

FOR THE INFORMATION OF YOUR VETERINARY SURGEON

Galgo from Spain are tested for diseases that occur in Mediterranean countries and that are not commonly known or endemic in the United States. Although the galgos brought to the US test negative for these diseases, it is important to know about them. The four main diseases are Leishmaniasis, Babesiosis, Heart worm and Ehrlichiosis. The aim of this report is not to make you worry about these diseases but only to make you and your veterinarian aware of these diseases.

Leishmaniasis:

Causing agent:

Small protozoa called *Leishmania infantum*. Mainly transmitted by sandflies.

Geographical distribution in Europe:

Leishmania infantum can be found in Spain, the Mediterranean coast, south coast and some central regions like Madrid.

Transmission:

The *Leishmania* parasite is transmitted to the dog by the bite of the sandfly when feeding on the dogs' blood. The most common time of the year for the sandfly to feed on the dog is from April until late September. Sandflies are weather dependent and are more predominant near water sources like rivers. The incubation period can take from 3 months to seven years. Leishmaniasis is a zoonotic disease; this means it can be transmitted to humans by the sandfly as a vector, so the dog can act as a reservoir for the parasite. This transmission can happen in areas where the sandfly is present; however the clinical signs would not be like the dog's clinical signs.

Clinical signs:

Leishmaniasis can have many different clinical signs like dermal lesions (Dermatitis), abnormal nails growth, decreased appetite and weight loss, exercise intolerance and lethargy, vomiting and blood found in the stools. However the most common ones are Epistaxis (Nose bleeds), ocular abnormalities and renal (Kidney) failure. On clinical examination enlarged lymph nodes and spleen can be observed. Renal failure due to immune-complex glomerulonephritis eventually develops and is believed to be the main cause of death in dogs.

Diagnosis

Blood tests are used to detect *Leishmania* antibodies (ELISA test); more complex tests for identification can be done like a PCR test.

Treatment and prevention:

If the dog shows any of the clinical signs found above and it has been in an endemic area it should be taken to the veterinarian and let the veterinarian know in which country the dog has been to. The main drugs used for the treatment of leishmaniasis are Glucantime and allopurinol.

Miltefosine (Milteforan®) is a relatively new anti-leishmanial drug that can be used for the first month of treatment in combination with allopurinol instead of meglumine antimoniate. Amphotericin B is also used but it is highly nephrotoxic (Toxic for the kidneys). These treatments are often designed to improve the dog's condition temporarily but sometimes the disease can reoccur. The treatment does not eliminate the parasite. Keeping infected dogs where the sandfly is present needs to be thought about as a treated dog is considered as a carrier and can transmit the parasite via the sandfly to other dogs and people.

In endemic countries dogs are given topical insecticides in Deltamethrin-impregnated collars or spot-on drops to reduce the number of sandfly bites.

Babesiosis:**Causing agent:**

The Babesia species. A protozoa organism that parasites the erythrocytes. The most common species that causes canine babesiosis are the Babesia canis and the Babesia gibsoni.

Geographical distribution:

Present worldwide including in some parts of the UK and in Europe particularly in Southern France.

Transmission:

When ticks feed on the dog's blood, the longer the tick feeds the higher the chances of passing the Babesia to the dog.

Clinical signs

The clinical findings and the severity of these can vary. The most common symptoms are pale tongue, gums and nose due to low number of red blood cells, fever, loss of appetite, lethargy, red or orange urine, enlarged lymph nodes. The most severe infections are called peracute infections and show typical symptoms of a hypotensive shock; pale membranes, tachycardia, weak pulse and depression this associated with organ dysfunction leads to coma and death. Acute infections signs are fever, anaemia, jaundice, inappetance, weakness and sometimes death.

Diagnosis:

By blood test. Directly seeing the parasite using a stain or by using the serological IFAT test that detects antibodies in the blood serum

Treatment and prevention:

The dog should be taken to the veterinarian to get a correct diagnosis and treatment. There are several drugs that can be used to treat the dog after being correctly diagnosed. These are imidocarb, phenamidine, and diminazineaceturate. If the dog has a severe anaemia blood transfusion should be considered.

In order to prevent tick bites the dog and the dog kennels should be treated with an appropriate acaricide. A vaccine that protects the dog for 6 months has been recently developed and it is used in Europe.

Heart worm disease or canine heartworm**Causing agent:**

Dirofilaria immitis. Is a filarial worm that as an adult lives in the cardiovascular system, in the right ventricle, right atrium, pulmonary artery and posterior vena cava. The final host are dogs, wild canids and sometimes cats and ferrets

Geographical distribution:

Warm-temperature countries and tropical zones. In Europe countries like Spain and France. There have been some cases in the UK of animals who have travelled abroad.

Transmission:

Transmitted by mosquitoes of the genera *Aedes*, *Anopheles* and *Culex*. The female mosquito bites taking blood from an infected animal, after two weeks the mosquito carries the larvae in the mouth parts and bites another animal. The larvae develop in the host system and migrate to the heart vessels.

Clinical signs:

Clinical signs start when there are a high number of worms obstructing the blood flow. This causes endocarditis and dead worms in the system can cause pulmonary embolism. Heavily infected dogs suffer from loss of condition and exercise intolerance. It is common to observe a chronic cough and breathlessness.

Diagnosis:

The dog should be taken to the veterinarian where it will have a blood test or an x-ray done. There are ELISA kits that will detect heartworm antibodies or more sophisticated techniques such as PCR.

Treatment and prevention:

Once the dog is diagnosed before dealing with the parasite the dog may need to be treated for cardiac insufficiency. Then the dog will get two injections of either thiacetarsamide or melarsamide over the period of two days to kill the adult worms. The activity of the dog should be restricted for the following 2-6 weeks to avoid risk of pulmonary embolism as a result of the dead worms in the system. Six weeks after the initial treatment drugs to kill the remaining microfilaria will be given. The treatment period can

go up to two weeks depending on the drug administered. The most common drugs used orally are dithiazanine iodide and levamisole.

To prevent heartworm infection can be done in two ways. Preventing the mosquitoes biting the dog, this can be hard to do because of the pet habits or giving the dog oral preventative tablets. Ask your veterinarian for advice of the drug to use and the frequency of administration.

Ehrlichiosis

Causing agent:

A bacterium from the Rickettsiaceae family called *Ehrlichia canis*. This bacterium infects dogs but other *Ehrlichia* species can infect humans and other animal species.

Geographic distribution:

Worldwide distributed.

Transmission:

By *Rhipicephalus sanguineus* tick or brown dog tick. The tick larvae and nymph feeds on an infected dog and when adults feed on a new dog transmitting the disease.

Clinical signs:

The clinical signs vary depending on the stage of the infection. In the acute phase the clinical signs can vary, the signs can be depression, lethargy, anorexia and pyrexia and weight loss. Specific signs are enlarged lymph nodes and spleen, occasional epistaxis (nose bleed) and petechia (blood spots in the skin). In the chronic severe form the symptoms will be the same as in the acute form but more severe. Systemic signs can be haemorrhage, shock and multi-organ failure.

Diagnosis:

By clinical presentation, pathological findings (*E. canis* invades mononuclear cells, there is an increase on platelet number, mild leucopenia and anaemia) and serology through a blood test using ELISA or IFAT test.

Treatment and prevention:

Once the disease has been diagnosed there are several drugs that can be used such as Doxycycline, tetracycline hydrochloride, oxytetracycline and chloramphenicol. The dose and time of treatment depends on the drug used.

There is no vaccine therefore the best way to prevent the disease is by using acaricides that will prevent the tick from feeding on the dog.

Please remember that the galgos have been negatively tested for these diseases however if you travel to an endemic country or you think that your galgo has any of the clinical signs shown above take the galgo to the veterinarian as soon as possible.