TOXOCARA

Introduction

Toxocara is a common roundworm found in dogs and cats, which can be easily treated by regular worming. If humans swallow mature Toxocara eggs they can become infected with the larvae from the hatched egg. However, it is very rare for anyone to become ill as a result of infection.

What is Toxocara?

Toxocara canis is the common roundworm in dogs, Toxocara cati occurs in cats and Toxocara leonina affects both dogs and cats. Many similar worms are found in other mammals, but each type of worm tends to be host specific. For example, the much more common human threadworm, *Enterobius vermicularis,* is passed only from human to human and does not infect animals.

In addition, Toxocara worms very different from Toxoplasma parasites that can affect pregnant women.

The Toxocara adult worms are up to 6" long, white or fawn in colour and round in cross section. They tend to coil up like a spring.

In adult animals, the worms are sometimes seen if a dog or cat vomits. In puppies and kittens the worms can sometimes also appear in their faeces.

Remember that even if there is no visible evidence of worms, it does not mean that the pet does not have them.

Infection in Dogs and Cats

The adult worm lives and mates in the intestines of the host animal and the eggs are passed in the faeces. These eggs are initially non-infective since they require some time in the environment for the larvae – the infective stage – to mature within the egg. Maturation time is dependent on environmental

conditions, like temperature, but takes at least two to three weeks. Eggs are extremely long-lived in the environment, often surviving for more than a year.

If a puppy or kitten swallows eggs containing young larvae they will hatch and burrow through the intestinal wall. They enter the blood stream, and then they may lodge in the liver and the lungs. Ultimately, they migrate into the trachea (windpipe) where they are coughed up and re-swallowed. The larvae then return to the intestine. Larvae develop into adult worms.

In adults, some larvae cease to migrate and lie dormant in the tissues, only to develop further when a female becomes pregnant.

Kittens are often not as ill with worms as puppies are. However, both can show signs of malnutrition due to reduced availability of nutrients. A heavy worm-burden can also cause gastrointestinal obstruction and intussusception.

Researchers report different results for the percentage of dogs infected, varying from as little as 5% to as much as 50%.

Source of Infection in Dogs and Cats

Puppies and kittens usually become infected before birth because the migrating larvae are able to pass across the placenta from the mother. The young are then re-infected from the mother's milk, which can also contain infective larvae. Older animals can become infected by ingestion of embryonated eggs or paratenic hosts (i.e. a host in which the parasite does not develop and grow).

Diagnosis in Dogs and Cats

It is reasonable to assume that all puppies and kittens are infected. Larger numbers of eggs are produced in the young than in adults. As yet there is no easy method to determine if a pregnant bitch is infected with dormant larvae.

Treatment and Prevention in Dogs

Adult dogs are more resistant to infection but all dogs should be wormed at least at three monthly intervals with a proven broad spectrum wormer that will deal with all types of intestinal parasite, including tapeworms.

It is wise to worm a bitch before mating, around the sixth week of pregnancy and again after whelping. It is recommended that your veterinary surgeon be consulted when treating a pregnant bitch as some drugs may damage developing foetuses.

Toxocara and Humans

Human infection can occur when mature (fully embyonated) Toxocara eggs are eaten. The eggs hatch in the small intestine and the released larvae pass through the intestinal wall into the tissues of the body. In human infections, Toxocara does not develop beyond the larval stage. Toxocara eggs are never found in human faeces. This is of practical importance because if a human has passed worms, one can be certain that the worms are not of the Toxocara species and that pets are not implicated.

Human disease due to Toxocara occurs in two distinct forms:

- **Visceral larva migrans** is the generalised form of the disease where larvae may spread through the body. Clinical signs and symptoms may include respiratory and allergic disorders, inflammations of the liver and overproduction of certain types of blood cells
- **Ocular toxocariasis** is due to the presence of larvae in the person's eye. The larvae migrates to and remains in the eye and results in inflammatory lesions in the eye. Although this usually results in a self-limiting disturbance of vision, in severe cases sight may be lost in one eye. *It should be pointed out that there are no known medically recorded cases of total blindness resulting from toxocariasis*.

Treatment and Prevention in Humans

Although developments are encouraging, specific treatments of human toxocariasis are currently unsatisfactory. The only practical approach to human toxocariasis is prevention and this can only be achieved by scrupulous attention to family hygiene and regular worming of all dogs and cats (as detailed above).

Conclusion

Most living creatures harbour disease-causing organisms and a few of these can be transmitted between members of different species. A healthy pet and elementary hygiene in the home are the best ways of guarding against infection.

It is important that, as far as possible, all dog and cat faeces are disposed of safely. Hands should be washed after handling a pet and certainly before eating meals, sweets or snacks. Discourage children from sucking their fingers after handling soil, grass and pets.

Pets are Good for People

Pets provide us with loyalty, companionship, love and affection, as well as the many physical and psychological benefits. The least we can do to repay this is to ensure that we keep them in the best of health. A healthy pet is a happy pet and a happy pet can help us enjoy a much fuller and more rewarding life.

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