

Leishmaniasis

What is Leishmaniasis?

It is caused by a parasite spread by sandflies. It can be a severe and fatal disease.

The life cycle of the parasite begins with an infected sandfly feeding on the host's blood and so infecting it with a form of the parasite. This parasite is then attacked by a white blood cell, but unfortunately the parasite can survive within this type of cell and divides to form more parasites. The blood cell then bursts, releasing the parasite into the host's blood. The parasites then spread around the body, affecting the host's organs. As the parasite is also in the host's blood, when a female sandfly has her next meal, she takes up some of the parasites. These are then 'injected' into her next host. (simplified version)

Where is it found?

The disease is particularly prevalent in the Mediterranean but it is a disease which appears to be spreading further north in Europe. Dogs can be bitten up to 100 times an hour during the sand fly season, which runs from May to September and bites are most likely to occur around dawn and dusk.

Canine leishmaniasis is found in France, Italy, Greece, Spain, Portugal and several other European countries. It is found in 88 nations on four continents, putting approximately 350M people at risk. At any given time, approximately twelve million people around the world are infected.

Reservoir

Dogs but cats can be a reservoir to a lesser extent. Dogs are an important reservoir of infection in the Mediterranean region, and via sandflies can be a source of human infection. Direct dog to human infection is rare

What are the symptoms in dogs?

It is a very slow progressive disease (one that gets worse over time) and it can take 7 years for the infected pet to show clinical signs, which can be very general. They may show no symptoms at all, despite being infected. Probably only about 10% of infected dogs develop clinical disease.

Skin lesions are present in 90% of infected dogs but this happens late on in the disease. They are dry, non-itchy areas of hair loss that usually start around the head, nose and ear tips. They can also be on the footpads, before spreading to the rest of the body.

These symptoms occur in clinical cases:

- Listless and fatigue
- Exercise intolerance
- Swollen lymph nodes (90% of clinical cases show this)
- Weight loss
- Nose bleeds (15% of clinical cases show this)
- Blood in the urine (50% of clinical cases show this) and protein in the urine (75% of clinical cases show this)
- Lameness with swollen joints or stiff gait
- Enlarged spleen
- Eye disease (less than 5% of clinical cases show this)
- General debilitation due to an infection of the major organs of the body
- Terminal renal failure – liver failure can happen, but is less common
- Chronic diarrhoea (30% of clinical cases show this)
- Long, deformed brittle nails (20% of clinical cases show this)

Diagnosis

Blood and other tests to show parasites in the body

Prevention in dogs

The use of collars containing insecticides, shampoos or sprays may be effective to protect dogs from sandfly bites. The vector (sandfly) control is one of the most important aspects of disease control.

In areas where the condition is well established, dogs should be housed in sandfly-free kennels from just before sunset to just after sunrise.

Treatment in dogs

Unfortunately, treatment is often costly, limited and extensive. It may prolong life but may not be curative and it appears to be that dogs are more difficult to treat than humans.

Leishmaniasis in people

The symptoms in areas like the Sudan, India, Bangladesh and Brazil are more serious than those found in Europe, the Middle East and parts of Latin America. In the 1990's over 10% of the population in the Sudan died from Leishmaniasis.

The disease in people is divided into 3 different forms:

Visceral

This affects the liver and spleen with a fatality rate that can be as high as 100% in two years.

Symptoms include:

- Liver and spleen enlargement
- Weight loss
- Anaemia
- Death without treatment

Cutaneous

This usually results in ulcers on the exposed parts of the skin, such as the face. There can be as many as 200 per person, which leave the person permanently scarred and disfigured.

Mucocutaneous

This can cause total destruction of the mucus membranes and surrounding areas of the nose, face and throat. This can lead to the sufferer being ousted from society

Pets are Good for People

Pets provide us with loyalty, companionship, love and affection, as well as the many physical and psychological benefits. The least we can do to repay this is to ensure that we keep them in the best of health. A healthy pet is a happy pet and a happy pet can help us enjoy a much fuller and more rewarding life.

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For further information, please contact the Pet Health Council on:

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Website: www.pethealthcouncil.co.uk

References

- Treatment of canine cutaneous leishmaniasis by Paul Nicoletti and John Fruin. In *Tropical Animal Health and Production*, published by Springer Netherlands, Volume 6, no.2, June 1974
- Olliaro P, Guerin P, Gerstl S, *et al.* (2005). "Treatment options for visceral leishmaniasis: a systematic review of clinical studies done in India, 1980–2004." *Lancet Infect Dis* **5** (12): 763–74. [doi:10.1016/S1473-3099\(05\)70296-6](https://doi.org/10.1016/S1473-3099(05)70296-6).
- Debbie D. Joiner, DVM; Craig E. Greene, DVM, MS; Kenneth S. Latimer, DVM, PhD; Perry J. Bain, DVM, PhD; Heather L. Tarpley, DVM, PhD (Class of 2005 (Joiner), Department of Small Animal Medicine (Greene), and Department of Pathology (Latimer, Bain, Tarpley), College of Veterinary Medicine, University of Georgia, Athens, GA 30602-7388): An Overview of Leishmaniasis
- <http://www.liv.ac.uk/researchintelligence/issue18/shabbydog.html>
- <http://www.who.int/leishmaniasis/en/>