Haemobartonellosis (Hemotropic Mycoplasmosis) in Dogs

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Haemobartonellosis is a tick transmitted (and sometimes flea transmitted) disease that affects both dogs and cats. Haemobartonellosis targets the red blood cells which are responsible for carrying oxygen.

What causes haemobartonellosis?

Haemobartonellosis in dogs is caused by *Mycoplasma haemocanis*, formerly known as *Haemobartonella canis*. *Mycoplasma haemocanis* is not a typical bacteria, but belongs to a group of microorganisms called mycoplasma, which are the smallest free-living type of 'germs.' *Mycoplasma haemocanis* is termed "hemotropic mycoplasma" or "hemoplasma" because it is blood(hemo)-associated(tropic).

How is *M. haemocanis* transmitted?

Fleas and ticks become infected with hemotropic mycoplasmas by feeding on an infected animal. When the flea or tick then feeds on another animal, the mycoplasmas are passed on. Because they live in the blood cells, they could be spread via a blood transfusion from an infected animal to a noninfected one. In the cat, hemotropic mycoplasmas can also be spread from the queen (mother cat) to her kittens. There is evidence bitches can also pass mycoplasma to their puppies, but is has not been proven.

What are the signs of haemobartonellosis in dogs?

In the dog, the disease is generally not apparent unless the dog has previously had his spleen removed (splenectomy), has a suppressed immune system (e.g., from taking cancer chemotherapy), or is infected with other organisms such as *Ehrlichia*. The spleen is responsible for filtering the blood and its job is to remove and destroy damaged red blood cells, like those seen in haemobartonellosis. That is why a dog without a spleen is more susceptible - there is nothing to remove the infected cells (and the mycoplasma) from the bloodstream.

In acute disease, the dog will usually show depression, loss of appetite, weight loss, and fever. In severe cases, death can occur.

A chronic form of the disease has been reported rarely and may cause some weakness, an increase in appetite, and pica.

Since one tick could be infected with and transmit more than one disease (e.g., haemobartonellosis, ehrlichiosis, babesiosis), it is not all that uncommon to see a dog infected with more than one of these diseases at a time.

How is haemobartonellosis diagnosed?

Sometimes the organism can be seen inside cells on a blood smear. To find them, a small drop of blood is spread over a microscope slide, stained and examined under the microscope. The number of organisms in the bloodstream can fluctuate dramatically. There can be many observed in one sample, and a sample taken two hours later may reveal none. A polymerase chain reaction (PCR) blood test to detect this hemotropic mycoplasma is available.

How is haemobartonellosis treated?

Antibiotics such as tetracycline, oxytetracycline, or doxycycline are given for three weeks. In some animals, it is necessary to give one or multiple transfusions.

How is haemobartonellosis prevented?

As with other diseases transmitted by fleas or ticks, flea control and tick control are the foundations of prevention. Products which repel and kill ticks and fleas such as those containing permethrins (K9 Advantix) are good choices for dogs. For dogs, tick collars containing the active ingredient amitraz are also used, sometimes in conjunction permethrin-containing products in those areas with high tick infestations.

Can people get haemobartonellosis?

There have been no reported cases of haemobartonellosis in people, although organisms resembling hemotropic mycoplasmas have been found in people with suppressed immune systems.

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