

SKIN LEISHMANIASIS

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ANNOTATION

This article deals with Skin leishmaniasis or pendinka (Borovsky's disease, rubber ulcer, pendinsky ulcer, Bagdad ulcer...) is a group of leishmaniasis that is manifested by lesions of the skin, subcutaneous tissues and/or mucous membranes. Caused by Leishmania. They are distributed mainly in the tropics and subtropics, transmitted through the bites of mosquitoes of the genera Phlebotomus and Lutzomyia.

Key words: *natural, ulcer, pedinka, skin, species.*

They are natural focal diseases. About 20 species of old And New world Leishmania can cause skin lesions in humans. With the exception of leishmaniasis caused by Leishmania tropica, all of these diseases are zoonotic. In the Old world, the disease is caused mainly by parasites of the species Leishmania tropica and Leishmania major, in the first case the host is a person, in the second — rodents. Vector — mosquitoes of the genus Phlebotomus, the distribution region is the Mediterranean, Central Asia[3] and the Middle East to the Eastern regions of India. In the New World, human disease is caused by leishmanias of more than ten species other than the old world leishmanias. The first accurate description of Leishmania in sections of skin ulcers was published by the Russian surgeon P. F. Borovsky in the "Military medical journal" (No. 11) in 1898 in the article "On the sartov ulcer"[4]. He was the first to classify it as Protozoa. Soviet zoologist and theriologist Alexander Kuzyakin studied skin leishmaniasis in detail[5]. Promastigotes of Leishmania reproduce in the digestive canal of female mosquitoes. After about a week, the infection spreads to the upper parts of the mosquito's digestive canal, and the parasites block the lumen of the canal with their bodies and the gel they secrete. When a female bites a potential host, she releases her saliva into the skin. A female with a blocked digestive canal cannot swallow, and she has spastic movements, as a result of which she regurgitates promastigotes into a wound on the host's skin. On average, 100-1000 promastigotes get into the skin during the bite of an infected mosquito. In a laboratory experiment, it was shown that in most cases the number of promastigotes was less than 600, but in about a quarter of cases it exceeded one thousand, and sometimes reached up to one hundred thousand.

The first to arrive at the site of damage are polymorphonuclear neutrophils, which phagocytize parasites. Inside neutrophils, leishmanias do not reproduce and do not turn into amastigotes. Then, when neutrophils enter the apoptosis phase, they are destroyed by macrophages, and Leishmania enter macrophages without causing an immune response. Macrophages are the main host cells of Leishmania in mammals. Inside macrophages, Leishmania are transformed into an intracellular morphological form — amastigotes. Inside the macrophage, Leishmania are enclosed in so-called "parasitophorous vacuoles", which are formed from the fusion of the primary phagosome with lysosomes and endosomes. In them, promastigotes are transformed into amastigotes. At the same time, there are changes in morphology — oblong promastigotes with a long flagellum turn into oval amastigotes with a short flagellum, in metabolism to adapt to an acidic environment, and in the biochemical composition of the membrane. The transformation takes from two to five days. Amastigotes are able to survive in the acidic environment of these vacuoles and feed on their contents. Inside the vacuole, amastigotes reproduce: each breeding cycle takes about 24 hours[source not specified 1120 days]. In cutaneous leishmaniasis, the infiltrate is formed in the skin and contains mainly macrophages, as well as lymphoid cells

and a few plasma cells. In visceral leishmaniasis, foci of infection are formed in the organs of the reticulo-endothelial system.

Leishmaniasis is a natural focal disease. The distribution of leishmaniasis coincides with the area of mosquito vectors. The disease occurs in 88 countries, mostly in tropical and subtropical climates (66 countries in the New world and 22 in the Old world). About 12 million people suffer from leishmaniasis. About two million people get sick every year, and about 350 million live in risk areas. These figures may underestimate the size of the problem, because leishmaniasis is spread mainly in the most backward areas, where it is not possible to recognize the disease, and not all recognized cases of the disease are registered, because leishmaniasis is subject to mandatory registration only in 33 countries out of 88[13]. In all cases when an active survey of population groups in endemic areas was conducted, the incidence was higher than previously thought. Depending on the source of infection, leishmaniasis is divided into: Anthroponotic, in which the source of infection is only a person who can infect mosquitoes. These include *L. tropica* and *L. donovani*.

Mosquitoes can sometimes transmit the disease to other animals, but they are not sources of infection for mosquitoes. Zoonotic, in which the source of infection is animals — desert and semi-desert rodents of the gerbil subfamily for *L. major*, sloths, porcupines and some other mammals for South American species, canids for *L. infantum* (chagasi).

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