DIROFILARIASIS IN YOUR DOG – QUESTIONS AND ANSWERS

What is Heartworm?
Heartworm disease is a parasitic infection caused by *Dirofilaria immitis*. This parasite is transmitted to animals by *mosquitoes*. The principal species for this infection are: foxes, wolves, coyotes, raccoons, dogs coming from United States, and dogs that are carriers.

What is the situation in Quebec?
Once limited to the southern eastern states of the United States, heartworm is now well established in Quebec. The epidemic started in 1984, in the south-west island of Montreal where hundreds of cases were identified. Since then these parasites have spread to many other regions south of the province, even with all the prevention campaigns it has not disappeared totally from any of the affected regions.

How is heartworm transmitted?
- In dogs, the cycle begins when a mosquito bites a heartworm-infected animal and picks up the immature worm (microfilaria) from his blood.
- During the next two to three weeks, the immature worm develops into infective larvae within the mosquito, if climatic environment is favorable (warm weather over 27 degree celsius day and night).
- When the mosquito feeds again, it can transmit the infective larvae into a healthy dog. The larvae penetrates the dog’s skin and migrates through the tissues, developing over next few months.
- Eventually they reach the dog’s heart and once there, the worms can grow up to 35 cm long and can cause significant damage to the heart and lungs.
- The symptoms develop gradually over months: exercises intolerance, loss of appetite, difficulty breathing, and death if untreated.
- While treatment is possible, the drug required to kill the adult worms is often not well tolerated, and must be administered under close veterinary supervision.

How to diagnose and treat heartworm?
- To diagnose heartworm, different blood tests are necessary, radiographs of the thorax and possibly an ultrasound of the heart.
- The treatment needed to kill the 30cm worms is risky; the medication *melarsomine* eliminates the adult worms and is often not well tolerated. Therefore it must be administered under strict veterinary supervision.
- The diagnostic and treatment of heartworm can be expensive. Veterinary fees can be between $1000-$1500 for a dog weighing around 20lbs.

How can I protect my dog?
Protecting your dog from heartworm disease is as easy as giving a preventive medication once a month during the mosquito season.
- Most preventive medication will kill any microfilariae that have been injected into your dog up to 45 to 60 days prior to the administration.
- The prevention does not prevent the infection, but rather kills the larvae before they acquired the potential to reproduce themselves.
When the preventive must be administered?
Because most of the preventives for heartworm also contain medication for intestinal parasites and some have added flea protection, we recommend that you start the prevention starting June 1st and every month until November 1st.

How to administer the preventive?
There exists on the market now different types of preventions, administered orally or topically (on the skin). The choices vary depending on the recommendations of the veterinarian, the animal’s lifestyle and the ease of administration. The dosage of the preventive is determined by the weight of your dog.

What about the blood testing?
Before your veterinarian prescribe the preventive, your dog must be tested by doing a simple screening blood test to ensure it is not already infected. The blood test is recommended every year for the regions at risk such as Vaudreuil-Soulanges. The importance of this test done yearly is that the test that the Vaudreuil Veterinary Clinic uses also detects the presence of the parasite that can be transmitted by ticks that could cause Lyme disease, Anaplasmosis and Erlichiosis. The results of the blood test are available the same day.

Why is blood testing for heartworm so important?
The blood test is necessary for many reasons:

- It determines that your dog is not already infected before administering the preventive. If he’s infected, it is necessary to treat with the proper medication.
- It permits to prevent the infection of other animals that are not infected (limit the epidemic that is already present): If your dog is a carrier of the parasite, a mosquito can transmit the parasite to another dog after having bit your dog.
- It helps to protect the human population. Even if the human is not a natural host for heartworm, there has been a few cases of infection reported in Canada. More positive cases identified in dogs, the more we can treat and limit the spread of infection to dogs and humans.

Why do the blood test annually if my dog receives the prevention every summer?
It is possible that a dog can have a positive blood test, even if it was given a preventive each summer. There are many reasons that could explain this. The major cause is that the owner did not follow the specific recommendations of administration. For example, a forgotten dose one month or administering the preventive late. Also, if vomiting or diarrhea occurs the day of administering the medication orally, it can diminish the absorption of the treatment and therefore the efficiency.

What type of blood test is used to detect heartworm?
At the Vaudreuil Veterinary Clinic we use a antigenic test, that is a test that detects the proteins released by the female adult worms. The test also detects the presence of parasites in the blood that are transmitted by ticks. Depending on the case we can also do another test that detects the presence of microfilariae (immature worms) in the blood.

When should the blood test be done?
The test can be done all year round because it detects the presence of various parasites in the blood. For precisely detecting heartworm, the test is usually done at the beginning of the spring, that is 6 months after a possible late infection and before giving the prescribed preventive for the summer months.

Should my puppy get a heartworm blood test also?
The blood test is recommended to all puppies born before the 1st of October of the proceeding year.

The general information comes from the American Heartworm Society and the department of parasitology of the Faculty of Veterinary Medicine at St-Hyacinthe. For more information, you can visit the internet site: www.heartwormsociety.com

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