

## Leishmaniasis

Leishmaniasis is a disease of the skin, mucous membranes, and internal organs caused by parasites, flagellates of the genus *Leishmania*. The disease can manifest itself in various forms, but the most common are the cutaneous and visceral (affecting internal organs) forms of the disease.

It is estimated that approximately 1.5 million people contract the cutaneous form and half a million the visceral form each year. Infections are more common in subtropical and tropical populations. Among travellers to tropical and subtropical regions, those who will be staying in these areas for a longer period of time, such as missionaries, soldiers, and volunteers, are most at risk. Leishmaniasis is not found in Australia and Oceania.

More than 90% of cases of cutaneous leishmaniasis occur in Afghanistan, Algeria, Brazil, Iran, Iraq, Peru, Saudi Arabia, and Syria. More than 90% of cases of visceral leishmaniasis occur in India, Bangladesh, Nepal, Sudan, and Brazil. The disease occurs in approximately 90 countries, including southern Europe and the United States (Texas). It is more common in rural areas, but can also occur in urban areas.

There are no cases of leishmaniasis in Slovenia, but it occurs sporadically and rarely in some parts of the Balkans (e.g., Kosovo). After World War II, it also appeared in Macedonia, southern Serbia, Montenegro, Dalmatia and Istria, and southern Herzegovina.

## Cause

The causes are flagellates of the genus *Leishmania* (*L. donovani*, *L. tropica*, *L. braziliensis*).

## Transmission

The reservoir hosts are forest animals (foxes, wolves, rodents), domestic animals (dogs), and, rarely, humans. The disease is transmitted through the bites of infected sand flies. These are very small flies, difficult to see, which fly silently. They are more active at dusk and at night (from dusk to dawn). The fly becomes infected by biting an infected animal or human. Both children and adults can become ill.

The disease is rarely transmitted from a pregnant mother to her child, through blood, or through infected needles.

## Incubation period and the course of the disease

The disease can manifest itself in various forms, but the most common are the cutaneous and visceral forms of the disease.

**Cutaneous leishmaniasis:** The time from infection to the appearance of symptoms ranges from 2 weeks to 3 years. One or more skin lesions appear at the site of the bite of the infected sand fly. Gradually, an ulcer measuring 2 cm or more develops. It is surrounded by smaller ulcers, and local lymph nodes enlarge. The ulcers often become infected (unpleasant and unsightly skin changes, but not life threatening). Within a few months or even a year, the ulcers heal, leaving scars. Metastases may also occur on distant parts of the skin, and the disease can last for 20 years or more. Several months or years after the skin changes (from 1 month to 24 years later), changes may occur in the

mucous membranes of the nose, mouth, throat, trachea, and rarely the genitals, with tissue death and the formation of defects.

**Visceral leishmaniasis:** Incubation period lasts from 10 days to 34 months. The infection may be asymptomatic, with few health problems, or subacute or chronic fever, enlarged liver and spleen, anaemia, and leukopenia or weakened immune system. Fatigue, loss of appetite, abdominal tension, coughing, weight loss, sweating, and frequent diarrhoea may occur. The skin on certain parts of the body may turn grey. If left untreated, the disease can lead to death from pneumonia, sepsis, bloody diarrhoea, tuberculosis, bleeding, or severe anaemia. Recurrences are possible 6 months to 2 years after treatment.

### **Susceptibility to infection**

We are all susceptible to the disease. Those who spend a lot of time outdoors, especially from dusk to dawn (researchers, soldiers, missionaries, travellers, etc.), are at greater risk in areas where infected sand flies are present.

### **Treatment**

Treated with drugs that act on leishmania.

### **Prevention**

There is no effective prevention of the disease with medication or vaccination. Prevention of infection with leishmania is only possible by taking measures to protect against insect bites.

#### ***The likelihood of insect bites can be reduced by:***

- Wearing light-coloured clothing that covers as much of the body as possible.
- Avoiding staying outdoors when sand fly activity is at its peak.
- Using repellents to protect against insect bites. Consistently following the manufacturer's instructions for effective and safe use.
- Preventing insects from entering indoor spaces by using nets.