

Leishmaniasis

Introduction

Leishmaniasis is caused by a protozoan parasite of the genus *Leishmania*, family *Trypanosomatidae*; there are 21 sub-species. Leishmaniasis is transmitted by the bite of the female phlebotomine sand fly and causes several clinical syndromes in humans; the two major ones are cutaneous leishmaniasis and visceral leishmaniasis.

The organism is found in approximately 90 countries around the world, including tropical Africa, South America, central and East Asia and southern Europe.

Cutaneous leishmaniasis is usually caused by *L. tropica* and *L. major* and by members of the *L. mexicana* complex and the *Viannia* subgenus. Visceral leishmaniasis (also known as Kala-Azar) is usually caused by *L. donovani*, *L. infantum* and *L. chagasi*.

Epidemiology

Data from the [Travel Health Surveillance Section of the Health Protection Agency Communicable Disease Surveillance Centre](#)

[Global Epidemiology](#)

[Leishmaniasis Risk in UK Travellers](#)

Risk for Travellers

Cutaneous disease is occasionally seen in adventure travellers, missionaries and soldiers who travel to areas of risk, particularly in those to rural areas, where sand flies may inhabit.

Visceral leishmaniasis is rare in tourists. The risk of clinical illness with visceral leishmaniasis is greater in those with HIV infection. Cases of visceral leishmaniasis and HIV co-infection are increasing, and are being seen in southern European countries including Spain, Italy and France.

Transmission

Leishmaniasis is a zoonosis in which humans are accidentally infected, although during epidemics humans may play a part in maintaining the transmission cycle.¹

Mammals, including dogs, foxes and rodents, are the usual reservoirs for *Leishmania* and the female phlebotomine sand fly is the vector. Sand flies, contrary to what their name suggests, are not found on beaches. They are usually found in forests, the cracks of stone or mud walls, or animal burrows. The sand fly predominantly bites between dusk and dawn and usually stays close to the ground.

A female sand fly requires a blood meal in order to lay her eggs. She transmits the promastigote form of the protozoa (carried in the salivary glands) to a human during feeding.

In rare cases visceral leishmaniasis has been transmitted congenitally and via blood transfusion.

Signs and Symptoms

Cutaneous leishmaniasis presents as skin lesions that develop weeks or months after infection. They can vary in appearance from a classic round ulcer with a beefy red granulating base and raised margin; to nodules, or papular scaling lesions. Regional lymphadenopathy may be present. If left untreated these sores persist for several weeks. Diagnosis is made by slit skin smear of the lesion, with Giemsa staining and microscopy.

Many cases of visceral leishmaniasis are sub-clinical infections. Those causing clinical symptoms follow an acute, sub-acute, or chronic course after an incubation period of weeks or months; life-threatening disease may develop with symptoms of fever, hepatosplenomegaly, anaemia, thrombocytopenia and hypogammaglobulinaemia. Diagnosis is made by observing leishmania parasites in stained slides or cultures of a biopsy sample or tissue aspirate.

Treatment

Patients should be referred to a specialist tropical disease unit for diagnosis and treatment of all forms of leishmaniasis. There are several drug treatments available including oral, parenteral and topical medications. These are chosen based on the form of leishmaniasis and the infecting species, and should be discussed with the specialist.

Prevention

There is no vaccine available for leishmaniasis. Travellers should be advised on the need for [insect bite avoidance](#) measures, particularly between dusk and dawn.

Sand flies usually stay close to the ground, so sleeping in hammocks can reduce the risk of bites. They are small enough to pass through a standard mosquito net, but are less likely to do so if the net is impregnated with permethrin.

References

1. Leishmaniasis. In Cook GC, editor. *Manson's Tropical Diseases* 21st ed. Philadelphia: Saunders; 2003.

Reading List

Centres for Disease Control and Prevention. Health Information for International Travel 2003-2004. Atlanta: CDC; 2003.

Lockie C, Walker E, Calvert L, Cossar J, Knill-Jones R, Raeside F, editors. et al. Travel Medicine and Migrant Health. Edinburgh: Churchill Livingstone; 2000.

Herwaldt B. Leishmaniasis. *Lancet* 1999; 354: 1191-99

Links

www.who.int/ith/chapter05_06.html#leishmaniasis