



Chagas:

Spreading the deadly kiss



The Texas A&M Veterinary Medical Diagnostic Laboratory (TVMDL) routinely sees positive tests for canine trypanosomiasis or Chagas disease. Chagas disease is caused by the parasite *Trypanosoma cruzi*, a hemoflagellate protozoan.

Dubbed the “kissing bug” because the parasite is transmitted by the blood-sucking reduviid bug. The vector and domestic and wild mammalian hosts are widely distributed throughout the southern United States, Central and South America. The kissing bug becomes infected when it takes a blood meal from an infected host. Stercorian transmission occurs when the infected bug defecates on or near the host during or shortly after a feeding and the infected fecal material is rubbed into the bite wound, skin abrasions or mucous membranes. Oral ingestion of an infected bug is also a probable route of infection in dogs.

Fatal cases of canine Chagas disease typically occur in young dogs, most often less than one year old. Practitioners and animal owners should be watchful for clinical signs of the disease, especially in young dogs. The phases of the disease can be identified as:

- **ACUTE**

Signs include fever, anorexia, lethargy, swollen lymph nodes, enlarged liver or an enlarged spleen.

- **LATENT**

This phase is asymptomatic with the primary clinical sign being sudden death.

- **CHRONIC**

Congestive heart failure is the most common clinical sign, usually beginning with right-sided heart failure. This may develop into dilated cardiomyopathy and arrhythmias. Sudden death is possible.

TVMDL has a serological test (titer) for Chagas disease which detects antibodies to *T. cruzi* the etiologic agent of Chagas disease:

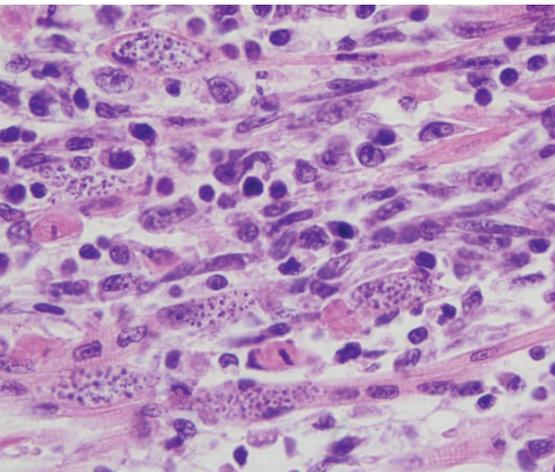
***Trypanosoma Cruzi* (Chagas) Immunoflorescent Assay**

SPECIMEN: 1.0 mL serum

PRICE: \$29.00 with an additional accession fee of \$6.00.

TURNAROUND: Performed in the College Station Serology Section Monday through Friday, with results in a minimum of one day and no more than 3 days.

If an animal is suspected of dying of Chagas disease, TVMDL's Histopathology Section can examine heart tissue for evidence of a nonsuppurative myocarditis and positive or negative protozoal amastigotes. In most lesions, areas of necrosis, fibrosis and mineralization are observed. Protozoal amastigotes are more numerous in young dogs dying of Chagas disease. The organisms are difficult to find in older dogs with the chronic form of the disease. Other lesions include centrilobular hepatic necrosis and pulmonary edema. Often, a necropsy is needed to positively identify Chagas as the cause of death.



Lesion typical of Chagas disease with inflammation and protozoal amastigotes within myocardial fibers.

Necropsy - Histopathology

SPECIMEN: Organ specimens fixed in 10% neutral buffered formalin.

PRICE: \$65.00 with an additional accession fee of \$6.00.

TURNAROUND: Performed Monday through Friday in the Amarillo and College Station labs with results in a minimum of 2 days.

Necropsy – Companion or Exotic (<50lbs)

SPECIMEN: Fresh carcass

PRICE: \$150.00 with an additional accession fee of \$6.00.

TURNAROUND: Performed in Amarillo and College Station Monday through Friday, with results in a minimum of 1 day but no more than 4 days.

Chagas disease is reportable to the Texas Department of State Health Services; the disease can affect humans as well as companion animals and livestock. For information on Chagas testing at TVMDL, contact the laboratory or visit tvmdl.tamu.edu.

About TVMDL:

The Texas A&M Veterinary Medical Diagnostic Laboratory protects animal and human health through diagnostics. An agency of the Texas A&M University System, TVMDL comprises two full-service laboratories, in College Station and Amarillo, and two poultry laboratories, in Center and Gonzales.

TVMDL is among 12 core laboratories in the National Animal Health Laboratory Network, a group of state and regional laboratories designed to provide a nationwide surge testing, response, and recovery capacity in the event of an animal disease outbreak.

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