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Roundworm Infection in Cats (Ascariasis)

Roundworms are the most common intestinal parasite of the cat. Infection rates in kittens are thought to approach 100%. They can represent an important cause of illness, and even death, in kittens. As their name implies, these are large-bodied round worms, averaging about 3-6 inches (8-15 cm) in length. They do not attach to the wall of the intestine, as do hookworms. Instead, they are literally "swimming" within the intestine.

The scientific name for the feline roundworm is *Toxocara cati*. Another less common roundworm, *Toxascaris leonina*, can infect both dogs and cats. Roundworms are sometimes called "ascarids."

Contributing Factors

Contributing factors for roundworm infection include queens with pre-existing infection, heavily contaminated environments, and the presence of intermediate hosts (roaches, earthworms, birds).

Clinical Signs

Roundworms are not particularly pathogenic (harmful) to mature cats, but large numbers may cause life-threatening problems in kittens and debilitated adult cats. In kittens, common signs include a pot-bellied appearance, abdominal discomfort, depressed appetite, vomiting and diarrhea, or poor growth.

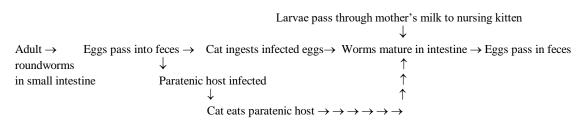
In both kittens and adult cats with light infections (small numbers of worms), no signs may be apparent.

Causes

Transmammary, or milk-borne, infection is the major route of roundworm transmission to kittens. The immature roundworms (called larvae) are present in the mother's mammary glands and pass through her milk to the kittens. Additionally, both kittens and adult cats may become infected by swallowing eggs that contain infective roundworm larvae. These eggs may come from the feces of infected cats or from the tissues of intermediate (called *paratenic*) hosts. Common intermediate hosts for roundworms include earthworms, cockroaches, rodents, and birds.

Once ingested, the larvae hatch out in the cat's gastrointestinal tract and migrate through the muscle, liver, and lungs. After several weeks, the larvae return to the intestine to mature. When these worms begin to reproduce, eggs will pass into the cat's stool, thus completing the life cycle of the parasite.

LIFE CYCLE OF TOXOCARA CATI



Diagnosis

To diagnose roundworm infection, a small amount of the cat's stool is mixed into a special solution that causes the eggs to float to the top. The distinctive eggs are easily recognized under the microscope. Roundworm eggs are usually plentiful but, in some cases, it may take more than one fecal examination to find them. Occasionally, intact adult roundworms can be found in the cat's stool or vomit.

Treatment

Fortunately, treatment is safe, simple, and relatively inexpensive. After administration of the deworming medication (called an *anthelmintic*), the worms will pass into the stool. Because of their large size, they are easily identified. At least two or three treatments are needed; they are typically performed at 2-3 week intervals. Ideally, kittens are then dewormed again with each visit for kitten vaccinations. None of these treatments will kill the immature forms of the worm or the migrating larvae.

Prognosis

With diagnosis of roundworm infection and appropriate deworming, the prognosis is good. In some instances, extremely debilitated kittens may die.

Prevention

Prevention of roundworm infection should include the following measures:

- 1. Deworming of breeding queens prior to pregnancy and again in late pregnancy. This will reduce environmental contamination for new kittens.
- 2. New kittens should be appropriately dewormed as recommended by your veterinarian. The first deworming should be given at 2-3 weeks of age. Note that this is *prior* to the time most kittens are seen for first vaccines. It is entirely appropriate to present new kittens for deworming only.
- 3. Adult cats remain at risk for re-infection with roundworms throughout their lives. Whenever roundworms are seen, the cat should be promptly dewormed. It is appropriate to routinely deworm all cats who remain at high risk for reinfection. For example, it is advisable for cats with predatory habits to have a fecal examination several times a year.
- 4. Control of insects and rodents is important since they may serve as sources of roundworm infection for cats.
- 5. Stool should be removed from litter boxes daily, if possible. Litter boxes can be cleaned with a 1% bleach solution to facilitate removal of eggs. Rinse the litter box thoroughly to remove all bleach since it is toxic to cats. Similarly, surfaces that may be contaminated with roundworm eggs can also be treated with this bleach solution. It makes the eggs easier to rinse away but does not kill the eggs. Always wash your hands after handling litter box material.
- 6. Appropriate disposal of cat (and dog) feces, especially from yards and playgrounds, is important. Once an environment is contaminated with roundworm eggs, they may remain viable for long periods unless they are exposed to direct sunlight or very dry conditions.
- 7. Strict hygiene is especially important for children. Do not allow children to play in potentially contaminated environments. Be mindful of the risk that public parks and non-covered sandboxes pose. *Even though stool may not be visible, roundworm eggs may be present.* Sandboxes that have fitted covers are popular and are well advised to prevent infection of children with roundworms.
- 8. Contact your animal control officials when ownerless animals are found.

Human Infections

Roundworms pose a very real health risk for humans. The most common source of human infection is by ingesting eggs that have come from soil contaminated with cat (or dog) feces.

As many as 10,000 cases of roundworm infection in humans have been reported in one year. Children, in particular, are at risk for health problems should they become infected. A variety of organs may be affected as the larvae migrate through the body. In suitable environments, the eggs may remain infective to humans (and to cats) for *years*.