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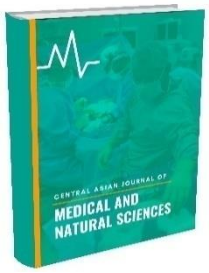

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Healing of Ulcers of Zoonotic Cutaneous Leishmaniasis Depending on the Clinical Forms

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Abstract: In this article, a pathogenetic approach was used in the treatment of patients with cutaneous leishmaniasis using the highly effective drug L-arginine. L-arginine contains amino acids. At the same time, the recovery period was observed, taking into account the clinical forms of cutaneous leishmaniasis. An important task of our goal in dermatology is the search for effective, low-toxic agents and methods for the treatment of cutaneous leishmaniasis.

Keywords: Leishmaniasis, L-arginine, lymphangitis.

INTRODUCTION

Currently, in the countries of Central Asia, visceral and cutaneous (urban type) leishmaniasis has been practically eliminated, however, zoonotic cutaneous leishmaniasis (ZCL) continues to occupy a certain place in the regional pathology. [1,2]. The zoonotic form of cutaneous leishmaniasis (CL) has recently been most often observed in Turkmenistan and Uzbekistan. [3] [4,5,6], as well as in certain regions of Kazakhstan [7,8]. The degree of manifestation of episodes in these territories is different and the incidence of the population in each of them has its own characteristic features due to the interposition of settlements and natural foci, the degree of contact of the population with foci and the level of the immune layer [9]

It should be emphasized that the nature and type of settlements of natural carriers of the pathogen are changing, village populations of mosquitoes appear [10]. Analysis of the long-term incidence of PCL shows that rises are observed in about 5-7 years and can continue for 2-3 years in a row [11].

It should be pointed out that the natural reservoirs of the GCL causative agent are the great and red-tailed gerbils, and the vectors are mosquitoes (Phlebotomus papatasi). The incidence rate of cutaneous leishmaniasis in great gerbils in different foci is in the range of 12.3-98.2%, and in red-tailed gerbil - 9.2-15.2% [12]. On the territory of Uzbekistan, there are three types of Leishmania: L.major, L.turanica, L.gerbilli [9]. In humans, the typical course of zoonotic cutaneous leishmaniasis is caused only by L. major, but L. turanica, as shown by limited studies, can cause abortive dermatosis in humans and lead to further resistance to L. major [11,13].

Epidemiological studies have shown that cutaneous leishmaniasis is characterized by a certain seasonality. The first patients appear at the end of May, then the incidence increases, reaching its maximum in September-October, and then a gradual decline in incidence is observed, when in

December and January only a few patients with cutaneous leishmaniasis are registered, and in these cases, it is usually late visiting patients with cutaneous leishmaniasis.

Cutaneous leishmaniasis is characterized by an incubation period that ranges from several days to 3-4 weeks, and in rare cases it can be 1-2 months [14].

It should be noted that an important clinical sign of cutaneous leishmaniasis is leishmaniasis, the number of which is very variable. So, according to A.M. Mukhamedov [18] on average, there are 11.4 ulcers per patient, according to A. Sh. Vaisov [15] in patients with cutaneous leishmaniasis, 4.2 ulcers are recorded, and according to M.K.Sharipov et al.. [16] in 80% of patients with cutaneous leishmaniasis, 1-3 ulcers were detected.

An important clinical point is the fact of the localization of leishmaniasis ulcers, which depends on the ongoing anthropogenic transformation of the eco-carrier. So, for example, according to the research carried out by Kh.M. Mustafaev and others [17,18] the number of patients with the localization of leishmaniasis ulcers on the extremities has significantly increased and the localization on the skin of the face has decreased.

Despite a wide range of preventive measures to reduce the incidence, it is not always possible to ensure its complete elimination, and therefore the problem of treating patients with cutaneous leishmaniasis remains one of the most important today. [19, 20, 21].

To date, drug prevention of leishmaniasis has not been developed. One of the important tasks of dermatology is the search for effective, low-toxic agents and methods for the treatment of cutaneous leishmaniasis, since the drugs used have cardio, hepatotoxicity. (22,37)

The search for new effective drugs for the treatment of patients with cutaneous leishmaniasis is a very urgent issue. [23, 24,25,26,27,28,36].

Chemotherapeutic, surgical, immunobiological and many other methods have been tested for the treatment of cutaneous leishmaniasis. [28, 29, 30, 31, 32, 33, 34,35].

Purpose of the study

Control of the time of complete healing of ulcers after treatment, depending on the clinical forms of zoonotic cutaneous leishmaniasis

Material and research methods

It should be noted that in L-arginine preparations, all components are selected so that their effect is supplemented and enhanced. L-arginine contains amino acids. When prescribing drugs, patients should pay attention to the drug intake regimen, since it is taken with meals. Do not take the tablets with a lot of water.

In our sample of patients, L-arginine was prescribed 1 tablet 2 times a day for 20 days. Terbizil was used as an etiotropic drug in all patients at a daily dosage of 250 mg for 28 days.

Depending on the method of treatment, patients with zoonotic cutaneous leishmaniasis were divided into 2 groups:

Group 1 (n = 45) of patients received only basic therapy in the form of taking terbizil 250 mg per day for 28 days;

Group 2 (n = 52) of patients received combined treatment, including the drug L-arginine.

RESULTS AND DISCUSSION

The criteria for the effectiveness of treatment were the timing of cleansing leishmaniasis from purulent-necrotic plaque, parasitological recovery, epithelialization of ulcers and complete resolution of specific complications of zoonotic cutaneous leishmaniasis (see Table 1).

Table 1. Dependence of the period of cleansing leishmaniasis ulcers on the duration of the disease

Disease duration, days	Group 1 (n = 45)	Group 2 (n = 52)	P
7-30	6,35±0,17	4,34±0,12	<0,001
31-45	9,82±0,28	5,85±0,26	<0,001

The treatment promoted regression of all elements with the formation of superficial cicatricial atrophy of the skin, and the best effect was achieved in patients with PCL who received terbizil in combination with L-arginine. So, if in patients of group 1 with a complicated form of PCL, complete healing occurred on 29.8 ± 1.59 days from the moment of treatment, then in patients of group 2 - by 22.3 ± 1.89 (P <0.05) days. The rest of the comparative efficiency indicators are presented in Table 2.

Table 2. The timing of the complete healing of ulcers, depending on the clinical forms zoonotic cutaneous leishmaniasis (day)

Disease duration, days	Group 1 (n = 45)	Group 2 (n = 52)	P
Ulcerated leishmaniomas (n = 29)	21,2±1,94	16,4±0,95	>0,05
Leishmaniasis with lymphangitis and lymphadenitis (n = 17)	26,3±1,28	19,6±1,93	>0,05
Leishmaniasis with tubercles seeding (n = 26)	27,8±2,63	20,4±2,56	>0,05
Leishmaniomas with lymphangitis and tubercles of seeding (n = 21)	28,8±1,59	21,9±1,81	<0,05

It was found that the healing of leishmaniasis ulcers depended on their location, size and clinical form of zoonotic cutaneous leishmaniasis. With the location of ulcerated leishmaniasis on the extensor surface of the extremities and, especially, in the area of the joints, the time of cleansing from purulent-necrotic plaque, epithelialization and scarring slowed down. If the lesions were located in the area of the face and neck, then the recovery period was shortened and, conversely, when localized in the distal parts of the limbs, especially on the feet, it was lengthened. Perhaps this is due to the peculiarities of the blood supply and the frequency of trauma in these areas and subsequent diagnostic errors.

Thus, the use of L-arginine, in particular in the complex treatment of various clinical forms of zoonotic cutaneous leishmaniasis, has its own pathogenetic rationale, which contributes to a faster resolution of the clinical manifestations of the disease and a decrease in the development of various complications and the severity of cicatricial atrophy of the skin. In addition, it is necessary to note such important clinical signs of zoonotic cutaneous leishmaniasis, which are also eliminated with the use of the drug L-arginine (swelling and infiltration of lesions, as well as the presence of subjective sensations). Ease of use and a pronounced therapeutic effect are the key to the widespread use of the developed method for treating patients with zoonotic cutaneous leishmaniasis.

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