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TRANSMISSIBLE CHARACTERISTICS OF COMMUNICABLE DISEASES AND MEASURES ON FIGHTING AGAINST THEM

Abstract: *"Pindin ulcer" (also known as Cutaneous leishmaniasis or skin leishmaniasis) occurs in some regions of Central Asia, and due to the establishment of the triad chain (causative agent, carrier and source of disease - the reservoir), its specific active and passive natural focis are formed. Zoonotic skin leishmaniasis is an invasive disease that is in the line of transmissible diseases, the naturally occurring areas of which have long been formed in our country, mainly between the Amudarya and Syrdarya rivers. Naturally, the protected and gray lands to be reclaimed in Uzbekistan are directly related to the natural reservoirs of zoonotic skin leishmaniasis, because rodents, which are the source of the disease, have occupied exactly these areas. Observations confirm that rodents are common in protected and gray areas, of which large sand mice play a major epizootiological role as a source of disease. Even now, the occurrence of the disease and the presence of active reserviors in a number of regions requires an in-depth study of the population composition of sand mice and the epizootic processes associated with them, as well as the development of measures to prevent zoonotic skin leishmaniasis.*

Key words: *transmissible disease, triad, cutaneous leishmaniasis, rodents, parsella, bioecology.*

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Introduction

Currently, the field of transmission of zoological research, founded by academician E.N. Pavlovsky, is developing, and one of its priorities is to study the regional distribution of invasive diseases, the sources of disease, and the development of preventive measures in natural foci of disease [2,6,8,12].

It is known that zoonotic cutaneous leishmaniasis is an invasive disease; the transmission is directly related to the habitats of mice, which are the source of the disease in the steppe. In Uzbekistan, the natural foci of the disease are in areas between the Amudarya and Syrdarya rivers, in Bukhara, Kashkadarya, Surkhandarya, Syrdarya, Jizzakh, Navoi regions, in Karakalpakstan, Central Fergana and other places.

According to the scientific sources [4,5,6,9, 13] that they can be divided into the following types: Lower - Surkhandarya natural-geographical region - Surkhandarya, Termez natural focis; Lower - Zarafshan natural-geographical region - Bukhara natural foci; Lower - Kashkadarya natural-geographical region - Kashkadarya natural foci; Lower - Amudarya, Ustyurt, Kyzylkum natural-geographical region - Karakalpak natural foci; Mirzachul natural geographical region - Syrdarya,

Jizzakh, Forish natural foci; Natural-geographical region of Fergana valley - Central Fergana natural foci (Central Fergana natural foci is called autonomous foci) [1,3,4]. Severe epidemiological conditions among the population were observed in the reclamation of the Karshi, Mirzachul, Bukhara, Surkhansherabad deserts, and coming today, new natural foci have been added to these lines.

The above-mentioned natural foci, which are being reclaimed at a high rate, are active foci, because the level of population proximity to natural foci is very high. The Central Fergana natural foci can be considered passive, extinct natural foci, as the population of sand mice in this region is declining from year to year under the influence of anthropogenic factors.

The epidemiological status of each natural foci usually results from the degree to which the population interacts with the foci.

Based on regional circumstances, it may be noted that there is an epizootic process in nature, but there may be areas where humans have not become members of the triad chain or where there is an epizootic process in mice but no epidemiological situation has occurred. This is, certainly, the question of to which level the triad chain rodents in the parasitic system (the source of the disease, mainly Rhombomys opimus L.), the scapulae (carriers Ph. Papatas), or the causative species Leishmania tropica are mutually formed.

Among the species of rodents associated with the parasitic system, mice play a key role, and the entire life cycle of the parasite occurs primarily within local populations. Prolonged historical development has led to the division of the distribution areas of mice, the formation of independent populations, and the diversity of areas occupied by populations [7,10, 11,12].

Observations show that the natural "diffuse" distribution of sand mice in the natural foci of Mirzachul and Fergana valleys, where large species of mice are formed, has changed under the influence of anthropogenic factors, creating ribbon-like" or "island-like distribution types around collectors and the slopes of the railways. In some places, the natural foci were mixed with the local settlements and formed a "mosaic" type of distribution.

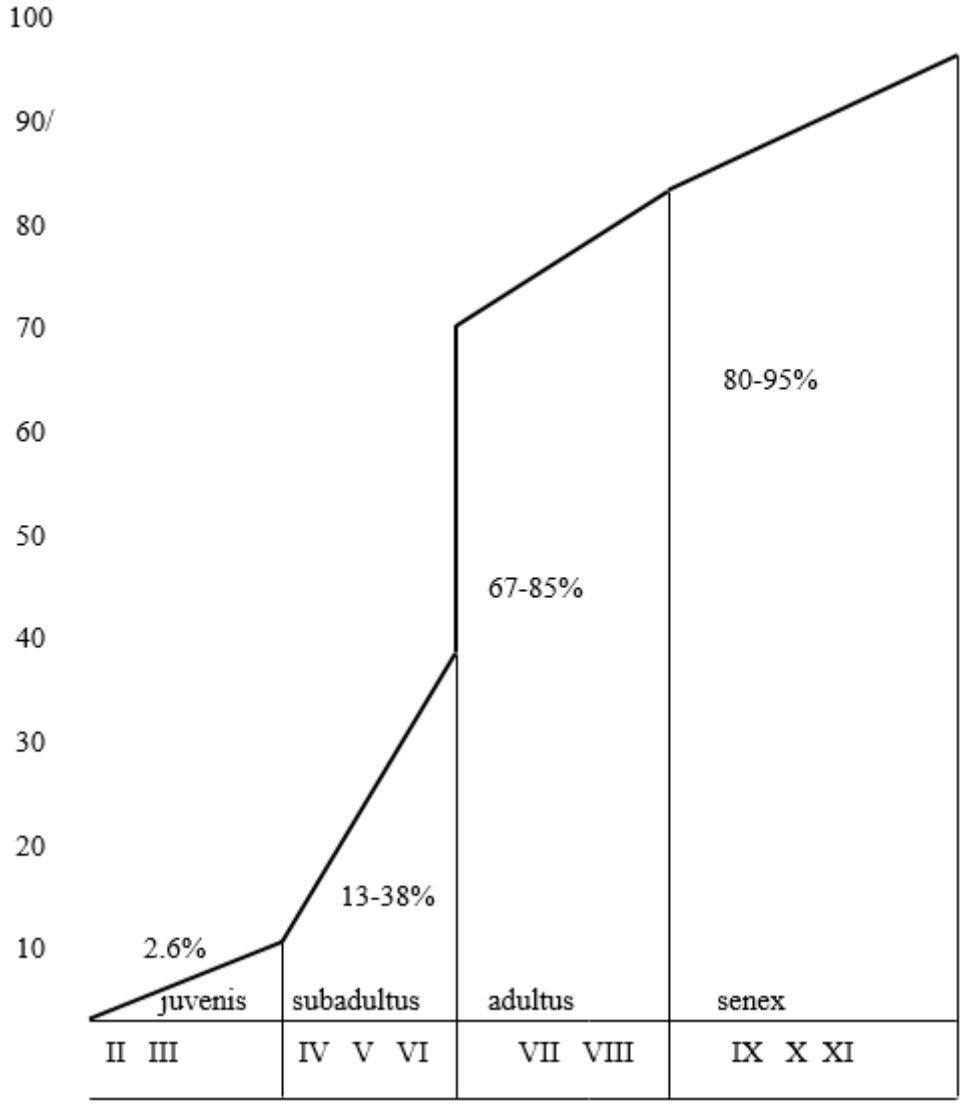
During the year, two interrelated stages of the epizootic process are observed in the above-mentioned natural foci:

a) active (from late April to the second half of October),

b) passive (October - April).

During the active period, all parts of the triad chain are present, there is an increase in the number of scapule, mice, and the epizootic process intensifies. Pathogens also increase in number during this period and begin to occur in both of the organisms. This period is epidemiologically dangerous for humans, and the disease is more common during this period. In the second period, a decrease in temperature leads to a sharp decrease in the number of winged scapulae, and the incidence rate also decreases spontaneously. According to our observations, the population of Rhombomus opimus L. consists of individuals of different ages: juvenis, subadultus, adultus, senex, and the beginning of the epizootiological process takes place primarily in the age groups of juvenis and subadultus. Of the 464 juvenile groups examined, only 12 were found to have 2.6% typical leishmaniasis. Among them, morphologically asymptomatic cases, meaning no leukemic bulges in the ear aurelica found, but young individuals involved in the epizootic process were also reported. The juvenis group of mice moves from mid-June to the next large number of subadultus ages, among which the morbidity was 13–38%. Over the following months (September, October) the morbidity rate increases to 67-85%. They go through the first winter intermittent epizootic period and emerge in the spring into adultus age. Naturally, their number decreases slightly, passing through two, three-years interval epizootic periods, becoming a very small number of surviving senex groups, but the morbidity rate is 80-95%.

Fig-1. An epizootic indicator of zoonotic skin leishmaniasis



Rhombomus opimus L.

The fig-1 indicates that subadultus and adultus groups in the population play a key role in the survival of the zoonotic cutaneous leishmaniasis pathogen L. major between long epizootiological periods

Scaptopars, the next link in the triad chain, play a key role in the development of zoonotic skin leishmaniasis. In active foci of the disease, only one type of Ph. daisies (4.2-24.7%) were found to have epidemiological and epizootiological significance. Among the formed local populations, Ph.papatas in the populated areas, and Ph. caucasicus in the colonies of mice were studied to dominate. In recent years, pathogenic strains isolated from birds have been shown to differ from each other in terms of their virulence, with strains being infectious only in terms of virulence against L. major humans. In recent years, pathogenic strains isolated from sand mice have been analyzed to differ from each other in terms of their virulence, among strains only L. major being infectious for humans [4,5,1, 3]. All of these indicate the complexity of the triad chain in the microenvironment that causes zoonotic skin leishmaniasis. The evolution of the parasitic system of protected and gray soils, which is accelerated by assimilation, is mainly associated with a large community of large sand mice, which are considered natural foci as a source of disease, so disease control measures should be more focused on them. The fight against zoonotic skin leishmaniasis, which is considered a transmissible disease, requires that the focus be on breaking the epizootic chain present in the natural foci, eliminating the source of the disease, and exposing the observer.

Mechanical and chemical methods in the fight against zoonotic skin leishmaniasis, including the use of cereals treated with toxic substances (zinc-

phosphide), zoocoumarin paste, toxic gases (chlorpicrin, cyanplav), spray of mixing car exhaust with DDG and GXTsG insecticides, anti-disinfection methods, treatment of people infected with leishmaniasis with particularly effective methods, and so on. Due to their application in practice, positive results have been achieved in some regions, and epizootiological and epidemiological conditions have been reduced temporarily. Currently, Turan is low-lying area, and the above-mentioned zoonotic skin leishmaniasis requires the presence of active and passive natural foci, a deeper study of epizootic processes occurring in rodents, and the development of control measures. In the fight against rodents, along with zinc-phosphide chemicals, racumin, ratinin, zoocoumarin drugs, which have a cumulative effect, were also tested.

First specie - meals made from a mixture of 4% (40 mg / kg) "zinc phosphide", 93-84% wheat grains, 2-3% vegetable oil, 1% sugar solution;

Second specie - drug "racumin" or "ratindan" and crushed corn kernels in the ratio (1:19) and 5% (1: 1) sugar solution;

In the third specie, it was found that the use of "zoocoumarin" paste as a food by rubbing it on black nougat gives good results.

Based on the above considerations, it should be noted that in areas where rodents are the main source of disease, it is necessary to use zinc-phosphide drugs with strong effects, but their full use is not advisable, as they pollute the soil and aquatic environment.

Materials and methods

The research material is the areas where zoonotic skin leishmaniasis is prevalent, which were analyzed on the basis of scientific sources. The disease-prone areas were studied on the basis of a map, based on landscape-specific epizootiological processes arising only from natural-geographical features, and the distribution of sand mice, which are the source of the disease.

Regions were conditionally divided into active and passive natural foci, based on indicators of people with leishmaniasis and epizootics. General zoological methods were used to determine the number and distribution of species. Rhombomus opimus L.- population composition, morphological characteristics of individuals were divided into groups juvenis, subadultus, adultus, senex on the basis of changes in weight, bones, condition of teeth, horny layer at the base of the tail and heel parts. In determination of the epizootic process, temporary preparations were used (smeared with Romanovsky-gimza dye) rubbed from the bulging leishmaiomas in the ear aurelica. In the Juvenis group, the absence of leishmaniasis in the supraspinatus, i.e., asymptomatic cases, was also analyzed on the basis of drugs in the same way.

Results

In the field of rodent control in the Andijan region, as a result of systematic application of this method of control, 85-90% efficiency was achieved. It is recommended to use drugs that have a cumulative effect in schools and kindergartens. Although the method of physical control of rodents is not one hundred percent effective, they can be used effectively in kitchens and warehouses in populated areas. In areas where deratization is not carried out, the use of marbled polecat, steppe polecar, weasel, which are natural relatives of rodents, also gives good results in biological control.

Conclusions

The first important requirement for the organization of effective control of rodents is to maintain the sanitary and ecological condition of the environment at a high level and prevent the feeding, reproduction and spread of the species;

The second requirement is the constant control of the timely collection and disposal of waste in specially designated areas of apartments, enterprises and institutions;

The third requirement is the systematic and, most importantly, quality implementation of regional deratization measures.

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