

Canine vector-borne diseases (CVBD)

Babesiosis

Babesiosis is a severe illness with hemolytic anemia caused by intraerythrocytic protozoan parasites of the genus *Babesia*. Like ehrlichiosis, it is one of the most important tick-transmitted infectious diseases in dogs.

Pathogen

- Protozoa *Babesia* spp.
- South Africa: *B. canis rossii*; Europe, northern Africa and Asia: *B. canis canis*; in the tropical and semitropical regions worldwide: *B. canis vogeli*; in Africa, Asia, USA, southern Europe and Middle East: *B. gibsoni*

Vector

- Ticks of several species, members of the *Ixodidae* family ("hard ticks")

Distribution

- Global distribution
- Common in Africa, Europe, Asia, America and Oceania
- *Rhipicephalus sanguineus*: Southern Europe, Mediterranean (vector of *B. canis vogeli*)
- *Dermacentor reticulatus*: Central Europe (vector of *B. canis canis*)
- *Haemaphysalis leachi*: Southern Africa (vector of *B. canis rossii*)

Clinical Signs and Diagnosis

- Dogs with babesiosis show signs related to hemolytic anemia including high fever, lethargy, weakness, red urine and collapse, in severe cases. Later, severe anemia, jaundice and multiple organ failure can occur
- Diagnosis is made by demonstration of protozoal organisms in blood, lymph node, bone marrow or splenic aspirates, in combination with compatible clinical signs
- PCR testing

Treatment

- Treatment depends on species of *Babesia*
- Most commonly, imodicarb dipropionate is used although the small babesia species *B. gibsoni* requires more complex therapy, such as the anti-malarial ataquavone in combination with azithromycin

Prevention

- Vaccination, available in some European countries (e.g. France), is only effective for *B. canis*; it does not prevent infection, but reduces parasitaemia
- Aggressive tick control, e.g. use of parasiticide with repellent activity, such as (K9)Advantix® spot-on (combination of imidacloprid and permethrin)

Special Characteristics

- Common *Babesia* species affecting dogs do not cause disease in humans