (8.6±3.3%) enterobiasis. ascariasis - 1 patient (1.4±0.7%), hymenolepidosis - 3 patients (4.2±2.4%), mixed parasitism - 3 patients (4.2±2.4%) (Fig. 1).



1 - fig. Intestinal parasitosis rate in ATL and ZTL patients (%)

Intestinal parasitosis was detected in 34 (48.5±5.9%) of ZTL patients, of which 16 patients (22.8±4.9%) had lyabmylia, and no reliable difference was found compared to ATL patients. Enterobiosis was detected in 3 patients (4.2±2.4%), which showed that it was 2 times less than ATL patients. Ascariasis was found in 5 patients (7.1±3.0%), 5 times more than ATL patients, which was a reliable difference (R<0.05). Hymenolepidosis was detected in 4 patients (5.7±2.7%) and no significant difference was found in hymenolepidosis compared to ATL patients. Mixed parasitosis was found in 6 ZTL patients (8.6±3.3%) and it was found to be 2 times more than ATL patients. The reason for this high prevalence of ascariasis in ZTL patients may be due to the fact that most ZTL patients are rural residents, who have a lot of contact with the soil (land) and eat a lot of greens.

Conclusion

In 43.6% of patients with cutaneous leishmaniasis, intestinal parasitosis was detected (among them: giardiasis - 21.4%, enterobiosis - 6.4%, ascariasis - 4.2%, hymenolepidosis - 5% and mixed parasitosis - 6.4%). The etiological composition and prevalence of intestinal parasitosis did not differ from the general population. However, the occurrence of ascariasis in ZTL patients was higher than in ATL patients, 7.1±3.0% and 1.4±0.7%, respectively; enterobiosis, on the contrary, was detected more often in ATL patients than in ZTL patients, 4.2±2.4% and 8.6±3.3%, respectively.

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