

Chagas Disease

By Dr. Karen Becker

Hi, this is Dr. Karen Becker, and today we're going to discuss Chagas disease. Chagas disease or American trypanosomiasis is caused by a one-celled parasite named *Trypanosoma cruzi*. Insects called kissing bugs transmit the parasite from host to host. The disease is endemic in Central and South America, where it is a really significant cause of disease in humans, as well as in a number of US states – including Texas, Louisiana, Oklahoma, South Carolina, and Virginia. The parasite has also been reported in Western states, including California and New Mexico, down to South Florida as well as Georgia, North Carolina, and also in Maryland.

Chagas disease can only be acquired through an infection of the *T. cruzi* parasite. There are a number of ways a dog or cat can be exposed to the organism, including receiving a bite from an infected kissing bug, by eating the bug itself, by eating the poop from an infected animal or host, by eating the animal itself, or also through a blood transfusion.

Some animals such as guinea pigs, rats, opossums, raccoons, and armadillos as well as cats and dogs can serve as reservoirs for the parasite. They are able to spread the infection from animal to animal. *T. cruzi* exposure generally doesn't cause significant disease or significant symptoms in animals, not nearly as it does in people. Oftentimes the host of Chagas disease – including dogs and cats – never show any sign of illness.

Symptoms

When dogs do become infected, two forms of Chagas disease have been observed – acute and chronic. Some dogs enter an asymptomatic period that can last for months to years. During that time, however, there is a progressive quiet development of the parasite. This leads to degeneration and inflammation of the heart, which can eventually cause heart failure and death.

If the infection is severe, dogs may develop symptoms, including weakness, anemia, an enlarged spleen and lymph nodes, and rarely, if large numbers of the parasite enter the heart, they can actually cause inflammation of the heart that leads to sudden collapse and death. Or, the parasites may cause the heart muscle to fail slowly over time. With some infected dogs, symptoms of weakness and lack of coordination are profound. Cats actually can have convulsions and paralysis of the back legs. So, there's this really diverse symptom picture.

Diagnosis

A complete physical examination, blood tests, urinalysis, serology as well as an electrolyte panel will be required by your veterinarian. Serologic tests exist for the diagnosis of Chagas disease. X-rays may also be taken to look for heart and pulmonary abnormalities associated with the disease, and an echocardiogram may be helpful to visualize changes to the walls or the chambers of the heart.

Another rather strange but effective way of diagnosing a *T. cruzi* infection is called xenodiagnosis. This involves keeping kissing bugs in a laboratory, which are fed blood or tissue from an animal suspected of

harboring the parasite. The bugs are then killed and its digestive system is examined for the presence of the parasite.

Treatment

There are several drugs that have shown limited use in improving symptoms in dogs during the acute state of this disease, but none provide a cure for the disease. Unfortunately, even animals that receive treatment for acute symptoms often progress to the chronic form of the disease. For these pets, supportive treatments for heart complications are obviously very, very important.

There are some natural remedies that may benefit Chagas-positive patients, but should be used under the direct supervision of a veterinarian. I have never personally treated a pet with this disease. But my holistic colleagues in South America tell me the herbs, pau d'arco, turmeric, and oregano, can be beneficial. You can also consider orally administered colloidal silver, grapefruit seed extract, and thymus extract, as well as several homeopathic remedies, which are selected based on a patient's specific symptoms.

Prevention

Sadly, because there is no cure for Chagas disease in pets and because it is zoonotic, meaning it can be spread to people, many vets recommend euthanizing pets with this condition.

Obviously, prevention is the goal, which means ensuring your pet is never exposed to kissing bugs or hosts that could be infected with the *T. cruzi* parasite.

The Centers for Disease Control (CDC) offers these precautions to prevent infestation for people living in endemic areas: seal cracks and gaps around windows, walls, roofs, as well as doors. Remove wood and brush piles or rock piles near your home to reduce bug population. Use screens on doors and windows and repair any holes or tears in your screens. Seal holes and cracks leading to the attic, crawl spaces below the house, as well as to the outside. Have pets sleep inside, especially at night, and keep outdoor pet resting areas very, very clean.

I would add that using an all-natural outdoor bug deterrent, such as cedar oil spray or cedar oil yard spray could help reduce the presence of unwanted bugs in a pet's outdoor area.

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