Trichinosis (Trichinella spiralis)

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The disease caused by *Trichinella spiralis* is called 'trichinosis' and is not a very important cause of disease in pet animals, although it can occur. Trichinosis can be a significant disease in people, however, and that is why we have included a short discussion on it.

What is the life cycle of *T. spiralis*?

The adult trichina worm lives in the small intestine. This worm does not produce eggs, but live larvae that pass through the intestine and migrate throughout the body. The larvae often end their journey in muscle tissues where they form a wall around themselves (encyst) and can remain dormant but alive there for years. An animal becomes infected when it eats the muscle (meat) or other organs of an infected animal.

Encysted larvae can live up to 11 years in pigs.

Pigs (pork) are generally the source of infection for other animals and humans. There have been small epidemics linked to people eating bear or walrus.

What are the signs of trichinosis in animals and humans?

Generally, we do not see signs of the disease in either domestic or wild animals. Humans, however, can become severely ill and even die. When the adult worms are in the intestine, the person may have vomiting, diarrhea, fever, and listlessness. When the larvae migrate they cause inflammation of the blood vessels. Hemorrhages (bleeding) under the nail beds and in the conjunctiva (the white part of the eye) can occur. As the larvae move through and encyst in the muscle there is severe inflammation of the muscle, pain, and weakness. In severe cases, pneumonia, inflammation of the brain (encephalitis), and heart failure may occur.

How is trichinosis diagnosed and treated in humans?

Human trichinosis is most often diagnosed during the period when the larvae are encysting in the muscle. The symptoms related to that are generally what brings the person to their physician. The diagnosis is most commonly made by doing blood tests that look for inflammation and evidence of muscle damage.

Several drugs are effective in killing the muscle larvae including mebendazole (also used in treating roundworms).

How common is trichinosis and how is it being controlled?

T. spiralis is found throughout North America. Trichinosis was much more common in the 1950s, when there were 450-500 human cases reported per year. (There were probably many more infections that did not get reported to the public health officials.) In the 1950s, it was recognized that pigs were becoming infected through eating garbage that may have contained raw meat. A law was passed to prohibit the feeding of uncooked garbage to pigs. More recently, public education campaigns have alerted consumers to the importance of cooking meat, especially pork to 160°F. These measures have greatly reduced the number of cases of trichinosis. Reported cases now average less than 75 per year.

Trichinosis is a reportable disease in pigs and humans. This means, if a veterinarian diagnoses trichinosis in an animal, that information must be reported to the public health department. Likewise, physicians must report any case of human trichinosis. The Centers for Disease Control (CDC), the federal agency that monitors disease trends closely follows these reports, helps investigate local epidemics, and has experts who provide consultation to veterinarians and physicians.

How can I prevent trichinosis in friends, family, and myself?

As mentioned above, pork should be cooked to a temperature of 160°F. Since microwaves may not cook meat uniformly, be sure to check various sections of pork that are microwaved to be sure no cold or pink areas are found.

Freezing can kill the larvae of *T. spiralis*. Pieces of meat less than 6 inches thick should be frozen at 5°F for at least 20 days to kill the larvae.

Be sure to wash hands and food preparation surfaces after working with raw meat.

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