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A NEW COMPLEX CONSERVATIVE METHOD FOR TREATMENT OF SKIN LEISHMANIOSIS

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Abstract:
In our study, we set a goal to evaluate the effectiveness of a comprehensive treatment method for the treatment of cutaneous leishmanillosis. We treated 30 patients with cutaneous leishmaniasis. Of these, 15 had facial lesions, 7 had leishmaniasis ulcers on the upper extremities, and 8 had combined leishmaniasis, meaning ulcers were found on the face, body, and limbs. The age of patients ranges from 6 months to 65 years.

Key words: Leishmaniasis, anthroponous cutaneous leishmaniasis, zoonotic cutaneous leishmaniasis, treatment of cutaneous leishmaniasis.

Introduction:

Leishmaniasis continues to be one of the urgent problems of modern parasitology. According to the World Health Organization, the disease occurs in 98 countries of the world, of which 72 are developing countries, and 13 are the poorest in the world. Currently, the World Health Organization (WHO) estimates that 14 million people are infected. The annual incidence of Leishmaniasis worldwide is between 1.5 and 2 million cases of cutaneous leishmaniasis. An estimated 350 million people remain susceptible to infection [1,2,3]. The prevalence of cutaneous leishmaniasis is mainly observed in countries with tropical and subtropical climates. 70-75% of cases of infection occur mainly in 10 countries: Afghanistan, Algeria, Brazil, Iran, Peru, Ethiopia, North Sudan, Costa Rica, Colombia and Syria [4,14]. In the Central Asian region, endemic zones are located mainly on the territory of Turkmenistan and Uzbekistan [3,5,6].

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It is assumed that the incidence in endemic areas is higher than the reported cases [2,3]. One of the main problems of such a high prevalence of cutaneous leishmaniasis is the late diagnosis of this disease. Uzbekistan, due to its climatogeographic features, is an endemic area for cutaneous leishmaniasis. From 300 to 700 cases of CL disease are registered in the Republic annually. So, according to the Republican Sanitary Epidemiological Service of the Republic of Uzbekistan, in the period from 2014 to 2017, the intensive indicator averaged 7.3.

Two forms of cutaneous leishmaniasis, anthroponous and zoonotic cutaneous leishmaniasis, are widespread in Uzbekistan. Anthroponous cutaneous leishmaniasis is caused by Leishmania tropica and zoonotic Leishmania major. The pathogens of cutaneous leishmaniasis are carried by mosquitoes of the genus Phlebotomus. On the territory of Uzbekistan, 9 species of mosquitoes have been identified, belonging to 2 genera: Phlebotomus (6 species) and Sergentomiya (3 species). In the foci of leishmaniasis in Uzbekistan, the predominant species in settlements are P. Sergenti and P. Papatasi, and in the colonies of great gerbils, Phlebotomus caucasicus. In addition, P. Caucasicus, P. Andrejevi, P. Mongolensis, and P. Alexandri can be carriers of the causative agent of leishmaniasis in gerbils Leishmania turanicus, which is not pathogenic to humans [7]. The natural reservoirs of the causative agent of zoonotic cutaneous leishmaniasis are the great and red-tailed gerbil, the level of infection of great gerbils with cutaneous leishmaniasis varies from 12.8 to 98.2%, and of the red-tailed gerbil from 9.2 to 15.2% [8]. The source of infection of anthroponous cutaneous leishmaniasis is a sick person. The disease is characterized by lesions (sometimes multiple) of the skin of open areas of the body, which are accessible to mosquito bites. The problem of cutaneous leishmaniasis, in addition to medical, also has a social aspect. As a rule, after spontaneous healing (1-3 years), cosmetic defects (scars) remain at the site of ulcers, sometimes significant, disfiguring. This can have very negative consequences, especially for females in terms of family formation and social adaptation in society [7].

To ensure the correct diagnosis, a comprehensive examination of the patient is required using microscopic, clinical, molecular biological (polymerase chain reaction) methods. Treatment of this pathology remains one of the urgent tasks of healthcare today. According to the WHO recommendation, the first-line drugs for the treatment of leishmaniasis are pentavalent antimony

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preparations (sodium stibogluconate, meglumine antimonate and miltefosine), but these drugs have a number of contraindications, as well as side effects, such as hypersensitivity to antimony drugs, renal and liver dysfunction , diseases of the cardiovascular system, pregnancy, breastfeeding, children under 2 years of age. In addition, the use of these drugs does not allow the body to develop strong immunity [9,10].

Numerous studies have found that the emergence of drug-resistant strains is progressing globally, and there is a constant need to find new treatments for leishmaniasis that are safe, less toxic and effective for long-term treatment. [11,12]. Due to the fact that the drugs recommended by WHO for the treatment of CL are not registered in many CIS countries and are not available in the network of pharmacies, it prompts the search for the use of new various means of traditional and traditional medicine [13].

Aim: Development of a comprehensive conservative method for the treatment of cutaneous leishmaniasis.

At the Scientific Research Institute named after L.M. Isaeva in 2016, a comprehensive method for the treatment of cutaneous leishmaniasis was developed. This method includes the complex application of infusion of harmala herb, medical salicylic alcohol and bubbling (ozonized) sea buckthorn oil. This complex method of treatment is selected taking into account the properties of the drugs included in the complex and the availability for the population. The infusion of harmala herb has: antiseptic, antispasmodic, anti-inflammatory, insecticidal, stimulating properties. The harmala contains organic acids, steroids, proteins, carotenoids, saponins, a significant amount of alkaloids (beta-carbolines): harmine (banisterine), harmalol, harmaline (harmidine), harman, vazicinone, peganin (vazicin), deoxypeganin, deoxyvazicin , pegamine, peganol, quinoline, dipegin, quinaldine. Flowers, leaves and stems are rich in potassium, iron, magnesium, zinc, strontium in high concentrations. Trace elements include copper, manganese, chromium, nickel, aluminum, lead [15].

Salicylic alcohol solution has the property of improving the permeability of the skin, antibacterial, anti-inflammatory and disinfectant properties. Sea buckthorn oil - has a high biological activity, pronounced regenerating properties, anti-inflammatory properties, bactericidal, analgesic properties, improves blood circulation, increases the elasticity of blood vessels, prevents thrombus formation, [16] and in a bubbling state, when ozone is present in the composition, it has a sharp bactericidal effect ... Bubbling is the process of

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passing a gas through a liquid while creating a large interfacial surface, which contributes to the intensification of mass transfer processes and the complete chemical interaction of gases with a liquid [17].

Thus, the ozone in the oil leads to the death of parasites, sea buckthorn oil contributes to the regeneration of the epithelial cover, salicylic alcohol improves the permeability of these funds into the depth of the wound, and the harmala herb infusion improves blood circulation and regression of inflammatory changes.

Materials and methods:

After the development of this complex, we applied it to 30 patients with cutaneous leishmaniasis. Of these, there were 15 with facial lesions, 7 with leishmaniasis ulcers on the upper extremities, and 8 patients with combined leishmaniasis, i.e. ulcers were found on the face, body and limbs. The patients' age ranged from 6 months to 65 years. In adults, the causes of infection were mainly associated with moving to areas endemic for cutaneous leishmaniasis, for the purpose of shift work, as a tourist or as long-distance transport drivers. Thus, the first method of using this complex method of treating cutaneous leishmaniasis began to give positive results by the beginning of the second week of treatment. So, for complete epithelialization, depending on the initial state of the wound, if the wound was infected, purulent with inflammatory changes, then, as a rule, a period of about 4-5 weeks is required for its complete healing. The healing time of the ulcer also depends on the size, with small sizes in diameter from 1.5-2 cm.The ulcer heals within 2-3 weeks. For larger ulcers, the ulcer heals in 4 to 5 weeks.

Below is a clinical case of this treatment method. Patient D., 59 years old, a resident of the Samarkand region, applied to the Scientific Research Institute of Medical Parasitology on 12/20/2017 with the presence of leishmaniasis ulcers in the area of the wrists of both hands. When a complaint is made: the presence of rounded ulcers on both wrists. From the anamnesis, it became known that the patient considered herself sick from the beginning of September 2017. She repeatedly applied to various medical institutions, was treated by dermatologists without a noticeable effect. The prescribed external therapy was ineffective. The skin process is represented by ulcers 1-5 cm in size, with signs of perifocal inflammation and infection, covered with layered gray crusts with pronounced infiltrates at the base. There is a zone of hyperemia around the ulcer. On palpation of infiltrates, they are painless.

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When the crust is removed, crater-like ulcers with abrupt edges are visible, surrounded by a roller-shaped infiltrate, the bottom is pink, granular, accompanied by edema and redness. Cutaneous leishmaniasis was suspected on the basis of complaints, medical history, and physical examination. To confirm the diagnosis of cutaneous leishmaniasis, fingerprints were taken from the edge of the ulcer. After staining according to Romanovsky-Giemsa, amastigotes were found. The diagnosis of cutaneous leishmaniasis was laboratory confirmed in the clinic of the Research Institute of Parasitology. The patient was diagnosed with Cutaneous leishmaniasis. Anthroponous form. The patient was prescribed a complex of treatment with the use of salicylic alcohol, applications of bubbling sea buckthorn oil and infusion of harmala herb, with weekly monitoring. After applying this method of treatment, for four weeks, by the end of the second week, there was a decrease in inflammatory edema and cleansing of the wound from detritus, by the end of the third week, the processes of granulation and epithelialization began, which ended with complete epithelization of the wound in the fifth week of treatment.

Conclusions:

Thus, the proposed treatment complex proved to be effective in the treatment of cutaneous leishmaniasis. In all 30 observed cases, a positive effect was observed and this method excluded the use of specific drugs. After healing, a hyperpigmentation site remains at the site of epithelialization, which is restored after 4-6 weeks.

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