



Fact sheet

Canine Vector-Borne Diseases (CVBD)

Heartworm Disease (Dirofilariosis)

Heartworm disease is a severe vector-borne disease, transmitted by bites of mosquitoes of many species.

Pathogen

- Filarial nematode *Dirofilaria immitis*

Vector

- Mosquitoes of many species

Distribution

- Common in southern Europe, USA, Canada, Australia as well as south-eastern and eastern Asia, including Japan
- In Europe, prevalent in Portugal, Spain, southern France, Italy, Greece and other peri-Mediterranean countries

Clinical Signs and Diagnosis

- The microscopic larval parasites are transmitted by mosquitoes into the skin and from there they migrate slowly through the body to the right pulmonary artery. Here they may reach adult size (up to 30 cms) about 150 days post infection
- The onset of the clinical signs is usually slow (months to years)
- Clinical signs include exercise intolerance, coughing, weight loss, and occasionally death
- Diagnosis by demonstrating worms in the pulmonary artery using ultrasound, characteristic heart and lung changes on radiography and



use of serological testing; microfilarial count in blood (Knott's test); antibody-/antigen-testing

Treatment

- Treatment of patent heartworm infection in dogs is complex and potentially dangerous. As they are killed, the worms are washed into the pulmonary vasculature where they cause thromboembolism. Product of choice is immiticide
- Corticosteroids and supportive oxygen in severe cases, combined with cage rest, are advocated

Prevention

- Use of macrocyclic lactones to prevent larval development, such as Advocate (Advantage Multi), combination of imidacloprid and moxidectin for dogs and cats

Special Characteristics

- Heartworm can affect humans but it is extremely rare and usually only occurs in areas of extremely high prevalence
- Generally pathogenicity, diagnosis, treatment and prevention are laid out by the guidelines of the American Heartworm Society

Contact:

Dr. Hermann-Josef Baaken, Tel. +49 214 30-53366

E-Mail: hermann-josef.baaken@bayerhealthcare.com

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