

Heartworm Disease in Cats

Basics

OVERVIEW

- Disease caused by infection with heartworms
- *Dirofilaria immitis* is the scientific name for the heartworm
- Heartworms are spread through the bite of mosquitoes carrying infective heartworm larvae; the life cycle of the heartworm in the dog will be used to help with understanding the disease in cats, since many of the findings in cats are compared to dogs—the heartworm larvae migrate in the body and reach the heart and blood vessels of the lungs in approximately 6 months; adult heartworms grow to about 12 inches long; adult heartworms reproduce and may release immature heartworms (known as “microfilaria”) into the bloodstream; when a mosquito bites an infected pet, it takes in the microfilaria with its blood meal; the microfilaria undergo development in the mosquito and become infective heartworm larvae, and the life cycle continues
- Presence of immature heartworms (microfilaria) in the blood (known as “microfilaremia”) is uncommon in cats (seen in less than 20% of infected cats), and if present, usually only occurs for a short time
- Number of cases of heartworm disease in cats is one-tenth that of dogs in a particular geographic location
- Most infected cats have only a few heartworms present
- Heartworms are physically smaller in cats; recent information suggest that the lifespan of heartworms in cats is similar to that of heartworms in dogs



SIGNALMENT/DESCRIPTION OF PET

Species

- Cats

Predominant Sex

- Male cats more commonly infected than are female cats

SIGNS/OBSERVED CHANGES IN THE PET

- Coughing
- Heartworm-associated respiratory disease (known as “HARD”), in which clinical signs and lung disease may occur 2–4 months after heartworm infection, even if the heartworms never develop into adults
- Difficulty breathing (known as “dyspnea”)
- Vomiting

- Blood clots to the lungs (known as “pulmonary thromboembolism”) frequently result in sudden (acute) breathing failure and death
- Vomiting and breathing abnormalities predominate in long-term (chronic) heartworm disease in cats
- Physical examination usually normal
- The veterinarian may hear increased lung sounds when listening to the chest with a stethoscope
- The veterinarian may hear a change in heart rhythm, heart murmur

CAUSES

- Infection with the heartworm, *Dirofilaria immitis*

RISK FACTORS

- Outdoor cats at increased risk (2:1) of infection
- Feline leukemia virus (FeLV) infection is not a risk factor for heartworm infection in cats

Treatment

HEALTH CARE

- Currently no medical treatment to kill the adult heartworms in cats is approved or recommended
- Cats with clinical signs of heartworm disease should be stabilized prior to consideration of worm extraction (see “Surgery”)
- Spontaneous “cure” is probably more common in cats than dogs

SURGERY

- Surgical removal of heartworms or catheter-based extraction of heartworms

Medications

Medications presented in this section are intended to provide general information about possible treatment. The treatment for a particular condition may evolve as medical advances are made; therefore, the medications should not be considered as all inclusive

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INITIAL STABILIZATION

- Supplemental oxygen
- Theophylline (sustained release formulation)
- Prednisolone
- Doxycycline therapy; to kill a bacteria (*Wolbachia*) that is in the heartworm and may hasten worm death and reduce severity of lung inflammation
- The veterinarian may cautiously administer balanced fluids, if indicated

BLOOD CLOTS TO THE LUNGS (PULMONARY THROMBOEMBOLISM)

- Supportive care for blood clots to the lungs (same as initial stabilization)

Follow-Up Care

PATIENT MONITORING

- Serial evaluation of clinical response
- Chest x-rays (radiographs)
- Heartworm antigen and antibody blood tests are most informative

PREVENTIONS AND AVOIDANCE

- Ivermectin—administered by mouth every 30 days
- Milbemycin oxime—administered by mouth every 30 days
- Selamectin—applied to the skin every 30 days
- Moxidectin—administered by mouth every 30 days

POSSIBLE COMPLICATIONS

- Blood clots to the lungs (pulmonary thromboembolism)
- Sudden (acute) breathing failure and death

Key Points

- Number of cases of heartworm disease in cats is one-tenth that of dogs in a particular geographic location
- Most cats have only a few heartworms present
- Medical treatment to kill the adult heartworms in cats is not approved or recommended