

## **LEISHMANIASIS – A DEADLY DOG DISEASE**

### **Introduction to Leishmaniasis**

Leishmaniasis is little known in the UK but is a prevalent disease in much of Europe and warmer areas of the world. It is an infection caused by a protozoal (single-celled) organism which lives in host bodies and is spread by female sandflies, and dogs are the principal reservoir hosts for this infection. Although it is not currently commonly seen in the UK, the increased number of rescue dogs being brought into the UK from organisations and individuals from countries such as Spain, Greece, Cyprus and Turkey mean that cases of Leishmaniasis ('Leish' for short) are sadly becoming more common. Dogs that travel abroad are also at risk of contracting the disease.

The mechanism of infection is that a female sandfly becomes infected by drinking blood from an infected dog, the organism grows and develops inside the sandfly, and when the sandfly bites a new dog it injects it with the parasite. Then the local white blood cells attack and try to kill the organism but it has evasive mechanisms to enable survival, so the organism grows and bursts out of white cells spreading further within the body.

The outcome following infection depends on the host dog's immune system. Once infected, dogs will either clear the infection, have subclinical infection (harbour the parasite for a number of months up to seven years before any signs become apparent) or develop signs of active disease. It is not possible to predict an individual dog's response to infection with the parasite.

### **Symptoms of Leish**

There are a wide variety and combination of clinical signs of Leishmaniasis that can be seen, and active infection can be quite debilitating. Dogs can develop skin lesions such as baldness with sores and itchy broken skin that is slow to heal. This usually occurs over prominent bony areas like elbows and knees but can also occur around the face. There is also a visceral form of the disease where the Leishmania organisms affect organ systems like the liver, kidneys and bone marrow. Severe cases can lead to liver or kidney failure and can be fatal.

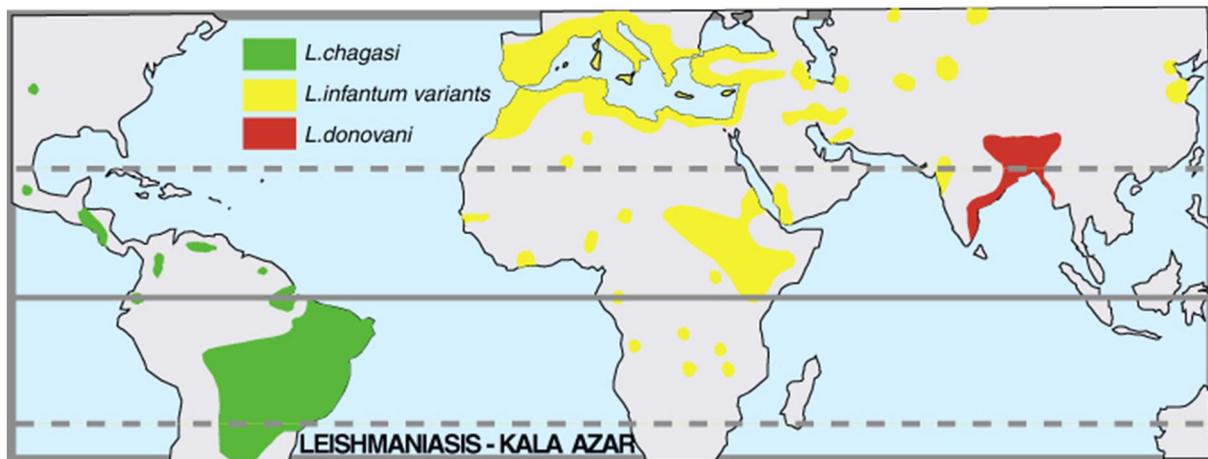
Once a dog has been diagnosed with Leishmaniasis active infection it is not possible to cure the infection, and long-term medication and monitoring is usually required to control the clinical signs and maintain a good quality of life. Active infections if left untreated can be fatal.

### **Can Leishmaniasis be transmitted to humans or other dogs?**

Although some forms of the disease can be carried by humans, direct dog-to-human transmission has never been reported, even among veterinarians who have handled hundreds of dogs with Leishmaniasis, and the canine strain of the disease is different to the strain that affects humans in other parts of the world. Direct canine to canine transmission is extremely rare and the vast majority of canine cases are infected directly via sandfly bites.

### Where are dogs most at risk?

Dogs are at risk from the disease anywhere where there are sandflies present. They are most abundant in gardens, around houses in the countryside, and in parklands and woodland. The period of activity of all sand fly vectors is from sunset to sunrise. The dangerous times of year are different in different countries. Around the Mediterranean, Leishmaniasis is transmitted from May to September, or if there is a warm summer there can be increased activity into October. It is endemic in most of Greece, much of Italy, the Balkans, Malta, southern France, many parts of Portugal and Spain (particularly in the south-east and the Balearic Islands) and in the humid parts of North Africa.



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### How can we prevent Leishmania infection in our pet dogs?

Prevention is a two-part process, the first of which is a vaccination to strengthen the immune response before infection occurs. If your dog is travelling abroad, vaccination prior to travelling would be recommended: the Canileash vaccine is manufactured by Virbac and is the first vaccine for this disease to be available in Europe. However, it must be noted that this has only limited efficacy, and cannot be relied upon to guarantee non-infection. Dogs require a course of three injections given at three-weekly intervals from the age of six months. A single annual booster is required to maintain immunity. Dogs that have previously travelled abroad should be tested for Leishmania antibodies prior to vaccination to ensure they have not been exposed to the disease previously, although bear in mind that even a negative result cannot rule out entirely that the disease is not present and dormant.

The second step in prevention is to reduce exposure to sandfly bites, using appropriate anti-parasite measures. It is also advisable to avoid wooded areas at dawn and dusk as these are peak activity times for the sandflies. Additionally keeping dogs indoors at night time is beneficial to reduce the risk of infection. Scalibor collars and advantix flea treatment both act to kill sandflies and help reduce the chance of dogs getting bitten.

As increasing numbers of people travel abroad with their pets, awareness of this disease needs to be highlighted. It is of particular concern as once dogs are infected they cannot be cured of the disease. Treatment can be initiated but is expensive and patients require long-term monitoring. If caught late the disease can be fatal, so prevention of infection is definitely preferable.

## Useful websites:

[www.leishvet.org](http://www.leishvet.org) – an association of veterinarians from different countries focussing research and clinical activity on Leishmaniasis, offering best practice protocols.

<https://www.facebook.com/groups/447077055372021/> - a Facebook group called 'Living with Leish' that offers excellent advice, information and support for people with dogs infected with Leishmaniasis.

**Sammy's Story, by Mel:** *The reason I know about this horrible disease is that my own dog, Sammy, whom I brought over from Turkey, has Leishmaniasis. In his case it started with what appeared to be dermatitis on his face last December. He was treated with steroids, which is the usual treatment for dermatitis but sadly only makes the Leish worse as it affects the dog's immune system, which is its only defence against the disease. After four weeks of steroids had no effect on the worsening dermatitis – now spreading to his legs and chest – my vet fortunately suspected Leishmaniasis and tested Sammy's bloods for its antibodies as evidence of previous exposure. Sadly Sammy's blood results proved positive for Leish and in the meantime he had presented with further symptoms, including high temperature,*



*stiffness in the limbs and runny eyes. The current best medication to treat the disease was ordered from Spain, and in the three weeks it took for this to arrive Sammy continued to deteriorate. The prognosis appeared gloomy. Once the medication arrived – milteforan, a kind of chemotherapy administered in food for a 28-day period – Sammy started on it straightaway. By day five he was brighter, by day ten he was playing and running, and by the end of the course his hair was growing back. Now, six weeks on, he is looking great and fully back to his own joyous self!*

*Blood tests in a few months will show the degree to which his Leish is still active, and we hope it will be in remission and will stay so for many years ahead. While it is in remission it can be triggered at any point, often by a stressful event such as moving home, a medical procedure or a fight, so Sammy's immune system is being strengthened with supplements and lots of love to give him the best chance of staying on top of the disease.*

*My experience showed me that prompt diagnosis is crucial, especially as UK vets are inexperienced with this disease; and that awareness needs to be heightened to help prevent, diagnose and correctly treat Leishmaniasis for those dogs unlucky enough to contract it.*

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