

DUNKIN VETERINARY HOSPITAL

o HEARTWORM DISEASE IN DOGS AND CATS-A COMPARISON

The distribution of feline heartworm (HW) infection in the U.S. parallels that of dogs but with lower total numbers in cats. The lower prevalence of feline HW disease can be attributed in some way to one or all of the following: cats are not as suitable a host for the parasite (compared to dogs), cats present with nonspecific clinical signs and physical exam findings, and cats lack a consistently, reliable diagnostic test for feline HW infections.

Heartworm has been found in dogs native to all 50 states. The highest infection rates (up to 45%) have been found in dogs (not on preventative) within 150 miles of the Atlantic and Gulf coasts from the Gulf of Mexico to New Jersey and along the Mississippi River and its major tributaries. ALL dogs, regardless of age, sex, breed, or habitat are susceptible to HW infection.

The impending arrival of spring and HW season is a perfect time to review and compare canine and feline HW disease. Although the same parasite, *Dirofilaria immitis*, is responsible for causing infection and disease: in both species the clinical signs, physical exam findings, and diagnosis are very different. This article is intended to serve as a summary of the basics of HW infection and disease in feline and canine patients.

CAT & DOG HEARTWORM COMPARISON CHART

| | Cats | Dogs |
|--------------------------------------|--|---|
| Prevalence | Prevalence of adult HW infections in cats is 5 to 15% of rate | Widely distributed in the U.S. and regionally endemic in all states. <u>In unprotected dogs in any area</u> |
| Life Cycle | Cats are resistant hosts of HW. Worm life span is 2 to 3 years. Infection may <u>involve only 1 or 2 worms.</u> | Dogs are the definitive host for HW. Worm life span is 5 to 7 years. Can <u>harbor 1 to 250 worms.</u> |
| Primary Pathology and Manifestations | lungs due to inflammatory response from larval death. Onset is early in infection, 3 to 6 months. leads to heartworm associated respiratory disease (HARD), pulmonary arterial hypertrophy involving alveoli, <u>arterioles bronchioles, and arteries.</u> | Heart, lungs, and associated blood vessels. Initially inflammation followed by heart enlargement and weakness due to increased workload. Congestive heart failure and caval syndrome can also occur. |
| CLINICAL SIGNS | <u>Non-specific and generic.</u> | Usually chronic infection. Cough, exercise intolerance, abnormal lung sounds, dyspnea, hepatomegaly, syncope, abnormal heart sounds and death. |
| Acute | Collapse, dyspnea, convulsions, diarrhea/vomiting, | |
| Chronic | blindness, tachycardia, syncope, sudden death. | |
| | Coughing, vomiting, dyspnea, lethargy, anorexia, weight loss, chylothorax. | |
| Physical Exam Findings | May be normal. Possibly harsh lung sounds. Rarely a heart murmur, ascites, exercise intolerance. | May be normal. Can include labored breathing, coughing, exercise intolerance tachypnea, anorexia, cachexia, syncope, ascites, signs of <u>right-sided heart failure.</u> |
| X-Ray Findings | Not as common as in dogs. Parenchymal changes nonspecific and change rapidly. Pulmonary artery enlargement with ill-defined margins and most <u>prominent in the lower lung lobes.</u> | Common and occur early in the course of disease. Enlargement of the main trunk of the pulmonary artery, blunting and tortuosity of the <u>pulmonary arteries, and enlargement of the right side of the heart.</u> |
| Antibody Test | Antibody production may occur even if HW doesn't complete development. Positive titers can be detected about 2 to 3 months <u>following successful infection and migration of I3 and I4 larvae.</u> | In dogs, these have been largely replaced by antigen tests. |
| Antigen Test | Won't detect infections less than 5 months duration. Most cats with HW <u>infection are antigen negative.</u> | Very successful at detecting disease if infected with one or mature female <u>worms that are at least 7 or 8 months old.</u> |
| Microfilaria Test(s) | Microfilariaemia is uncommon and temporary, if present. A negative test <u>does not rule-out infection. A positive test is confirmative of HW disease.</u> | Microfilariaemia is common in dogs. Can be detected 6 to 7 months after <u>infection.</u> |
| PREVENTION | Several FDA approved preventatives for cats do exist. The American Heartworm Society currently recommends year-round prevention regardless of the area. | Several FDA approved preventatives for dogs do exist. All dogs should be tested prior to starting preventative. cortsey: Heska Corporation |