Coccidia (Coccidiosis): A Cause of Diarrhea

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Coccidia are small protozoans (one-celled organisms) that live in the intestinal tracts of dogs and cats. They cause disease most commonly in puppies and kittens less than six months of age, in adult animals whose immune system is suppressed, or in animals who are stressed in other ways (e.g.; change in ownership, other disease present).

In dogs and cats, most coccidia are of the genus called *Isospora*. *Isospora canis* and *I. ohioensis* are the species most often encountered in dogs. Regardless of which species is present, we generally refer to the disease as coccidiosis. As a puppy ages, he tends to develop a natural immunity to the effects of coccidia. As an adult, he may carry coccidia in his intestines, and shed the cyst in the feces, but experience no ill effects.

How are coccidia transmitted?

A puppy is not born with the coccidia organisms in his intestine. However, once born, the puppy is frequently exposed to his mother's feces, and if the mother is shedding the infective cysts in her feces, then the young animals will likely ingest them and coccidia will develop within the young animal's intestines. Since young puppies, usually those less than six months of age, have no immunity to coccidia, the organisms reproduce in great numbers and parasitize the young animal's intestines. Oftentimes, this has severe effects.

From exposure to the coccidia in feces to the onset of the illness is about 13 days. Most puppies who are ill from coccidia are, therefore, two weeks of age and older. Although most infections are the result of spread from the mother, this is not always the case. Any infected puppy or kitten is contagious to other puppies or kittens. In breeding facilities, shelters, animal hospitals, etc., it is wise to isolate those infected from those that are not.

What are the symptoms of coccidiosis?

The primary sign of an animal suffering with coccidiosis is diarrhea. The diarrhea may be mild to severe depending on the level of infection. Blood and mucous may be present, especially in advanced cases. Severely affected animals may also vomit, lose their appetite, become dehydrated, and in some instances, die from the disease.

Most infected puppies encountered by the authors are in the four to twelve week age group. The possibility of coccidiosis should always be considered when a loose stool or diarrhea is encountered in this age group. A microscopic fecal exam by a veterinarian will detect the cysts confirming a diagnosis.

It should be mentioned that stress plays a role in the development of coccidiosis. It is not uncommon for a seemingly healthy puppy to arrive at his new home and develop diarrhea several days later leading to a diagnosis of coccidia. If the puppy has been at the new home for less than thirteen days, then he had coccidia before he arrived. Remember, the incubation period (from exposure to illness) is about thirteen days. If the puppy has been with his new owner several weeks, then the exposure to coccidia most likely occurred after the animal arrived at the new home.

What are the risks?

Although many cases are mild, it is not uncommon to see severe, bloody diarrhea result in dehydration and even death. This is most common in animals who are ill or infected with other parasites, bacteria, or viruses. Coccidiosis is very contagious, especially among young puppies. Entire kennels may become contaminated, with puppies of many age groups simultaneously affected.

What is the treatment of coccidiosis?

Fortunately, coccidiosis is treatable. Drugs such as sulfadimethoxine (Albon®) and trimethoprim-sulfadiazine (Tribrissen®) have been effective in the treatment and prevention of coccidia. Because these drugs do not kill the organisms, but rather inhibit their reproduction capabilities, elimination of coccidia from the intestine is not rapid. By stopping the ability of the protozoa to reproduce, time is allowed for the puppy's own immunity to develop and remove the organisms. Drug treatments of one to three weeks are usually required.

How is coccidiosis prevented or controlled?

Because coccidia is spread by the feces of carrier animals, it is very important to practice strict sanitation. All fecal material should be removed. Housing needs to be such that food and water cannot become contaminated with feces. Clean water should be provided at all times. Most disinfectants do not work well against coccidia; incineration of the feces, and steam cleaning, immersion in boiling water, or a 10% ammonia solution are the best methods to kill coccidia. Coccidia can withstand freezing.

Cockroaches and flies can mechanically carry coccidia from one place to another. Mice and other animals can ingest the coccidia and when killed and eaten by a dog, for instance, can infect the dog. Therefore, insect and rodent control is very important in preventing coccidiosis.

The coccidia species of dogs and cats do not infect humans.

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