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## **COCCIDIA INFECTIONS IN DOGS**

Intestinal coccidiosis is an infection with a one-celled organism; these organisms are classified as protozoa and are called coccidia. Coccidia are not worms; they are microscopic parasites that live within cells of the intestinal lining. Because they live in the intestinal tract and commonly cause diarrhea, they are often confused with worms.

### **Contributing Factors**

Conditions of crowding, poor sanitation, and stress contribute to infections with coccidia.

### **Prevalence**

Coccidiosis is a relatively common finding in young kittens and puppies especially if they are strays or have come from a crowded environment with poor hygiene (pet store, puppy "mill," etc.).

### **Causes/Transmission**

Oocysts (immature coccidia; "eggs") are passed in the stool of the dog. They lie in the environment and eventually sporulate (mature; hatch) into a more developed oocyst that can infect the dog again. Other dogs, dogs, or mice may also become infected. This process can occur in as little as 6 hours, but it usually takes 7-10 days. If the sporulated oocysts are swallowed, they mature in the dog's intestine to complete the life cycle. If the oocysts are swallowed by a mouse, the dog may also become infected by eating the mouse.

### **Clinical Signs**

Most dogs with coccidia have subclinical infections, meaning that they do not have diarrhea or any other clinical signs. When the eggs (oocysts) are found in the stool of a dog without diarrhea, they are generally considered a transient, insignificant finding. However, in puppies and debilitated adult dogs, they may cause severe, watery diarrhea, dehydration, abdominal distress, and vomiting. In severe cases, death may occur.

### **Diagnosis**

Coccidiosis is diagnosed by performing a microscopic examination of a stool sample. Since the oocysts are much smaller than the eggs of the intestinal worms, a very careful study must be made. Infection with some of the less common coccidial parasites is confirmed with additional tests that require specialized laboratory facilities.

### **Treatment**

The most common drug used to eliminate coccidia is a sulfa-type antibiotic. It is given for 10-14 days. The medication is sweet tasting and objection to the taste is usually not a problem. If the sulfa-type drug is not effective, others are available. Additional medication may be needed if diarrhea and dehydration occur.

## **Prognosis**

In most cases, a good response to treatment is expected and most dogs recover. The presence of concurrent diseases or immune suppression can make the prognosis less certain.

## **Transmission to Humans**

The most common coccidia found in dogs do not have any affect on humans. However, less common types of coccidia are potentially infectious to humans. One parasite, called *Cryptosporidium*, may be carried by dogs or dogs and may possibly be transmitted to people. This parasite has also been found in public water supplies in some major cites. Another coccidial organism, *Toxoplasma*, is carried by cats and is of particular concern to pregnant women because of the potential to cause birth defects in newborns. This organism is only able to complete its life cycle in the cat.

These two coccidial parasites pose a health risk for immunosuppressed humans (i.e., AIDS patients, those taking immune suppressant drugs, cancer patients, and the elderly). Good hygiene and proper disposal of dog and cat feces are important in minimizing risk of transmission of all parasites to humans. Although there is risk of pets transmitting parasites to humans, it does not warrant removing the dog from the household except in very rare instances.

## **Prevention**

Reinfection of dogs is common so environmental disinfection is important. The use of chlorine bleach, one cup in a gallon of water, is effective if the surfaces and premises can be safely treated with it. Because coccidiosis tends to be a problem in areas of poor sanitation, the need for environmental decontamination cannot be emphasized enough.